Completed acquisition by Tobii AB of Smartbox Assistive Technologies Limited and Sensory Software International Ltd

Final report

15 August 2019

Website: www.gov.uk/cma

Members of the Competition and Markets Authority
who conducted this inquiry

Kip Meek *(Chair of the Group)*

Susan Hankey

Ulrike Hotopp

Keith Richards

Chief Executive of the Competition and Markets Authority

Andrea Coscelli

The Competition and Markets Authority has excluded from this published version of the report information which the Inquiry Group considers should be excluded having regard to the three considerations set out in section 244 of the Enterprise Act 2002 (specified information: considerations relevant to disclosure). The omissions are indicated by [✄]. Some numbers have been replaced by a range. These are shown in square brackets. Non-sensitive wording is also indicated in square brackets.

Contents

Page

Summary

1. On 8 February 2019, the Competition and Markets Authority (CMA) referred the completed acquisition by Tobii AB (Tobii) of Smartbox Assistive Technology Limited and Sensory Software International Limited (together, Smartbox) (the Merger) for an in-depth (phase 2) merger inquiry. The CMA is required to address the following questions:

(a) whether a relevant merger situation has been created; and

(b) if so, whether the creation of that situation has resulted, or may be expected to result, in a substantial lessening of competition (SLC) within any market or markets in the UK for goods or services.[1]

2. Tobii and Smartbox (together, the Parties) both supply augmentative and assistive communication (AAC) solutions globally and in the UK. AAC solutions are communication aids that cater to the needs of those who may find communication difficult for a number of reasons. These could include people with a congenital disability (such as cerebral palsy, learning disability or autism), a progressive condition (such as motor neurone disease) or a suddenly acquired disability (such as through a stroke or brain damage following an injury). The end-users of the products supplied by the Parties are unusually dependent on technology to communicate and are therefore particularly vulnerable to any deterioration in the way the market for AAC solutions operates, and consequently can be regarded as vulnerable consumers.

3. The Parties overlap in the supply of dedicated AAC solutions. We define dedicated AAC solutions as a combination of four components: dedicated AAC hardware; AAC software; access means (in cases where the end-user cannot control the device solely through the touch screen, an AAC solution includes a means of access, such as a switch or an eye gaze camera); and customer support (including training, technical support and repairs).

4. Dedicated AAC solutions are often procured by organisations which fund purchases on behalf of end-users. Such organisations include the NHS (the largest customer for dedicated AAC devices in the UK), local authorities, schools and charities. Dedicated AAC solutions are also sold directly to the end-user.

5. The Parties also sell individual components of dedicated AAC solutions, including to some of their competitors in the supply of dedicated AAC

[1] Enterprise Act 2002 (the Act), section 35.

solutions: for example, Tobii sells eye gaze cameras and Smartbox licenses its AAC software (the Grid) to competitors.

6. Tobii is headquartered in Sweden and has offices in the US, Asia and elsewhere in Europe, including in the UK. Smartbox is based in the UK, and has offices in Malvern and Bristol as well as a US office in Pennsylvania.

7. As part of our phase 2 inquiry, we invited a wide range of interested parties to comment on the Merger. These included customers of the Parties, interest groups, competitors and resellers of AAC hardware and software. We received 38 responses to our questionnaires and obtained additional evidence from calls and written information requests from 23 third parties, as well as using evidence from the CMA's phase 1 inquiry into the Merger. We also received several submissions and responses to information requests from the Parties, held two hearings with each of them, and carried out an extensive review of internal documents provided by the Parties. Lastly, we received a number of submissions from customers, end-users and carers, commenting on the CMA inquiry.

Relevant merger situation

8. We find that the Merger has created a relevant merger situation within the meaning of the Act because: *(a)* two or more enterprises have ceased to be distinct within the statutory period for reference; and *(b)* the share of supply test is met.

Counterfactual

9. To assess the effects of a merger on competition, we consider the prospects for competition with the merger against what would have been the competitive situation without the merger. This is called the 'counterfactual'.

10. Around the time of the Merger (in August 2018), the Parties entered into reseller agreements, whereby Smartbox agreed to act as a reseller of certain Tobii products in the UK and Ireland, and Tobii agreed to act as a distributor of Smartbox's products worldwide.

11. Our view is that the most likely counterfactual is one in which:

    (a) Smartbox continues to operate as an independent business, whether following a management buy-out or with no change of ownership;

(b) Smartbox is financially able to compete as it had done pre-Merger, including funding hardware and other product development; and

(c) The Parties are not operating under the reseller agreements entered into around the time of the Merger.

12. Therefore, we conclude that the relevant counterfactual is the pre-Merger conditions of competition, taken to be the situation prior to the August 2018 reseller agreements being agreed.

Market definition

13. Market definition provides a framework for assessing the competitive effects of the merger.

14. We find that the relevant markets in which to assess the effects of the Merger are:

(a) the supply of dedicated AAC solutions in the UK;

(b) the upstream supply of AAC software worldwide; and

(c) the upstream supply of eye gaze cameras in AAC applications worldwide.

Supply of dedicated AAC solutions in the UK

15. The Parties overlap primarily in the supply of dedicated AAC solutions, which we have defined as a combination of four components: dedicated AAC hardware, AAC software, access means and customer support. We recognise that dedicated AAC solutions thus defined are highly differentiated products and we have considered whether the conditions of competition differ across different types of dedicated AAC solutions as part of our assessment.

16. Tobii submitted that the Parties face strong competitive constraint from AAC solutions using mainstream consumer devices: some customers build their own AAC solutions by combining a consumer tablet (for example an iPad or a Microsoft Surface) with AAC software and sometimes peripherals bought independently (eg a case and external speakers). We have called such solutions 'non-dedicated AAC solutions', and we considered whether they should be included in the relevant product market. We conclude that they should not, for the following reasons:

(a) Customers and suppliers have highlighted a broad range of circumstances where end-users of dedicated AAC solutions would not consider a non-dedicated AAC solution as a good substitute for the end-user's needs.

(b) The Parties' internal documents that we have reviewed show that Smartbox's monitoring of competition focuses on other providers of dedicated AAC solutions and that Tobii's monitoring of competition focuses primarily on dedicated AAC solutions.

(c) The price of the Parties' dedicated AAC solutions has remained broadly constant over the past 3 years, which is difficult to reconcile with a proposition that the competitive constraint from non-dedicated AAC solutions is growing.

(d) Consistent with this qualitative evidence, estimated diversion from dedicated to non-dedicated solutions is low, indicating that customers of the Parties' dedicated AAC solutions generally think of other dedicated AAC solutions, rather than non-dedicated AAC solutions, as their next best options.

17. Suppliers have told us that having a local presence is important, both to understand the local health care system and to provide training and support to customers. We also note that UK customers only purchase dedicated AAC solutions from suppliers with a UK presence. We therefore consider that the relevant geographic market for dedicated AAC solutions is the UK.

18. For these reasons, our view is that the horizontal unilateral effects of the Merger should be assessed in a frame of reference for the supply of dedicated AAC solutions in the UK.

Upstream supply of AAC software worldwide

19. Tobii submitted that the relevant upstream software market is a distinct market for AAC software and that this is a market for highly differentiated products. Even though certain types of AAC software do not perform all the functions performed by the Parties' software (in particular Smartbox's Grid software), our view is that it is appropriate to define the relevant product market on a wide basis as the upstream supply of AAC software and to consider the substitutability of other AAC software with the Grid as part of our assessment of vertical effects.

20. Suppliers of dedicated AAC solutions source AAC software worldwide. We therefore consider that the relevant geographic market is worldwide.

Upstream supply of eye gaze cameras in AAC applications worldwide

21. Tobii submitted that the market for eye gaze includes eye gaze cameras for all applications (for example in consumer electronics, vehicles, gaming, and virtual reality as well as AAC solutions). However, having considered both demand-side and supply-side factors we consider that the relevant product market is no wider than the upstream supply of eye gaze cameras in AAC applications.

22. Suppliers of dedicated AAC solutions source eye gaze cameras worldwide. We therefore consider that the relevant geographic market is worldwide.

Competitive assessment – horizontal unilateral effects

23. We considered whether the Merger would enable the merged entity to increase prices, lower quality, reduce the range of its services and/or reduce product development in the supply of dedicated AAC solutions in the UK, relative to the counterfactual.

24. We find that the Parties were close competitors in the supply of dedicated AAC solutions in the UK pre-Merger, and that competitors will not provide sufficient constraint to mitigate the effects of the Merger on competition. We therefore conclude that the Merger has resulted, or may be expected to result in an SLC in the supply of dedicated AAC solutions in the UK.

25. The CMA estimates that the Parties have a combined market share in the supply of dedicated AAC solutions in the UK of [60-70%] by revenue, indicating that they have a very significant market presence at present. Most customers identify the Parties and Liberator Limited (Liberator) as the main suppliers of dedicated AAC solutions in the UK, with Techcess Limited (Techcess) mentioned as a smaller, lesser-known competitor. Competitors and resellers also identified the Parties, Liberator and Techcess as the only significant suppliers of dedicated AAC solutions in the UK.

26. As indicated above, our review of the Parties' internal documents indicates that the Parties benchmark their offerings of dedicated AAC solutions against each other and the other providers of dedicated AAC solutions. There are also examples of Tobii seeking to develop and improve its software products specifically in response to competition from Smartbox. Conversely, in the months before the Merger, Smartbox was focusing on strengthening its hardware offering. In our view, competition between the Parties spurred innovation and research and development (R&D).

27. The majority of the customers who responded to our questionnaire raised concerns about the impact of the Merger. Most of these concerns related to potential deteriorations in quality, service (including customer support) and/or the range of products available.

28. The closeness of competition indicated by third-party views and the Parties' internal documents and development plans is also supported by our estimates of the diversion ratios from Tobii's dedicated AAC solutions to Smartbox's products, and from Smartbox's dedicated AAC solutions to Tobii's products. Diversion to other suppliers indicates that only Liberator and, to a lesser extent, Techcess represent a meaningful constraint on the Parties.

29. For these reasons, we are concerned that the removal of one Party as a competitor is likely to allow the merged entity to increase prices, or deteriorate other aspects of its offering that are valued by customers, for example the quality and range of products, or the level of service associated with these products. The Merger is also likely to reduce incentives for the merged entity to engage in R&D and innovate.

30. We also note that at least two of these possible manifestations of an SLC, namely a reduction in the range of products available to customers and a reduction in R&D, had been decided as part of the Merger strategy prior to completion of the Merger, and were about to materialise when the CMA initiated its investigation.

Competitive assessment – vertical effects

31. We identified three potential vertical theories of harm, and for each we assessed: *(a)* the ability of the merged entity to foreclose competitors; *(b)* the merged entity's incentive to foreclose competitors; and, where we found ability and incentive, *(c)* the overall effect of the foreclosure strategy on competition in the affected market.

Input foreclosure of Smartbox's Grid software

32. We find that the merged entity is likely to have the ability and incentive to use its strong position in AAC software (specifically its Grid software) to foreclose its downstream competitors by making their access to the Grid more expensive and/or of inferior quality. Our conclusion is that this foreclosure is likely to result in an SLC in the supply of dedicated AAC solutions in the UK.

33. Our view is that the merged entity has a strong position in the upstream supply of AAC software due to its control of the Grid and that constraints from alternative software are weak. We therefore consider that the merged entity is likely to have the ability to increase the price it charges downstream competitors for the Grid and/or the ability to reduce the extent to which the Grid supports competitors' dedicated AAC hardware, thus diminishing the quality of rival dedicated AAC solutions sold with the Grid. We also consider that downstream rivals would not be able to switch away from the Grid without significantly weakening their competitive position in the supply of dedicated AAC solutions.

34. We consider that it is likely to be profitable for the merged entity to foreclose its downstream competitors from the Grid. This is due to customers switching from these competitors' dedicated AAC solutions to those provided by the merged entity. This is more likely than downstream competitors switching to alternative software as the Grid is a key driver of sales of dedicated AAC solutions in the UK. In addition, we consider that the foreclosure incentives are significantly greater than Smartbox's pre-Merger incentives.

35. We find that any adverse reputational effects would not be enough to dis-incentivise the merged entity from foreclosing downstream competitors from the Grid.

36. We find that customers and end-users are likely to be worse off from having a reduced range of hardware that is fully supported by the Grid, and there is also likely to be harm to competition in the downstream supply of dedicated AAC solutions through higher prices and/or lower quality.

Customer foreclosure of Tobii's eye gaze camera competitors

37. We find that the merged entity is likely to have the ability and incentive to limit the compatibility of the Grid with the cameras of rival suppliers of eye gaze cameras, such that dedicated AAC solutions based on the Grid were no longer a route to market for these rival camera suppliers. We conclude that this would result in an SLC in the worldwide upstream supply of eye gaze cameras to providers of dedicated AAC solutions, including providers serving customers in the UK.

38. We find that eye gaze camera suppliers depend on compatibility with AAC software, particularly the Grid, to be able to compete in the supply of eye gaze cameras in AAC applications. Dedicated AAC solutions based on the Grid software are an important route to market for rival suppliers of eye gaze cameras in AAC applications, and the alternative routes to market which do

not depend on the Grid are currently limited. This means that these providers of dedicated AAC solutions, who are the customers of Tobii's eye gaze camera competitors, are likely to switch to Tobii's eye gaze cameras if the merged entity limits the Grid's compatibility with these other cameras.

39. It is likely to be profitable for the merged entity to foreclose its eye gaze camera competitors in AAC applications by limiting the compatibility of their cameras with the Grid. This is based on the low likelihood of dedicated AAC solution providers switching to alternative AAC software in order to be able to use non-Tobii cameras.

40. We find that the effects of weakening Tobii's eye gaze camera competitors are likely to include reduced innovation in eye gaze cameras to serve AAC users' needs and higher prices of these cameras than would otherwise be the case. This in turn is likely to lead to adverse effects in the downstream market for dedicated AAC solutions in the UK, in particular from a reduction in the range of cameras available to meet end-user needs in AAC as well as a worsening of price and quality of dedicated AAC solutions which include eye gaze cameras.

Input foreclosure of Tobii's eye gaze cameras

41. We considered whether the merged entity might potentially harm or weaken its competitors downstream by making access to Tobii's eye gaze cameras more expensive, but provisionally consider that such vertical effects are unlikely to arise. We therefore conclude that there is unlikely to be an SLC in the supply of dedicated AAC solutions in the UK as a result of input foreclosure of Tobii's eye gaze cameras.

42. We find that the merged entity has limited ability to foreclose its downstream rivals in the supply of dedicated AAC solutions in the UK due to the constraints from alternative eye gaze cameras used in AAC applications. Given this, we find that it is unlikely that the merged entity has sufficient incentives to make access to Tobii's eye gaze cameras significantly more expensive for its downstream competitors in the supply of dedicated AAC solutions in the UK. This is due to this strategy leading to significantly greater switching to alternative eye gaze cameras upstream compared to the switching to the merged entity's downstream dedicated AAC solutions.

Countervailing factors

43. We considered whether there are countervailing factors which may prevent the SLC from arising.

Entry and expansion

44. We have not seen evidence of recent successful entry and/or expansion in the supply of dedicated AAC solutions in the UK. Nor have we seen evidence of recent entry and/or expansion in the supply of AAC software that would be a credible alternative to the Grid. We have also found that the perceived threat from new entry or expansion by competitors is low. Based on the evidence we have received, we consider that the barriers to entry or expansion in the supply of dedicated AAC solutions and in the supply of AAC software to rival the Grid are significant.

45. For these reasons, it is our view that entry or expansion is unlikely to be timely, likely and sufficient such as to prevent an SLC from arising.

Buyer power

46. We considered to what extent the NHS, as the main purchaser of dedicated AAC solutions in the UK, could exercise buyer power. We note that in this market most purchases are based on list prices, with standard conditions. While NHS organisations are the predominant purchasers of dedicated AAC solutions in the UK, these organisations do not procure dedicated AAC solutions collectively, and even if they did, it is not clear that the market context would afford them a large degree of buyer power. Even in a scenario when the NHS could exert a degree of buyer power (which we consider unlikely), it is not clear that this would protect other customers from the effects of the SLC, and it is not clear that the effects of an SLC in terms of R&D and innovation would be averted.

47. Therefore, we consider that buyer power is unlikely to prevent an SLC through horizontal unilateral effects which have been identified in the supply of dedicated AAC solutions in the UK.

Efficiencies

48. We have seen insufficient evidence that efficiencies suggested by Tobii, including concerning R&D, could not be achieved absent the Merger, or that any such efficiencies could countervail or otherwise offset the effects of an SLC in the relevant markets.

Findings on SLC

49. As a result of our assessment, we conclude that the completed acquisition by Tobii of Smartbox has resulted in the creation of a relevant merger situation.

50. We also conclude that the creation of that situation has resulted, or may be expected to result, in an SLC due to:

(a) Horizontal competition concerns in the supply of dedicated AAC solutions in the UK;

(b) Vertical competition concerns with regard to input foreclosure by the merged entity of Smartbox's Grid software to the Parties' rivals in the downstream supply of dedicated AAC solutions in the UK; and

(c) Vertical competition concerns with regard to customer foreclosure by the merged entity of Tobii's upstream competitors in the worldwide supply of eye gaze cameras to providers of dedicated AAC solutions, including providers serving customers in the UK.

Remedies

51. Having concluded that the Merger has resulted, or may be expected to result, in an SLC, we are required under the Act to consider whether action should be taken to remedy, mitigate or prevent the SLC or any adverse effects that may be expected to result from the SLC and, if so, what action should be taken.

52. In deciding on the appropriate remedy, the CMA will seek remedies that are effective in addressing the SLC and its resulting adverse effects and will then select the least costly and intrusive remedy that it considers to be effective. The CMA will seek to ensure that no remedy is disproportionate in relation to the SLC and its adverse effects.

53. We considered full divestiture of Smartbox, a partial divestiture remedy (combined with some behavioural remedies) proposed by Tobii (Tobii's Remedy Proposal), and a modified version of this alternative remedy (Tobii's Modified Proposal). For each remedy option, we assessed its effectiveness by considering the impact on the SLC and its resulting adverse effects, the appropriate duration and timing, practicality and risk profile.

54. We conclude that a full divestiture remedy, requiring Tobii to sell Smartbox to a suitable purchaser within a timeframe specified by the CMA, would comprehensively address our competition concerns at source, and thereby prevent any component of the SLC and consequently any resulting adverse effects we have identified arising from the Merger.

55. We conclude that neither Tobii's Remedy Proposal nor Tobii's Modified Proposal would be an effective remedy to the SLC we have found and its resulting adverse effects. Although some of the risks that we have identified might be capable of mitigation by Tobii developing further iterations of its proposals, our fundamental concerns in relation to its remedy approach – which ultimately flow from Tobii's ongoing ownership of the Grid and associated intellectual property – are not capable of being addressed through further modifications.

56. We considered whether there are any relevant customer benefits (RCBs) that should be taken into account in our remedy assessment. We considered RCBs that had been claimed by Tobii, including lower prices as a result of the merged entity's economies of scale and the benefits of combining the expertise of Tobii and Smartbox in terms of product development and customer support. We conclude that none of the claimed benefits constitute RCBs for the purposes of the Act and that, accordingly, there are no RCBs arising from the Merger.

57. We then considered the proportionality of the full divestiture remedy to the SLC we have found and its resulting adverse effects.

58. We found that a full divestiture remedy is the only effective action to achieve the legitimate aim of comprehensively remedying the SLC and its resulting adverse effects. We consider that a full divestiture remedy is no more onerous than is required to achieve that legitimate aim. Based on our conclusion that the Merger is likely to lead to significant and sustained adverse effects and that there are no relevant costs (including RCBs) which we should take into account, we conclude that a full divestiture remedy would not produce adverse effects which are disproportionate to the aim pursued. We therefore conclude that the full divestiture remedy would be proportionate to the SLC and its resulting adverse effects.

59. Tobii will be required to sell the whole of the Smartbox business subject to the CMA’s approval of the identity of the purchaser and the terms of the transaction.

60. We propose to implement the full divestiture remedy by seeking suitable undertakings from the Parties. We will issue an Order if we are unable to obtain suitable undertakings from the Parties within the statutory timescale.

Findings

1. The reference

1.1 On 8 February 2019, the Competition and Markets Authority (CMA) referred the completed acquisition by Tobii AB (Tobii) of Smartbox Assistive Technology Limited and Sensory Software International Limited (Smartbox) (the Merger) for an in-depth phase 2 inquiry. In exercise of its duty under section 22(1) of the Enterprise Act 2002 (the Act), the CMA made a reference to its chair for the constitution of a group[2] of CMA panel members (the inquiry group) in order to investigate and report on the following questions in accordance with section 35(1) of the Act:

(a) whether a relevant merger situation has been created; and

(b) if so, whether the creation of that situation has resulted, or may be expected to result, in a substantial lessening of competition (SLC) within any market or markets in the UK for goods or services.

1.2 In answering these two questions we will apply a 'balance of probabilities' threshold to our analysis. That is, we will decide whether it is more likely than not that an SLC has resulted, or may be expected to result, from the Merger.

1.3 Our terms of reference, along with information on the conduct of the inquiry, are in Appendix A.

1.4 This document, together with its appendices, constitutes our findings, published and notified to Tobii and Smartbox in line with the CMA's rules of procedure.[3] Further information, including non-confidential versions of submissions from Tobii and other interested parties, can be found on the inquiry case page.

1.5 Throughout this document, where relevant, we refer to Tobii and Smartbox collectively as 'the Parties'.

[2] Section 22(1) of the Act provides that the group is to be constituted under Schedule 4 to the Enterprise and Regulatory Reform Act 2013.
[3] *CMA rules of procedure for merger, market and special reference groups (CMA 17)*, Rule 11.

2. The companies and the industry in which they operate

Introduction

2.1 The Parties both supply augmentative and assistive communication (AAC) solutions globally and in the UK. AAC solutions include a wide range of products and services that encompass mainstream devices such as consumer tablets and more tailored dedicated solutions that are in themselves differentiated.

2.2 This chapter provides an overview of AAC solutions and the relevant supply chain in the industry. We then provide an overview of the Parties and their operations, especially in relation to their UK businesses, and of the Parties' main competitors.

The products

AAC solutions

2.3 AAC solutions form a specific part of a wider range of products known as assistive technology solutions (ATS). ATS refers to technology designed to support people in maintaining or improving their independence, safety and wellbeing. ATS products are designed to address a number of conditions including visual, hearing and communication impairments.

2.4 AAC solutions specifically cater to the needs of those who may find communication difficult for a number of reasons. Those using AAC services may include people with a congenital disability (such as cerebral palsy, learning disability or autism), a progressive condition (such as motor neurone disease) or a suddenly acquired disability (for example, through stroke or brain damage following an injury). Family members and carers may also need to understand AAC equipment and services.[4]

2.5 The end-users of the products supplied by the Parties are unusually dependent on technology to communicate and are therefore particularly vulnerable to any deterioration in the way the market for AAC solutions operates, and consequently can be regarded as vulnerable consumers.

2.6 AAC compensates for speech difficulties by making communication as quick, simple and effective as possible. The techniques used to achieve this include

[4] NHS England Guidance for commissioning AAC services and equipment, page 5.

the use of symbols, communication boards and books, as well as computerised devices such as voice output communication aids.[5]

AAC hardware

2.7 There is a range of computerised devices available to users of AAC solutions, including:

(a) purpose-built devices which are designed specifically for users with AAC needs (for example, devices that include an integrated camera which enables the user to control the device using their eyes[6]);

(b) adapted commercial or consumer tablets. These ‘wrapped tablets’ generally involve combining a consumer or commercial tablet with a purpose-built component aimed at users with AAC needs, typically a ‘backbox’ or a ‘bracket’ that incorporates additional batteries, speakers, ports and mounting options; and

(c) mainstream consumer tablets installed with apps designed for AAC users.

AAC Software

2.8 AAC software is specifically designed for people with communication needs to allow them to communicate. The software allows the user to input a message in different ways, ranging from electronic picture boards to more complex language systems. The message can then be communicated in several ways, eg speech generation. The software often includes computer control and may also include additional content and functionality such as educational software or accessible apps, third-party content or environmental control.[7] AAC software can vary in levels of sophistication and functionality.

Access means

2.9 Access means are the means through which an end-user can access the hardware and control the software. They include touch screens, special keyboards, switches, joysticks, head mice, eye gaze cameras and infrared cameras.[8] The required access method will depend on the end-user’s disability and physical impairments. For example, if the end-user is unable to

---

[5] NHS England Guidance for commissioning AAC services and equipment, page 5.
[6] This is known as ‘eye-tracking’.
[7] For example, those which enable users to control doors, lamps and/or other electronic devices, eg television.
[8] In this report we use ‘eye gaze’ and ‘eye-tracking’ interchangeably.

touch a screen or operate a switch, an eye gaze camera or a head mouse will likely be required.

Dedicated AAC solutions

2.10 In this report we focus primarily on 'dedicated AAC solutions', as a combination of four components: dedicated AAC hardware (including both purpose-built and wrapped tablets), AAC software, access means and customer support. See paragraph 5.4 for more detail on our definition.

2.11 As described in Chapter 5 (Market definition) we have observed a distinction between solutions based on mainstream devices (such as consumer tablets) and dedicated AAC solutions. Within the range of dedicated AAC solutions, the products are highly differentiated. We note that Tobii disagrees with this distinction, and the use of the term 'dedicated' in our definition. Our consideration of this view and a further detailed explanation on the scope of dedicated AAC solutions, can be found in paragraphs 5.4 to 5.7.

The supply chain in the UK

2.12 There are a number of specialised companies, including the Parties, which provide dedicated AAC solutions in the UK. In certain markets, suppliers may also work with partner organisations which act as local distributors (referred to as 'resellers') of their solutions. Further detail on resellers is provided at paragraph 2.28.

2.13 Dedicated AAC solutions are often procured by organisations which fund purchases on behalf of end-users. Such organisations include the NHS, local authorities, schools and charities. Solutions are also sold directly to the end-user. Advisers and prescribers, such as speech therapists, and interest groups which promote the rights of AAC users[9] also play an important role in the supply chain by evaluating the needs of users and giving advice on appropriate solutions.

2.14 Customers of dedicated AAC solutions therefore include organisations such as those described above as well as end-users. Suppliers of dedicated AAC solutions, such as the Parties, market their products to experts within these organisations, explain their functionality and provide training on their products.

[9] Such as Communication Matters, see Communication Matters website for further details.

2.15 In the UK, only a small proportion of dedicated AAC solutions is sold directly to end-users. The vast majority of dedicated AAC solutions are procured in the UK by the NHS, schools, charities and local authorities on behalf of these end-users.

2.16 The last element in the supply chain is the customer support provided to the customer and/or the end-user. This encompasses training, technical support and repairs. Depending on the circumstances, this support can be provided to the purchaser of the solution (eg an NHS hub, who would then provide 'first line support' to the end-user) or directly to the end-user by the supplier of the solution.

2.17 In this section, we discuss two components of the supply chain particularly relevant to our assessment: the role of the NHS as the largest customer for dedicated AAC solutions in the UK, and the role of resellers, which can act as competitors to the Parties as well as offering suppliers another route to market.

The NHS

2.18 Since April 2013, NHS England has been responsible for the commissioning of services for those with the most complex communication needs, with the aim of improving consistency in the definition of services and to improve access across England.[10]

2.19 When an individual requires a dedicated AAC solution, they will usually be referred to an expert (eg an NHS speech therapist). This expert will typically assess the needs of the individual, resulting in a recommendation for an appropriate communication aid.

2.20 The NHS is the largest customer for dedicated AAC solutions in the UK.[11] In England, services for people who need and use AAC solutions are commissioned through 'specialised' and 'local' AAC services. Specialised AAC services provide assessment, review and equipment for those with the most complex communication needs.[12] There are 16 regionally-organised providers of specialised AAC services (NHS hubs) in England. Local AAC services manage the local AAC care for children and adults with less complex needs and coordinate the required support.[13]

---

[10] NHS England Guidance for commissioning AAC services and equipment, page 6.
[11] For example, over [✂]% of both Tobii's and Smartbox's direct sales in the UK in 2017 were to the NHS. Tobii told us that [✂]% of its direct sales were to NHS bodies in 2018.
[12] NHS England Guidance for commissioning AAC services and equipment, page 6.
[13] NHS England Guidance for commissioning AAC services and equipment, page 7.

2.21 Most children and adults who need AAC will be supported by local AAC services. NHS England estimates that those accessing local AAC services are likely to be a group around 10 times larger than those using specialised AAC services. In other words, around 10% of the AAC population require specialised AAC services (those with the most complex needs) and around 90% of the AAC population require local AAC services.[14]

2.22 Where required, local services will make referrals to specialised AAC services. To be referred, an individual must:

(a) have a severe/complex communication difficulty associated with a range of physical, cognitive, learning, or sensory deficits;

(b) have a clear discrepancy between their level of understanding and ability to speak;

(c) be able to understand the purpose of a communication aid; and

(d) have developed beyond cause and effect understanding.[15]

2.23 NHS England funds specialised AAC services directly and estimates that around 0.05% of the population will require this type of support.[16] The NHS has a framework agreement in place for the purchase of Electronic Assistive Technology,[17] although it is not a mandated procurement route and NHS hubs have the flexibility to make purchases ‘off-framework’. The NHS Supply Chain estimates that [✂]% of purchases are made outside the framework agreement.

2.24 In Scotland, AAC services are provided by Health Boards, Education and Integration Joint Boards, often in collaboration with the third sector. Assessments are usually multi-disciplinary, with the initial assessment carried out by staff from local teams and involving specialists where required. Referrals to specialist AAC services are made through speech and language therapists.[18]

2.25 In Wales, the National Centre for Electronic Assistive Technology (NCEAT) acts as the Welsh specialist hub service for complex AAC needs. Following initial assessment at the local service level, referrals are made to the

---

[14] NHS England Guidance for commissioning AAC services and equipment, page 6.
[15] NHS England Guidance for commissioning AAC services and equipment, page 7.
[16] NHS England Guidance for commissioning AAC services and equipment, page 6.
[17] The framework agreement started on 1 September 2018 and runs for 24 months to 31 August 2020, with an option to extend for an additional 24 months. See NHS Supply Chain for further details.
[18] See Scottish Government, Provision of communication equipment and support: guidance for further detail.

specialist AAC aspect of the NCEAT using similar criteria to those described in paragraph 2.22 above.[19]

2.26 In Northern Ireland, AAC equipment can be accessed via The Communication Advice Centre, Belfast following referral from a speech and language therapist.

2.27 Where individuals do not meet the eligibility criteria to obtain funding through the NHS or local services, they are often reliant on sourcing AAC solutions through other support and funding streams such as specialist schools, charities and/or local authorities.

Resellers

2.28 In addition to selling their products directly to customers (eg NHS hubs, schools, charities, local authorities and end-users), many suppliers of dedicated AAC solutions supply to distributors, who then sell to these customers. These distributors are known as 'resellers' and, in some cases, develop their own dedicated AAC solutions by combining components of the solution from different suppliers. Some resellers have both developed and produced one element of a dedicated AAC solution (eg hardware), which they then combine with other components from other suppliers. Depending on the agreement between the AAC supplier and the reseller, resellers can sell an AAC supplier's products as a standalone product, in combination with other products from the same AAC supplier and/or in combination with other products from other AAC suppliers.

2.29 Resellers may act as the primary customer contact for product support and technical issues and some will focus on specific AAC needs or contexts (for example on computer access or in the educational environment) to provide specialist advice and recommend suitable accessories or add-on software.

The Parties and their operations

Tobii

Overview

2.30 Tobii is a supplier of ATS and eye gaze solutions. Founded in 2001, Tobii is headquartered in Sweden with 15 offices in the US, Europe and Asia, as well

[19] See Referral Criteria for the AAC hub (Extracted from the AAC Service Specification) for further detail.

as a global network of resellers. Tobii has around 1,000 employees, with around a third working in research and development (R&D).

2.31 Tobii is listed on the Nasdaq Stockholm stock exchange and has three distinct business units, which were established as wholly-owned subsidiaries of Tobii on 1 January 2019:

(a) Tobii Dynavox AB (Tobii Dynavox), which operates an office in the UK, provides assistive technology for people with reduced ability to communicate and for special education;[20]

(b) Tobii Pro AB (Tobii Pro) provides eye gaze solutions for studying and understanding human behaviour; and

(c) Tobii Tech AB (Tobii Tech) provides eye gaze technology for integration into consumer electronics and other volume products (eg PC gaming).

2.32 Each business unit undertakes research and development activities. In the case of Tobii Dynavox and Tobii Pro, this includes R&D activities undertaken to customise eye-tracking technology developed by Tobii Tech for use in their own specific end-use applications.

Tobii Dynavox

2.33 In May 2014, Tobii acquired DynaVox Systems LLC (DynaVox Systems),[21] a former US supplier of speech-generating devices and symbol-adapted special education software.[22] In its 2014 annual report, Tobii described DynaVox Systems as 'one of Tobii's foremost competitors in the assistive technology market'[23] and stated that the acquisition:

(a) added a number of key products to Tobii's portfolio, including the touch-based speech-generating device T10, communication software Compass and Boardmaker, described at the time as the 'world's leading software for special education';

(b) doubled the sales of Tobii's Assistive Technology division and tripled Tobii's North American sales organisation;[24] and

---

[20] Tobii Dynavox also provides technology for special education (ie its 'Boardmaker' software').
[21] Tobii told us that it acquired DynaVox Systems in a public bankruptcy auction after its parent company, DynaVox Systems Inc., had entered Chapter 11 bankruptcy proceedings. [✂].
[22] See Tobii press release.
[23] Tobii 2014 Annual Report, page 10.
[24] Tobii 2014 Annual Report, page 4.

(c) created Tobii Dynavox, which became 'the world leader in assistive technology for communication'.[25]

2.34 Through Tobii Dynavox, Tobii supplies the components of a dedicated AAC solution, comprising AAC hardware, AAC software, eye gaze cameras (other access methods are sourced from third parties) and customer support as well as integrated solutions.

2.35 Tobii Dynavox designs, develops and produces a wide variety of AAC devices, eye gaze peripherals and AAC software. Historically, Tobii has held a strong position in 'medical-grade' products (AAC devices that are purpose-built to meet the requirements for eligibility for Medicare funding as durable speech generating devices in the US). It has extended its product portfolio to offer 'mid-range' AAC devices[26] which are purpose-built for AAC use, but which are not specifically designed to meet the requirements for Medicare funding and can therefore be produced more cheaply. Tobii also sells ruggedised cases (with speakers) that can be used with either an iPad or a Microsoft Surface tablet. Tobii also sells a range of software, which can be installed on Tobii devices or other third-party devices or downloaded for use on widely-available consumer tablets (eg iPads).

2.36 According to Tobii's 2018 annual report, Tobii Dynavox holds more than 40% of the global market for assistive technology for communication[27] and around 75% of the global market for eye-controlled products.[28]

2.37 Tobii's target is for Tobii Dynavox to increase revenues by 10% per year and to achieve an operating profit margin of 15 to 20%[29] (in 2018 Tobii Dynavox earned an operating profit margin of 8.4%). In Tobii's view, there is very low global penetration in assistive technology for communication and this offers the potential for long-term market growth, driven by gradually more effective reimbursement systems[30] and increased awareness.[31]

---

[25] Tobii 2014 Annual Report, page 10.
[26] See Tobii 2018 Annual Report, page 21 for further details.
[27] Tobii told us that this related to the market for specialised, purpose-built AAC devices and did not include other AAC solutions (eg consumer tablets utilising AAC apps).
[28] Tobii 2018 Annual Report, page 20. Tobii told us that this related to AAC solutions based on a purpose-built device with eye-tracking capability.
[29] Tobii 2018 Annual Report, page 19.
[30] Tobii stated that 'the main markets assistive technology for communication currently comprise some ten countries with functioning funding systems although access to appropriate assistive technology varies greatly between countries, regions and diagnoses. Figures are influenced by the level of knowledge among prescribers, therapists and physicians, as well as by policy decisions and whether society recognises the need for assistive technology for communication. Access is also affected by the ability of users and their relatives to engage in dialog with therapists, doctors and insurance companies.' Tobii 2017 Annual Report, pages 16 and 18.
[31] Tobii 2017 Annual Report, page 15.

2.38 Tobii stated in its 2018 annual report that the main markets for assistive technology for communication currently comprise some ten countries with systems for funding and prescribing assistive technology for communication, although access to appropriate assistive technology varies greatly between countries, regions and diagnoses.[32]

Financial performance

2.39 Tobii recorded global revenues of £112.4 million in 2018[33] and an operating loss of £16.5 million.[34] Tobii Dynavox generated 60% of the Group's revenue in 2018 and has accounted for the majority of the Group's revenue in each of the last five years.

Table 2-1 : Tobii global sales 2014-2018*

Net sales					*£ million*
	2014	*2015*	*2016*	*2017*	*2018*
Tobii Dynavox	38.1	63.9	65.7	61.1	70.9
Tobii Pro	14.4	18.1	21.1	26.2	34.2
Tobii Tech	3.2	5.1	8.3	10.4	12.9
Other and eliminations	-2.2	-3.5	-4.3	-4.7	-5.7
Group Total	53.6	83.5	90.9	93.1	112.4

* Translated to GBP at an exchange rate of 1 SEK: 0.0863 GBP.
Source: Tobii 2018 Annual Report, page 74.

2.40 Tobii Dynavox and Tobii Pro have reported positive earnings in each of the last five years while the Group has recorded operating losses due to increased investment in Tobii Tech. Tobii continues to increase investment in Tobii Tech to meet the growing demand for eye gaze in virtual reality and other consumer electronics products, with considerable investment made in 2017 and 2018.[35]

2.41 A substantial proportion of Tobii Dynavox's revenue is generated by the sale of products with eye gaze capability. For example, £[✂] million ([✂]%) of global 2017 sales was from the sale of such products and approximately [✂]% of total revenues in 2018 were derived from devices with eye gaze capability.

[32] Tobii 2018 Annual Report, pages 20 and 22.
[33] At the time of publishing, 2018 accounts for Tobii Dynavox Limited were not yet available. However, 2017 accounts show that Tobii Dynavox Limited generated revenue of around £1.5 million in the UK.
[34] Tobii 2018 Annual Report, page 75. Tobii uses SEK as its reporting currency. Figures in Table 2-1 have been translated to GBP at an exchange rate of 1 SEK: 0.0863 GBP. This is the average exchange rate for 2018, see the HMRC website for further information.
[35] Tobii 2018 Annual Report, page 31.

UK operations and financial performance

2.42 In the UK, Tobii Dynavox generated approximately £[✂] million of revenue in 2017, with £[✂] million ([✂]%) from sales of products with eye-tracking capability. Tobii data shows that, over the last three years, it made sales of dedicated AAC solutions in the UK as follows:

Table 2-2: Tobii Dynavox unit sales of dedicated AAC solutions in the UK (2016-2018)

	2016	*2017*	*2018*
Dedicated AAC solutions	[✂]	[✂]	[✂]

Source: CMA analysis of Parties' sales data

2.43 In 2017, [✂]% of Tobii Dynavox's UK sales were made direct to customers, as opposed to being made through resellers. [✂] of 2017 UK direct sales were made to the NHS. Table 2-3 below shows the amount and proportion of sales made to different customer types in the UK in 2017.

Table 2-3: Tobii Dynavox 2017 UK direct sales by customer type

Customer Type	*2017 Sales (£'000)*	*% share*
NHS	[✂]	[✂]
Direct to users	[✂]	[✂]
Charities	[✂]	[✂]
Schools	[✂]	[✂]
Local authorities	[✂]	[✂]
TOTAL	[✂]	[✂]

Source: Parties' submissions.

2.44 Tobii Dynavox has a number of resellers in the UK, including Abilia AB, Beamz International, Inclusive Technology Limited, Rompa and Sensory Guru. Tobii has a network of other resellers operating outside the UK.[36] In August 2018, Smartbox was appointed as a UK reseller of all Tobii Dynavox products (including hardware, software and accessories).[37] On 28 February 2019, the CMA served an Unwinding Order on Tobii and Smartbox, requiring the termination of this agreement.[38] Following a subsequent derogation request (approved by the CMA), Tobii and Smartbox entered into a new agreement, whereby Smartbox acts as a reseller of Tobii eye gaze cameras in the UK and Ireland only.[39]

[36] See Tobii Dynavox website for further information.
[37] Smartbox had previously entered into a reseller agreement with Tobii in 2008 and acted as a reseller of Tobii Dynavox products in the UK up until 2017, when the 2008 agreement was terminated.
[38] See Unwinding Order for further details.
[39] See 27 March 2019 Derogation for further details.

Smartbox

Overview

2.45 Smartbox Assistive Technology Limited (SATL) is a UK-based company which focuses on developing and re-selling ATS for people with disabilities, including communication aids, environmental control devices, computer control technology and interactive learning solutions. Sensory Software International Limited (SSIL) previously developed the software products of SATL. However, the business activities of SSIL were transferred to SATL over recent years and SSIL no longer carries out meaningful business activities.[40] Together, SATL and SSIL are referred to as Smartbox.

2.46 Smartbox's flagship AAC software is the 'Grid'. The Grid is an open platform and allows third parties to integrate their own hardware and access devices with the Grid. Grid software can be combined with a range of third-party devices, allowing customers and users to adopt the Grid as part of their preferred dedicated AAC solution, even where individual hardware device requirements and preferences vary.

2.47 Historically, Smartbox supplied hardware devices through the supply of 'wrapped tablets'.[41] Prior to the Merger, however, SATL had been improving its hardware offering and developing a range of purpose-built hardware devices to complement its software offering. It launched a new purpose-built device, the Grid Pad 12, in 2018.

2.48 Unlike Tobii, Smartbox does not develop its own eye gaze cameras and has historically procured them from various third parties to form a dedicated AAC solution (where eye gaze technology is required by users).

Financial performance

2.49 Outside the UK, Smartbox supplies its products predominantly in Europe and the US. The geographic split of Smartbox's 2017 sales is shown in Figure 2-1 below. The majority of its sales were in the UK.

Figure 2-1: Smartbox global and UK revenues 2017

[✂]
Source: [✂]

[40] The latest available (2017) accounts for SSIL show that the company held around £130,000 in assets at 31 December 2017. The accounts show that SSIL made charges of £60,000 to SATL in 2017 for the use of intellectual property.
[41] See paragraph 2.7(b) for more details.

Financial performance

2.50 Smartbox's global and UK revenues over the last three years prior to the Merger are shown in Table 2-4.

Table 2-4: Smartbox global and UK revenues 2015-2017

Revenue			*£ million*
	2015	*2016*	*2017*
Global	[✂]	[✂]	[✂]
UK	[✂]	[✂]	[✂]

Source: Parties' submissions: [✂].

2.51 [✂] the termination of a reseller agreement between Smartbox and Tobii which meant that Smartbox could no longer supply Tobii hardware or procure Tobii eye gaze cameras for integration with its own products. Smartbox subsequently moved to provide eye gaze cameras from SensoMotoric Instruments GmbH (SMI) but it took time to establish SMI as an alternative. Further, SMI was acquired by Apple in 2017 and SMI eye gaze cameras were withdrawn from sale which led to Smartbox losing the option of reselling SMI products. Smartbox was therefore required to invest time and resources in marketing eye gaze cameras from EyeTech Digital Systems Inc. instead.

2.52 In the UK, Smartbox made sales of dedicated AAC solutions during the last three years set out in Table 2-5:

Table 2-5: Smartbox unit sales of dedicated AAC solutions in the UK (2016-2018)

	2016	*2017*	*2018*
Dedicated AAC solutions	[✂]	[✂]	[✂]

Source: CMA analysis of Parties' sales data.

2.53 In 2017, [✂]%, a significant proportion, of Smartbox's UK sales were direct sales to different customer types as opposed to being made through resellers.

2.54 Smartbox's resellers in the UK are Abilia AB, DH2 Solutions, Inclusive Technology Limited, Liberator Limited, RSL Steeper and Techcess Limited (as well as Tobii).[42] Similar to Tobii, Smartbox sells its products worldwide through a network of resellers.[43]

[42] There are also companies that are not Smartbox resellers but are offered Smartbox products at discounted 'dealer' prices ([✂]). Examples of companies that receive 'dealer' prices are [✂]. See paragraphs 4.34 and 4.35 for details of Tobii's reseller relationships with Smartbox.
[43] See Smartbox website for further information. See also paragraph 4.36(b).

Competitors

2.55 We summarise below the main competitors of the Parties in the supply of dedicated AAC solutions in the UK.[44]

PRC (Liberator)

2.56 Prentke Romich Company Inc. (PRC) is a US company that manufactures and develops dedicated AAC solutions. PRC has developed a unique and proprietary language system called Unity which forms the basis of many of its AAC solutions.

2.57 PRC does not develop eye gaze devices and, since January 2019, Tobii has been the exclusive supplier of eye gaze cameras to PRC.

2.58 PRC uses a subsidiary company, Liberator Limited (Liberator), to distribute its AAC solutions in the UK. Liberator has the flexibility to distribute third party AAC products based on customer demand and feedback, although its primary focus is to supply PRC's AAC solutions.

2.59 Liberator is a reseller of Smartbox's Grid software and is able to provide Grid with its own hardware devices as part of a dedicated AAC solution.

2.60 In 2017, PRC's global turnover was approximately £[✂], with around £[✂] generated in the UK.[45]

2.61 PRC told us that, in 2018, it produced and sold [✂] dedicated AAC hardware devices and [✂] AAC software licences globally.

2.62 Liberator told us that in 2018 it sold [✂] dedicated AAC solutions in the UK, generating revenue of £[✂].

Jabbla (Techcess)

2.63 Jabbla BVBA (Jabbla) is a Belgium-based supplier of dedicated AAC solutions. Techcess Limited (Techcess) is the UK business of Jabbla and sells Jabbla hardware devices with either Jabbla-designed AAC software or with Smartbox's Grid software. Where customers also require eye gaze cameras, Jabbla typically sources them from Tobii, EyeTech Digital Systems

---

[44] Tobii submitted that the Parties face strong competition from AAC solutions using mainstream consumer devices. See paragraphs 5.12 and 5.13.
[45] CMA shares of supply analysis.

Inc. and Alea Technologies GmbH and, to a more limited extent, from LC Technologies Inc.

2.64 Techcess also acts as a distributor for some third-party AAC solutions, although its primary focus is to supply Jabbla's AAC solutions.

2.65 In 2017, Jabbla's global revenue was approximately £[✄], with around £[✄] generated in the UK.[46]

2.66 In 2018, Techcess told us that it sold [✄] dedicated AAC solutions in the UK.

Inclusive Technology

2.67 Inclusive Technology Limited (Inclusive Technology) provides special educational needs software, switches and computer access devices, simple communication aids, eye gaze and assistive technology for learners with a physical disability, sensory impairment or learning difficulty.[47] Inclusive Technology acts as a reseller of dedicated AAC solutions. While it develops its own software solutions, these are primarily aimed at schools [✄].

2.68 In 2017, Inclusive Technology generated UK revenue of approximately £[✄].

2.69 Inclusive Technology told us that in 2018 it sold [✄] dedicated AAC solutions in the UK, generating £[✄] of revenue

Abilia

2.70 Abilia AB (Abilia) is a Swedish company that supplies environmental solutions, AAC solutions, dedicated alarms and cognitive aid solutions. Abilia develops and manufactures its own range of assistive technology. The company sells its products through a network of distributors and has operations in Sweden, Norway and the UK. Abilia also acts as a reseller of Smartbox products.

2.71 In the UK, Abilia generates annual revenues of roughly £[✄][48] and told us that it sold [✄] dedicated AAC solutions in the UK in 2018.

AssistiveWare

2.72 AssistiveWare B.V. (AssistiveWare) is a smaller supplier of AAC products, headquartered in the Netherlands and focusing on developing AAC software

[46] CMA shares of supply analysis.
[47] See Inclusive Technology website.
[48] [✄].

for iOS (and is therefore available only on iPad) such as Proloquo2Go, a symbol-based AAC app. In 2017, AssistiveWare generated revenue of £[✂] in the UK.

Eye gaze camera suppliers

2.73 We describe below the main suppliers of eye gaze cameras (in addition to Tobii), who are involved in AAC. There are several other suppliers of eye gaze cameras globally, but these are focused on other uses of eye gaze technology, such as gaming, research, the automotive industry, medical assessments and robotic surgery systems.

EyeTech

2.74 EyeTech Digital Systems Inc. (EyeTech) is a US company that develops eye gaze algorithms, hardware and software for eye gaze technology. EyeTech supplies its products to various markets, although the ATS market represents over [✂]% of its revenues.

2.75 EyeTech supplies eye gaze devices to many countries, including the UK. In 2017, EyeTech generated total revenue of approximately £[✂] with around £[✂] attributable to the sale of eye gaze products in the ATS sector in the UK.

Irisbond

2.76 Irisbond Crowdbonding S.L. (Irisbond) is a Spanish company that provides eye gaze cameras integrated with AAC software. Irisbond sells its cameras directly to customers in Spain and South America and through resellers in the US, UK and Europe. Irisbond's strategy in the UK has been to partner with suppliers of AAC software (eg Smartbox) and to develop compatible AAC solutions together. Historically, Smartbox has been the main UK partner of Irisbond, with Grid software integrated with Irisbond's eye gaze technology.

2.77 In 2017, Irisbond generated total revenue of £[✂] although UK sales of eye gaze products accounted for [✂].

Alea

2.78 Alea Technologies GmbH (Alea): Alea is a German company that develops and supplies eye gaze devices to many countries, including the UK where Smartbox acts as a reseller of Alea's eye gaze devices.

2.79 In 2017, Alea’s global revenue was approximately £[✂], of which £[✂] was generated in the UK.

LC Technologies

2.80 LC Technologies Inc. (LC Technologies) is a US company that manufactures and sells eye gaze equipment worldwide. Its leading product, the Eyegaze Edge Communication System, is fully compatible with Smartbox’s Grid software.

2.81 Smartbox is a reseller of LC Technologies’ eye gaze devices and LC Technologies is a reseller of Smartbox’s Grid software.

2.82 In 2017, LC Technologies generated revenue of approximately £[✂] although it sold [✂] eye gaze devices in the UK, amounting to £[✂] of revenue.

Other third parties

2.83 Brief descriptions of other third parties mentioned in this report (including customers, charities and others) can be found in Appendix B.

3. The Merger and relevant merger situation

3.1 This chapter sets out the background to the completed acquisition by Tobii of Smartbox, including the details of the transaction and the rationale for the Merger. It then considers the jurisdictional test of whether a relevant merger situation has been created.

The transaction

3.2 On 15 August 2018, the Tobii Board of Directors approved the proposed acquisition of 100% of the issued share capital of Smartbox. The Share Purchase Agreement (SPA) was signed on 20 August 2018 when the transaction was announced publicly.[49]

3.3 The consideration payable [✂]:

(a) [✂]; and

(b) [✂].[50]

---

[49] Tobii announcement (20 August 2018).
[50] [✂].

3.4 [✂].

3.5 [✂].

3.6 [✂].

3.7 [✂].

The rationale for the transaction

Tobii's view

3.8 Tobii's announced rationale for the acquisition of Smartbox was to further consolidate its market leading position and strengthen its sales channels in key geographical markets, as well as to bring together the industry leading communication software, the Grid, from Smartbox with Tobii Dynavox's industry-leading touch and eye gaze solutions for assistive communication.[51]

3.9 Tobii's 2018 year-end report stated that the acquisition of Smartbox increased the size of business for Tobii Dynavox by approximately 15%, added complementary products and expanded the sales and marketing presence, and was expected to create clear synergies.[52]

3.10 Tobii told us that its rationale for acquiring Smartbox was to expand and complete its portfolio of AAC products. Tobii told us that it saw the Merger as combining two largely complementary businesses (Tobii being focused primarily on hardware and having a global reach, and Smartbox being focused primarily on software and the UK) and that the Merger would allow the Parties to combine their skills, expertise and resources to invest in the development of new hardware and software products to benefit people with speech, language and communication disabilities.[53] Tobii told us that neither company could develop such products individually due to resource constraints.

3.11 [✂], summarised the key benefits of the Merger as:

(a) creating an instantly complete AAC product portfolio;[54]

[51] Tobii announcement (20 August 2018).
[52] Tobii Year-End Report Q4 January-December 2018, page 5.
[53] Tobii response to Issues Statement, paragraph 3(a).
[54] Tobii told us [✂].

(b) adding SEK 110 million in revenues;[55]

(c) adding talent and increasing European presence; and

(d) creating cost and gross margin synergies.

3.12 Tobii told us that it expected the Merger to result in cost and revenue synergies including:

(a) Reducing procurement costs [✂].

(b) Reducing overheads by combining brands, sales and marketing and finance functions.

(c) Concentrating R&D activities into specialised 'hubs'.

(d) Removing duplication in R&D activities and overheads, enabling R&D to be undertaken more efficiently and effectively.

3.13 Tobii told us that it also expected to achieve cost synergies by:

(a) [✂]; and

(b) [✂]

3.14 [✂]

Table 3-1: Cost synergies presented to Tobii Board

[✂]

Source: [✂].[56]

3.15 Tobii told us that it planned to generate R&D synergies following the transaction through:

(a) [✂]

(b) [✂]

(c) [✂]

(d) [✂]

[55] Smartbox generated £9.3 million of revenue in 2017 and the average exchange rate for the year to 31 December 2018 was 1 SEK: 11.581667 GBP. See HMRC foreign exchange rates: yearly averages and spot rates.
[56] [✂].

3.16 [✂][57]

3.17 Tobii told us that, absent the Merger, it had allocated R&D budgets as shown in Table 3-2. While Smartbox had not produced R&D budgets beyond 2018, the Parties told us that the below were reasonable estimates for 2019 and 2020 based on planned development projects. Post-Merger, [✂][58]

Table 3-2: Parties' R&D expenditure, pre- and post-transaction

£million	*2018*	*2019*	*2020*
Absent the transaction	[✂]	[✂]	[✂]
Tobii Dynavox	[✂]	[✂]	[✂]
Smartbox	[✂]	[✂]	[✂]
Post-transaction		[✂]	[✂]

Source: Parties' submissions: [✂].

3.18 In a subsequent submission, [✂].[59]

3.19 In addition to the [✂], the presentation prepared for the Board also stated [✂].

Smartbox's view

3.20 Smartbox told us that the former majority shareholders, Paul and Alyson Hawes, decided to sell the business to Tobii as they wanted to retire and realise the maximum value for their shares. They were also satisfied by reassurances from Tobii regarding three key sale criteria:

(a) key roles in the merged entity for Barney Hawes (then Technical Director and minority shareholder in Smartbox) and Dougal Hawes (then Business Development Director and minority shareholder in Smartbox);

(b) protections for all Smartbox staff; and

(c) protections for commercial partners of Smartbox.

3.21 Based on our review of documents provided during the investigation, only a few documents are available that set out the sale process and there are similarly limited details of Smartbox's strategic rationale for the sale of the business to Tobii. For example, whilst minutes of a Smartbox board meeting

57 [✂].
58 [✂].
59 Tobii response to phase 1 decision, paragraph 107.

held on [✄], no details of the discussions between the Parties were noted down.

3.22 Although there is limited coverage of Smartbox's rationale in the internal documents which we have received, we note the following which, to some degree, explain Smartbox's views on the benefits of selling the business to Tobii:

(a) A presentation outlining 'the Smartbox story' stated that bringing together Smartbox and Tobii Dynavox would mean better products, now and in the future, and would allow both companies to achieve greater reach. In this context, the presentation noted that there are millions of people without access to AAC.

(b) An internal email to Smartbox staff stated that bringing together Smartbox and Tobii Dynavox would enable the merged entity to reach more people around the world and empower them to achieve more than ever before.

(c) A Q&A document prepared for both external and internal use stated that the transaction would be good for customers due to:

(i) the ability of the merged entity to provide the combined portfolio of both companies and serve a broad range of needs, including Tobii Dynavox's leading symbol-based software (Snap + Core First) and Smartbox's Grid software; and

(ii) the ability to drive more innovation, drive broader programs to educate the market and empower even more people with disabilities to fulfil their dreams and potential.

Relevant merger situation

3.23 As described in Chapter 1 (The Reference), pursuant to section 35 of the Act and our terms of reference (see Appendix A) we are required to investigate and report on two statutory questions: whether a relevant merger situation has been created and if so, whether that has resulted or may be expected to result in an SLC within any market or markets in the UK for goods or services.

3.24 Section 23 of the Act provides that a relevant merger situation has been created if:

(a) two or more enterprises have ceased to be distinct within the statutory period for reference;[60] and

(b) the turnover test or the share of supply test (as specified in that section of the Act) is met, or both are met.

3.25 We address the first of the statutory questions (whether a relevant merger situation has been created) in this section.

Enterprises ceasing to be distinct

3.26 The Act defines an 'enterprise' as 'the activities or part of the activities of a business'.[61] A 'business' is defined as a professional practice or any other undertaking which is carried on for gain or reward or an undertaking which supplies goods or services 'otherwise than free of charge'.[62]

3.27 Both Tobii and Smartbox supply assistive technology solutions. We are satisfied that Tobii and Smartbox (including their subsidiaries) are businesses and their activities are 'enterprises' for the purposes of the Act.

3.28 The Act provides that enterprises cease to be distinct once they are brought under common ownership or common control.[63] As a result of the transaction, Tobii acquired 100% of the issued share capital of Smartbox.[64] As a consequence, the enterprises which were previously separate are now under common ownership and control and have ceased to be distinct.[65]

3.29 Accordingly, we are satisfied that enterprises carried on by Tobii and Smartbox have ceased to be distinct.

3.30 The enterprises must have ceased to be distinct within the statutory timeframe which is either not more than four months before the date on which the reference is made or, where the merger took place without having been made public and without the CMA being informed of it, four months from the earlier of the time that material facts are made public or the time the CMA is told of material facts.[66] The four-month period may be extended under section 25 of the Act.

[60] See also sections 24 and 26 of the Act.
[61] Section 129(1) of the Act.
[62] Section 129(1) and (3) of the Act.
[63] Section 26 of the Act.
[64] For more information, see Tobii's press release on acquiring Smartbox Assistive Technology, August 2018.
[65] Section 26 of the Act.
[66] Section 24 of the Act.

3.31 The Merger completed on 1 October 2018. The statutory deadline was 20 February 2019 following an extension under section 25(2) of the Act.

3.32 The Merger was referred for a phase 2 investigation on 8 February 2019.

3.33 We are therefore satisfied the reference was made within the statutory time limit.

Jurisdiction

3.34 The second element of the relevant merger situation test seeks to establish sufficient connection with the UK on a turnover or share of supply basis to give us jurisdiction to investigate.

3.35 The turnover test, which requires the value of the turnover in the UK of the enterprise acquired to exceed £70 million, is not met.[67] The value of the turnover in the UK of Smartbox did not exceed £70 million for the last financial year for which it had audited accounts, so the turnover test is not met.

3.36 The share of supply test is met where, as a result of two or more enterprises ceasing to be distinct, a share of supply of goods or services in the UK, or a substantial part of the UK, of at least 25% is created or enhanced.[68]

3.37 The Parties overlap in the supply of dedicated AAC solutions in the UK. We have estimated that the Parties' combined share of supply of dedicated AAC solutions in the UK is [60-70%], with an increment of [10-20%] (based on revenues) resulting from the Merger.[69]

3.38 We are therefore satisfied that the share of supply test in section 23 of the Act is met.

Conclusion on the relevant merger situation

3.39 In the light of the above assessment, we conclude that the Merger has resulted in the creation of a relevant merger situation.

---

[67] Section 23(1) of the Act.
[68] Section 23(2), (3) and (4) of the Act.
[69] See market share analysis in Table 6-1.

4. Counterfactual

Introduction

4.1 To assess the effects of a merger on competition, we consider the prospects for competition with the merger against what would have been the competitive situation without the merger. This is called the 'counterfactual'.[70]

4.2 The counterfactual is an analytical tool used to provide a benchmark against which to assess whether a merger has or may be expected to result in an SLC.[71]

4.3 The CMA may examine several possible counterfactual scenarios, including the continuation of the pre-merger situation, and will select only the most likely scenario as the counterfactual. The CMA will typically incorporate into the counterfactual only those aspects of scenarios that appear likely on the basis of the facts available and the extent we are able to foresee future developments.[72] Given that the counterfactual incorporates only those elements of scenarios that are foreseeable, it will not in general be necessary to make finely balanced judgements about what is and what is not the counterfactual.[73]

4.4 However, when it considers that the choice between two or more scenarios will make a material difference to its assessment, the CMA will carry out additional detailed investigation before reaching a conclusion on the appropriate counterfactual.[74]

Views of the Parties and third parties on the counterfactual

4.5 Tobii and Smartbox made separate submissions on their respective views on the appropriate counterfactual. Given the differences in each of the Parties' views on the counterfactual, we set out the Parties' separate submissions below.

Smartbox's views

4.6 Smartbox provided information on what it considered to be the likely ownership structure had the business not been acquired by Tobii. Smartbox

---

[70] *Merger Assessment Guidelines* (which was originally published jointly by the Office of Fair Trading and the Competition Commission and has been adopted by the CMA Board), paragraph 4.3.1.
[71] *Merger Assessment Guidelines*, paragraph 4.3.1.
[72] *Merger Assessment Guidelines*, paragraph 4.3.6.
[73] *Merger Assessment Guidelines*, paragraph 4.3.6.
[74] *Merger Assessment Guidelines*, paragraph 4.3.6.

told us that its shareholders considered two key strategic options as alternatives to the sale of the business to Tobii:

(a) A management buy-out (MBO) by Barney Hawes (then Technical Director of Smartbox), Dougal Hawes (then Business Development Director of Smartbox) and Jarrod Inott (Financial Director of Smartbox).

(b) No change to ownership.

4.7 Smartbox told us that:

(a) the sale to Tobii was the preferred option because the majority shareholders, Paul and Alyson Hawes, were keen to retire from the business and wanted to realise the full value of their shares.

(b) The MBO was considered the next best option but was less attractive than the sale to Tobii because it offered a lower value for the business and the majority shareholders would not be able to fully liquidate their shares.

4.8 Smartbox told us that no other parties were made aware of the availability of Smartbox for sale and management did not take any steps to identify potential buyers.

4.9 Smartbox told us that, had the transaction with Tobii not taken place, it would have proceeded with the MBO and provided evidence of the alternative MBO proposals under consideration.

4.10 In addition to a vendor invested management buy-out (VIMBO) option, whereby Paul and Alyson Hawes would sell their equity and offer a loan to the management team, Smartbox provided an investment proposal from [✄][75] [✄].[76] We note [✄]'s description of itself as 'a junior partner, helping businesses overcome strategic challenges as they grow, but leaving management to run their businesses'.

4.11 With respect to Smartbox's commercial operations and performance absent the Merger, Smartbox told us that, regardless of its future ownership structure, it would have continued to develop its own range of hardware devices that would be manufactured to Smartbox's own specifications. [✄].

[75] [✄]
[76] Under the terms of the proposal, [✄] would invest a total of £[✄] (£[✄] to purchase a minority ([✄]%) equity stake and £[✄] in loan notes) and would [✄].

Smartbox views on the Reseller Agreement and Distributor Agreement

4.12 Around the time of the Merger (in August 2018), the Parties entered into reseller agreements, whereby Smartbox agreed to act as a reseller of Tobii Dynavox products in the UK and Ireland (the Reseller Agreement, referred to as the RA) and whereby Tobii Dynavox agreed to act as a distributor of Smartbox's products worldwide (the Distributor Agreement, referred to as the DA) (together, the Agreements). Further explanation of the Agreements is provided in paragraphs 4.36 to 4.39.

4.13 Smartbox told us that it was not possible to separate the Agreements from discussions regarding the Merger and it was unclear whether any such agreements would have been concluded in the absence of the Merger.

Tobii's views

4.14 Tobii has put forward various arguments that the correct counterfactual is not the pre-Merger conditions of competition. We have addressed each of these points in detail below.

4.15 [✂].[77] Tobii told us that the reports of the Monitoring Trustee indicated [✂].[78]

4.16 [✂].[79] According to Tobii, this was because:

(a) Smartbox was a small family-owned company [✂][80] (global turnover of £9.3 million in 2017 and £9.6 million in 2016) and declining UK turnover (2016: £7 million; 2017: £4.8 million) and operating profits (2016: £1.5 million; 2017: £0.1 million).

(b) [✂]:

(i) [✂];

(ii) [✂];[81] and

(iii) a decline in the number of licences sold for the Grid software.[82]

(c) [✂].[83] [✂].[84]

---

[77] Tobii response to phase 1 decision, paragraph 21.
[78] [✂].
[79] Tobii response to phase 1 decision, paragraph 21.
[80] Tobii response to phase 1 decision, paragraph 22. [✂].
[81] [✂].
[82] Tobii response to phase 1 decision, paragraph 21.
[83] [✂].
[84] [✂]

4.17 [✂]

Tobii views on the Reseller Agreement and Distributor Agreement

4.18 At phase 1, the Parties told the CMA case team that they had entered into the RA and DA [✂]. However, in subsequent submissions Tobii told us that the appropriate counterfactual should include the Agreements entered into between Tobii and Smartbox in August 2018.[85] Tobii told us that these agreements were:

(a) entered into in the ordinary course of business;[86]

(b) [✂];[87] and

(c) not conditional on the conclusion of the Share Purchase Agreement between Tobii and Smartbox signed on 20 August 2018 (ie the SPA) bringing about the Merger.

Our assessment

4.19 We have identified three issues for consideration as part of the counterfactual:

(a) the ownership of Smartbox, had the business not been acquired by Tobii;

(b) Smartbox's likely performance absent the Merger; and

(c) the treatment of the Agreements which the Parties entered into in August 2018.

The ownership of Smartbox

4.20 We considered the options that Smartbox told us its shareholders viewed as alternatives to the sale of the business to Tobii: an MBO or no change in ownership.

4.21 It is not necessary for us to conclude whether the MBO would have been completed and in what form, as the competitive conditions under a counterfactual whereby existing management acquired Smartbox would not

[85] Tobii response to issues statement, paragraph 28.
[86] Tobii response to issues statement, paragraph 28.
[87] Tobii response to issues statement, paragraph 28.

be materially different from the competitive conditions based on pre-Merger conditions.

4.22 We consider that Smartbox management was likely to have continued to pursue a similar strategy under the [✀]-funded MBO as it would if its shareholders had proceeded with the VIMBO proposal, or if there was no change in ownership. In each scenario, key management personnel would have remained unchanged and we consider that the competitive strategy of Smartbox would have been likely to have been materially equivalent.

4.23 Our view therefore is that, had Smartbox not been acquired by Tobii, it would have continued as an independent competitor.

Smartbox's performance as an independent business

4.24 [✀], we have considered the financial position of Smartbox in the absence of the Merger.

4.25 [✀]

4.26 [✀]

4.27 The strength of Smartbox as a competitive constraint is a question for our competitive assessment and is considered in Chapter 6 (Horizontal effects). Nonetheless, for completeness [✀]. In particular:

(a) Smartbox's income statement summary demonstrates that after a decline in financial performance in 2017, the business had improved in 2018. Smartbox provided summary income statement data for the previous five years as set out in Table 4-1 below.

Table 4-1: Smartbox trading summary

£million	*2014*	*2015*	*2016*	*2017*	*2018*
Sales	[✀]	[✀]	[✀]	[✀]	[✀]
Gross Margin	[✀]	[✀]	[✀]	[✀]	[✀]
Gross Margin %	[✀]	[✀]	[✀]	[✀]	[✀]
Operating Profit	[✀]	[✀]	[✀]	[✀]	[✀]
Operating Profit %	[✀]	[✀]	[✀]	[✀]	[✀]

Source: [✀].

(b) Smartbox explained that the decline in 2017 performance was due to the following:

(i) The loss of the Tobii reseller agreement at the beginning of 2017 which meant that Smartbox could no longer supply Tobii hardware or procure Tobii eye-gaze cameras. The year-on-year reduction in sales of Tobii systems and cameras amounted to £[✂].

(ii) In the absence of Tobii hardware in 2017, sales of Smartbox solutions increased by £[✂]. However, a greater proportion of sales were made through resellers, resulting in lower margins earned by Smartbox.

(iii) After working to establish MyGaze eye trackers as an alternative (produced by SMI), SMI was acquired by Apple in June 2017 and Smartbox lost the option to resell this camera.[88] Smartbox was therefore required to invest time and resources in marketing EyeTech's products instead.

(iv) The development of Grid Pad 12 required a significant level of investment. Smartbox expenses [✂], and this is reflected in the lower operating profits ahead of the launch of the Grid Pad 12 in 2018.

(v) Adverse foreign exchange movements against the dollar negatively impacted earnings.

(c) Smartbox's summary profit and loss data for 2018 shows that like-for-like performance of the business has improved. After adjusting earnings figures to remove the impact of additional sales generated from the DA in Q4 of 2018 and other Merger-related items (ie to calculate performance on a comparable pre-Merger basis), Smartbox generated adjusted EBITDA[89] of around £[✂] in 2018 (2017: £[✂]).

4.28 In our view, the 2017 challenges described above do not indicate that Smartbox would have been a weaker competitor going forward. We note that Smartbox made significant investments in improving its hardware range in 2017 and that the loss of an eye gaze partner so soon after the termination of the Tobii reseller agreement, is not a challenge we would expect Smartbox to face regularly.

4.29 We also note that the above conclusion is broadly corroborated by our understanding of the gross margin that Smartbox is expected to earn on sales of the Grid Pad 12 as compared to its historic gross margin earned on

---

[88] Following the acquisition of SMI by Apple, the MyGaze eye trackers were withdrawn from production. See announcement on Smartbox website for further details.
[89] Earnings before interest, tax, depreciation and amortisation, adjusted to remove exceptional items and provided to measure Smartbox's underlying profitability. Some of these exceptional items were Merger-related.

sales of its legacy products.[90] This indicates that, while Smartbox [✂], it is still achieving healthy margins on sales of its hardware devices.

4.30 With regard to Tobii's submissions on the reports of the Monitoring Trustee, we consider that the reports [✂]. We interpret the Monitoring Trustee's Third Report to indicate that Smartbox would be resilient in the face of a number of hypothetical adverse scenarios affecting its sales [✂].[91] In any event, the Monitoring Trustee analysis of a forward-looking business plan was prepared for the purpose of assessing potential interim measures,[92] and is not intended to be a detailed assessment of Smartbox's likely future financial performance absent the Merger. Accordingly, given that the analysis broadly corroborates other evidence available to us on the future strength of Smartbox as a competitor,[93] and it is not necessary for our assessment to reach a view on the precise likely future financial performance of Smartbox or the Grid Pad 12, we have placed limited weight on it, only to the extent that we interpret the report as indicating that Smartbox would be resilient to a number of hypothetical adverse sensitivities testing declines in sales volumes.

4.31 As described in Chapter 3 (The Merger and relevant merger situation), we note that Smartbox's rationale for the sale was driven primarily by the desire of the former majority shareholders to retire, and that Smartbox's internal documents do not indicate a desire to sell as a result of financial pressures or a weakening position in the market for dedicated AAC solutions. We note also that Tobii's internal documents reflect the competitive threat posed by Smartbox, in terms of both hardware and software.[94] Therefore, our view that the most likely counterfactual is one in which Smartbox continues as an independent competitor is consistent with Tobii's own internal documents (produced prior to the Merger), which indicate that Tobii considered that the competitive strength of Smartbox increased consistently in the years prior to the Merger, and contain no indication that Smartbox was a diminishing competitive threat.

4.32 Our view is that the most likely scenario is that Smartbox would have been able to continue to operate as it had done prior to the Merger. We have not

---

[90] Smartbox earns a gross margin of around [✂]% on sales of the Grid Pad 12. [✂]. This compares with historic margins of [✂]% to [✂]% on legacy devices. See [✂].
[91] [✂].
[92] In particular, Smartbox's forecasts and the Monitoring Trustee's assessment of those forecasts provided the CMA with the 'best available' indicator of how Smartbox might perform during our investigation and under a potential unwinding of the RA and DA (as described in paragraphs 4.36 to 4.39) for the purposes of considering the Unwinding Order.
[93] See paragraphs 4.27 to 4.29.
[94] See, for example, paragraph 6.37(e).

seen evidence to suggest that the competitive constraint exercised by Smartbox was likely to weaken in the absence of the Merger, or that it would not have had sufficient resources to develop new products, including hardware.[95]

Treatment of the Reseller Agreement (RA) and Distributor Agreement (DA)

4.33 In this section we have considered whether the RA and DA would have been entered into absent the Merger, ie whether the Agreements form part of the counterfactual to the Merger.

The Parties' historical reseller arrangements

4.34 Smartbox has, in the past, acted as a reseller of Tobii products in the UK:

(a) Between 2008 and January 2017, the Parties operated under a reseller agreement whereby Smartbox was reselling Tobii assistive technology products in the UK. The 2008 reseller agreement covered all Tobii Dynavox products, including hardware, software, accessories (including spare parts) services and documentation (eg user guides).

(b) [✂] terminated the 2008 reseller agreement with effect from January 2017 and told us that this was because [✂].

4.35 Tobii has historically acted as a reseller of Smartbox's software worldwide. Since 2013, Tobii has been a reseller of Smartbox's 'Look to Learn' eye-tracking software globally.[96] This agreement was not terminated in 2017 (when Tobii terminated the agreement under which Smartbox acted as a reseller of Tobii products).

Overview of the RA and DA

4.36 The Parties entered into the Agreements [✂] before completion (1 October 2018):

---

[95] We note from the [✂] investment proposal that management was likely to have the option of [✂], should such a financing strategy be deemed appropriate in the future.
[96] The 2013 reseller agreement was updated in June 2016 to cover Smartbox's 'Look to Learn Scenes and Sounds' software in addition to the original 'Look to Learn' product. Tobii told us that it was also reselling Smartbox's Grid software although no formal agreement was in place.

(a) the RA was entered into on 15 August 2018[97] and provided for Smartbox to act as reseller for Tobii products in UK and Ireland; and

(b) the DA was entered into on 29 August 2018 and provides for Tobii to act as a distributor for Smartbox's products worldwide. The DA superseded the agreement referred to in paragraph 4.35 as well as another agreement entered into by the Parties on 15 August 2018, the 'OEM Partner Agreement'. The OEM Partner Agreement permitted Tobii to resell Smartbox's 'Look to Learn', 'Look to Learn Scenes and Sounds' and 'Grid 3' software products on a worldwide basis.[98]

4.37 The RA is no longer in effect following the CMA's Unwinding Order.[99] The DA is still in operation.

4.38 In relation to the scope of the RA:

(a) [✂];

(b) [✂]

(c) [✂].

4.39 In relation to the scope of the DA:

(a) [✂]

(b) [✂]

(c) [✂].

Tobii's rationale for entering into the Agreements

4.40 As noted above, at phase 1, the Parties told the CMA case team that they had entered into the RA and DA [✂]:

> [✂].

[97] Smartbox told us that there was an error in the dating of this document and that it was actually signed by Smartbox on 15 September 2018. [✂]. Smartbox told us that it agreed that the agreement was enacted prior to signing. For the purposes of this paper, we refer to the RA being entered into on 15 August 2018. [✂].
[98] The DA differs from the OEM Partner Agreement as the DA permits Tobii to resell all Smartbox products, including its hardware devices.
[99] On 28 February 2019, the CMA issued an Unwinding Order to Tobii and Smartbox, requiring the termination of the Smartbox Reseller Agreement. Following a subsequent derogation request (approved by the CMA), Tobii and Smartbox entered into a new agreement on 27 March 2019, whereby Smartbox acts as a reseller of Tobii eye gaze cameras in the UK and Ireland.

4.41 However, Tobii subsequently provided a one-page note signed by the President of Tobii Dynavox, Mr Ruben, stating that the Agreements were not related to the Merger.[100] Tobii stated that it strongly disagreed with the CMA's position at phase 1 that, absent an acquisition, 'the two companies would not be resellers of each other's products'. In this regard, Tobii stated that the following factors provide support for its position that the Parties would have entered into the RA and DA absent the Merger:

(a) the Parties had been active resellers of each other's products in the past and reseller agreements are common in the sector;[101]

(b) [✂]; and[102]

(c) the suspension of Smartbox reselling Tobii devices during 2017 was a poor decision, [✂].

4.42 Tobii told us that, had the merger discussions not resulted in the conclusion of the SPA, the most likely outcome would have been that the Parties would have concluded the RA and DA noting that the conclusion of the Agreements and the SPA were not inter-conditional.

Smartbox's rationale for entering into the Agreements

4.43 Smartbox told us that the Agreements were signed to enable the Parties to start selling all products once the SPA was signed on 20 August 2018 rather than waiting until the acquisition was completed on 1 October 2018.

Events leading up to the RA and DA

4.44 We set out below the evidence that we have received regarding the events leading up to the conclusion of the Agreements.

Timeline of events

4.45 The Parties had different accounts of how discussions between the Parties were initiated:

(a) Smartbox told us that Paul Hawes received a phone call from Tobii's [✂], in July 2017 suggesting a meeting to discuss 'common interests'.

---

[100] [✂].
[101] Tobii told us that, due to the broad range of end-user requirements for AAC solutions, suppliers and resellers generally combine their own hardware and/or software with third-party hardware and/or software in order to provide a solution which best meets an individual end-user's specific needs.
[102] [✂].

(b) Tobii told us that the termination of the 2008 reseller agreement (effective from 2 January 2017) [✂].

4.46 On [✂], a meeting took place between the Parties in Stockholm. [✂]:

(a) Tobii told us that the meeting concerned discussions about Smartbox again being appointed as a reseller of Tobii products and that there was some preliminary discussion about a potential acquisition by Tobii of Smartbox. Tobii told us that the meeting concluded with an understanding between the Parties that a merger of the two companies would:

(i) enable Paul and Alyson Hawes to sell their shareholding and retire; and

(ii) provide substantial benefits for users through the combination of the two companies' portfolios.

(b) Smartbox told us that, at the meeting, Mr Ruben gave his initial thoughts on the rationale and benefits of a merger and Paul Hawes requested that Smartbox be able to sell Tobii eye gaze cameras.

4.47 Following the meeting, the Parties exchanged emails in which the potential merger was discussed, and Smartbox raised the possibility of eye gaze camera resale arrangements:

(a) [✂].

(b) On 4 December 2017, Paul Hawes emailed his colleagues at Smartbox stating that:

> I have been discussing with Tobii the possibility that we may be able to sell their cameras again… This is really about the separate cameras, but I would also welcome your views on including a PCEye in the Power Pad, should that be an option.

(c) [✂].

(d) [✂].

4.48 Smartbox told us that, in January 2018, Tobii informed Smartbox that [✂]:

> [✂].[103]

[103] This is consistent with [✂].

4.49 [✄]:

[✄].

4.50 [✄]

4.51 The Parties continued discussions throughout the first half of 2018:

(a) Tobii told us that, during 2018, discussions between the Parties focused principally upon a potential acquisition [✄].

(b) Tobii told us that, while discussions primarily concerned the merger, discussions were held on re-initiating Smartbox's role as a reseller of Tobii products during meetings [✄].

4.52 [✄], the Parties held detailed negotiations on the draft SPA as well as future product ranges, future relationships with resellers and internal and external communications. We have been provided with email evidence of such discussions.

4.53 Tobii told us that, [✄], Mr Ruben and Paul Hawes discussed re-establishing the former reseller relationship between Tobii Dynavox and Smartbox and agreed to enter into new reseller agreements.

4.54 In an email from Mr Ruben to Paul Hawes on 14 August 2018, Mr Ruben states that:

> An idea came up yesterday that we should sign a new reseller agreement for Tobii Dynavox to be able to resell Smartbox products (primarily Grid) and that Smartbox should (again) become a Tobii Dynavox reseller of our devices to rely on in the interim between signing and closing.

4.55 Tobii Dynavox and Smartbox entered into the RA on 15 August 2018. Tobii Dynavox and Smartbox also entered into the OEM Partner Agreement on 15 August 2018, which was superseded by the DA on 29 August 2018. Tobii told us that [✄].

4.56 The Tobii Board approved the terms of the SPA on 15 August 2018 and the Parties signed the SPA on 20 August 2018.

Our view on whether the RA and DA would likely have been entered into absent the Merger

4.57 While we acknowledge it is conceivable that Tobii and Smartbox may have decided to enter into some form of new trading arrangements in the absence of the Merger, Tobii has not provided any information on the possible nature or scope of such alternative arrangements (and there is no other evidence to suggest that such alternative arrangements would have been entered into). There is therefore no basis to conclude that the most likely counterfactual is one in which Tobii and Smartbox would have entered into arrangements that were materially different to those agreed in August 2018 absent the Merger. Our assessment of the counterfactual therefore focuses on the agreements which the Parties entered into in August 2018.

4.58 Our view is that it is unlikely that Tobii and Smartbox would have successfully concluded the RA and DA absent the Merger. Further, we consider that the OEM Partner Agreement was a precursor to the DA (the two agreements being only 13 days apart) and it is therefore also unlikely that Tobii and Smartbox would have entered into the OEM Partner Agreement absent the Merger. This is on the basis that:

(a) The contemporaneous evidence that we have seen regarding the nature of the discussions between the Parties primarily concerns detailed merger negotiations and we have seen little evidence of separate discussions on the RA and DA (or OEM Partner Agreement). We note, in particular, the email from Mr Ruben to Paul Hawes on 14 August 2018 that refers to the Agreements as 'an idea came up yesterday' – suggesting the Agreements were not considered until the Merger discussions were nearing conclusion.

(b) To the extent that discussion of reseller agreements did feature in the contemporaneous documents, the evidence we have seen does not suggest that Tobii was willing to enter into the RA or DA (or OEM Partner Agreement) absent the Merger. In particular, the documentary evidence focused on Smartbox's request for eye gaze cameras; we did not see evidence of proposals for Smartbox to re-commence resale of Tobii's hardware and other products, or for Tobii to extend the scope of its arrangements as a reseller of Smartbox products, until August 2018 (the time the Merger was agreed).[104] In respect of eye gaze cameras, we note that on [✄].[105]

[104] We also note that Smartbox told us that, absent the Merger, it would likely have continued to request the ability to resell Tobii eye gaze cameras only. [✄].

[105] While we note Tobii's submissions that the Agreements were entered into in the ordinary course of business and that the RA was aimed at re-establishing a previous commercial relationship between the Parties, we also note that the nature of competition between the Parties was different in August 2018 from when the previous reseller agreements were signed in 2008 and 2013. In particular, Smartbox was competing more closely with Tobii on its hardware products. Therefore, we do not consider the Parties' historic reseller arrangement provides evidence that the RA was likely to have been entered into absent the Merger.

(c) The correspondence between the Parties at the time the Agreements were entered into states that the 'new reseller agreements' should be signed 'to rely on in the interim period between signing and closing'. This is consistent with the explanation Smartbox gave for the Agreements, and Tobii's phase 1 submission.

(d) The timing of the Agreements is also closely linked to the Merger. We consider it relevant that the RA and the OEM Partner Agreement were agreed on the same day the Tobii Board approved the SPA for signing (15 August 2018), and the DA replaced the OEM Partner Agreement shortly after (29 August 2018).

4.59 In any event, we note that there are several parameters of pre-Merger competition between the Parties (eg the quality of customer support and the level of innovation) which would likely be unaffected by their entering into reseller arrangements. As such, we consider that, even if any such arrangements were part of the counterfactual, this would be unlikely to make a material difference to our assessment of the horizontal unilateral effects resulting from the Merger.

Conclusion on the counterfactual

4.60 Our view is that the most likely counterfactual is one in which:

(a) Smartbox continues to operate as an independent business, whether following an MBO or with no change of ownership;

(b) Smartbox is financially able to compete as it had done pre-Merger, including funding hardware and other product development; and

(c) The Parties are not operating under the RA, DA or OEM Partner Agreement as agreed around the time of the Merger.

4.61 Therefore, we conclude that the relevant counterfactual is the pre-Merger conditions of competition, taken to be the situation prior to the RA, DA and OEM Partner Agreement being agreed.

5. Market definition

Introduction

5.1 Market definition[106] provides a framework for assessing the competitive effects of a merger. It is a useful analytical tool, but not an end in itself, and identifying the relevant market involves an element of judgement.

5.2 In practice, the analysis of market definition and competitive effects will overlap, with many of the factors affecting market definition being relevant to the assessment of competitive effects and vice versa. Therefore, market definition and the assessment of competitive effects should not be viewed as two distinct analyses. The question for market definition is not whether a particular alternative does or does not exert a competitive constraint on the parties' products, but about the strength of this constraint relative to that exercised by other products. The CMA's aim when identifying the relevant market is to include the most significant constraints on the behaviour of the merger firms (ie the most significant competitive alternatives available to the customers of the merger firms), as these will be the immediate determinants of the effect of the merger.[107]

5.3 However, the CMA recognises that the boundaries of the market may be blurred, particularly when products are differentiated, and, as such, it takes into account in its assessment the strength of the constraints between products in the relevant market and from products outside the relevant market.[108]

5.4 The Parties overlap primarily in the supply of dedicated AAC solutions. We have defined a dedicated AAC solution as a combination of four components:

(a) **Dedicated AAC hardware**. This includes both 'purpose-built' devices and 'wrapped tablets'. A purpose-built device is an integrated device designed specifically for the purpose of meeting AAC needs. Examples are Tobii's I-12 or Smartbox's Grid Pad 12. A 'wrapped tablet' combines a consumer or a commercial tablet with a purpose-built component, typically a 'backbox' or a 'bracket' that incorporates additional batteries, speakers, ports and mounting options. Examples include Tobii's EyeMobile or Smartbox's Grid Pad 10;

[106] In this document we use the expressions 'market definition' and 'frame of reference' interchangeably.
[107] *Merger Assessment Guidelines*, paragraph 5.2.1.
[108] *Merger Assessment Guidelines*, paragraph 5.2.2.

(b) **AAC software**. This includes communication software (text- or symbol-based) and often computer control software (which may depend on the access means used). It may also include additional content such as educational software, accessible apps, third party content or environment control functionalities;

(c) **Access means**. In cases where the end-user cannot control the device solely through the touch screen, an AAC solution includes a means of access, for example a switch, an infrared camera, or an eye gaze camera;[109] and

(d) **Customer support**. This encompasses training, technical support and repairs. Depending on the circumstances, this support can be provided to the purchaser of the solution (eg a NHS hub) or directly to the end-user.

5.5 We are aware that some suppliers of dedicated AAC solutions, in particular Tobii, sometimes use the term ‘dedicated’ in the narrower sense of being certified as a medical ‘speech generating device’ in accordance with US regulations (which are discussed in Appendix C). Our definition of dedicated AAC solutions encompasses all solutions that meet the criteria set out in paragraph 5.4 and is therefore broader. For example, the Indi, a portable, purpose-built device sold by Tobii, is considered to be a dedicated AAC solution for the purpose of our inquiry even though it is not certified as a medical device in the US.

5.6 We are also aware that some customers build their own AAC solutions based on mainstream consumer devices. This typically involves the combination of an iPad or a Microsoft Surface tablet with AAC software, and sometimes additional peripherals bought independently (eg a case and external speakers). We refer to such solutions as ‘non-dedicated AAC solutions’.[110] In some cases, a non-dedicated AAC solution may rely on the same kind of underlying consumer tablet as a ‘wrapped tablet’ (which we classify as dedicated AAC hardware). However, a non-dedicated AAC solution differs from a wrapped tablet in three respects: it is sold with less extensive customer support; it does not include any purpose-built hardware element, which has some implications for its performance; and the customers have to source and assemble different components themselves. These three factors

[109] Even in cases where the end-user can access the device through the touch screen, some accessories may be required to make this solution effective (eg a keyguard).
[110] In our engagement with third parties we have also used the terms ‘mainstream devices’, ‘consumer tablets’, or ‘AAC solutions based on mainstream devices’. The presentation of the evidence in this chapter uses the terms that were used in the context of gathering that evidence.

of differentiation between dedicated and non-dedicated AAC solutions are discussed in more detail in paragraphs 5.70 and following.

5.7 We recognise that dedicated AAC solutions thus defined are differentiated products. They differ notably in terms of the size of the devices, access options, functionalities, software, and the level and quality of support associated with them. It is possible that conditions of competition may differ for different products, notably in terms of their closeness of competition with non-dedicated AAC solutions. As such, we have considered not only whether non-dedicated AAC solutions form part of the same market as dedicated AAC solutions, but also whether the conditions of competition differ across different types of dedicated AAC solutions.

5.8 The Parties also sell AAC software on a standalone basis. In 2018, sales of standalone AAC software in the UK were £[✄] for Smartbox ([✄] [0-10%] of total Smartbox UK sales) and £[✄] for Tobii [0-10%] of total Tobii UK sales).[111] Customers who buy standalone AAC software from the Parties can install it on dedicated or mainstream devices. Because standalone software represents a small proportion of the Parties' sales, and as we have not received any evidence to suggest that competition concerns might arise within this segment, we have not considered a separate theory of harm concerning horizontal unilateral effects in the supply of standalone AAC software to customers.

5.9 We have also considered two additional 'upstream' markets: the supply of AAC software to suppliers of dedicated AAC solutions, and the supply of eye-gaze cameras to suppliers of dedicated AAC solutions. The Parties do not overlap in these markets (Tobii does not license its software to other suppliers of dedicated AAC solutions, and Smartbox does not produce any eye gaze cameras). However, these markets are relevant for our assessment of vertical theories of harm. Our definition of these two upstream markets is set out in paragraph 5.91 and following.

Downstream product market

5.10 On the basis of the Parties' primary overlap, we consider that the narrowest candidate market for assessing horizontal unilateral effects is the supply of dedicated AAC solutions in the UK. In this section we consider whether non-dedicated AAC solutions should be included in the same product market as dedicated AAC solutions.

[111] These figures include sales of AAC software through resellers and exclude sales of educational software.

5.11 As part of our assessment, we asked customers of the Parties a number of questions to elicit information on their preferences and the extent to which they regarded non-dedicated AAC solutions as close substitutes to dedicated AAC solutions. We also sought representations from the Parties' competitors on this question, and we considered how the Parties described competition with non-dedicated AAC solutions in their internal documents.

Tobii's views

5.12 Tobii submitted that the Parties face strong competition from AAC solutions using mainstream consumer devices.[112] In particular, Tobii submitted that: AAC software is the same regardless of whether it is installed on a mainstream consumer device or a purpose-built device; mainstream devices have a wide range of in-built assistive communication technology and features (including touch screen access, eye-tracking software, and speakers); NHS hubs commonly provide AAC solutions based on mainstream devices to a considerable number of their users (who by definition tend to have some of the most complex needs); and that the level of customer support and training is not actually a strong factor of differentiation between mainstream and dedicated devices. Tobii also submitted that 'for many users, a standard consumer tablet, or a device based on a standard consumer tablet, will – with the correct software and perhaps also peripherals – meet their requirements',[113] and that the CMA should 'consider and take proper account of both end-users' needs and the range of AAC solutions that they are in fact using in order to communicate effectively'.

5.13 Tobii also made a number of submissions that it considered relevant to market definitions. We discuss some of these submissions in this chapter (in paragraph 5.24 and following, and paragraph 5.55 and following), and the rest in Appendix C to this document.

Evidence from third parties

Evidence from customers

5.14 Roughly 90% of the Parties' sales of dedicated AAC solutions are made to organisations such as the NHS, schools and charities who purchase AAC solutions on behalf of end-users (the remaining 10% of sales are made

[112] Tobii response to issues statement, paragraphs 10 and following, and previous submissions.
[113] Tobii response to phase 1 decision, paragraph 28

directly to end-users).[114] Purchasing decisions are typically made by speech therapists and specialist assessors within these organisations based on their evaluation of the needs and preferences of end-users. In this context we considered it appropriate to gather evidence on customer preferences and substitutability patterns from these organisations (referred to as 'customers'), which are large and expert buyers of the Parties' products and account for 90% of the Parties' sales of dedicated AAC solutions, rather than to engage with end-users or their carers directly, who represent a small proportion of the Parties' sales of dedicated AAC solutions and do not engage with the market regularly (see also paragraphs 5.26 to 5.28). We have also considered submissions made by customers and individual end-users made in response to our provisional findings (paragraph 6.22).

5.15 We sent questionnaires to 69 customers to gather views on customer preferences. We received 30 responses. 22 of these respondents reported their spend on dedicated AAC solutions, which amounted to nearly £[✂] in total in 2018 (see Table 5-1). The expenditure of these 22 respondents on the Parties' products represented [50-60%] and [✂] [60-70%] of Tobii's and Smartbox's sales of dedicated AAC solutions in the UK in 2018, respectively.

Table 5-1: Customer responses received by the CMA

Customer type	*Customer type as Share of Parties' combined sales of dedicated AAC solutions 2018*	*Contacted*	*Responded*	*Response rate*	*Reported spend for customers who responded 2018 (£)*
England and Wales	**[90-100%]**	**61**	**23**	**38%**	**[✂]**
NHS Hubs	[50-60%]	17	12	71%	[✂]
NHS Other	[0-10%]	15	4	27%	[✂]
Schools	[0-10%]	10	4	40%	[✂]
Charities	[0-10%]	9	2	22%	[✂]
Local authorities	[0-10%]	10	1	10%	[✂]
Scotland and NI (*)	[0-10%]	**8**	**7**	**88%**	**[✂]**
Total	**100%**	**69**	**30**	**43%**	**[✂]**

*Breakdown of sales by UK region only available in Smartbox's sales dataset. Assumed same percentage of sales to Scotland and Northern Ireland for Tobii.
Source: CMA analysis of customer responses

5.16 We took two different approaches to exploring customers' views on substitutability between dedicated and non-dedicated AAC solutions, depending on the size and sophistication of the customer. Our questionnaire to small customers (charities, schools, local authorities) included two qualitative questions on the extent to which they considered a mainstream

[114] Source: CMA's analysis of the Parties' transaction data.

device to be a viable alternative to a dedicated AAC solution.[115] Our questionnaire to NHS hubs included similar qualitative questions (to the extent they had not already been asked at phase 1), but also two more structured 'diversion questions', which we discuss in more detail in paragraph 5.22 below.

5.17 We also sent a questionnaire to a number of interest groups acting for people with AAC needs. Most of these interest groups do not purchase AAC solutions directly, but they provide advice to end-users and guide them towards relevant funding bodies. We sent 16 questionnaires and received 6 responses. Most of the responses received were answered by specialist speech and language therapists within these organisations.

Qualitative views on substitutability

5.18 We asked the Parties' AAC solutions customers about the extent to which a standard consumer tablet is a viable alternative to a dedicated AAC solution. All respondents to this question (21 respondents, including both NHS hubs and smaller customers) considered that the extent of substitutability between dedicated AAC solutions and mainstream devices is dependent on the needs of each specific end-user. Many respondents specified that a consumer tablet (used along with AAC software and any required accessories) can be a viable alternative for those users who can access the device through touch, although other user requirements are also taken into account during the assessment (as described in more detail below). However, many customers also identified a range of circumstances where a mainstream device could not be substituted for a dedicated device. Such circumstances included the following:

(a) When the user cannot access the device through direct touch and instead requires complex access methods, such as eye gaze cameras or switches. Many customers noted that adding the required access method as an accessory to a consumer tablet is not always feasible or convenient.

(b) When the user spends most of the day outside of home and/or in a wheelchair. This requires a device that is more rugged, robust, has louder speakers and a longer battery life than a mainstream device. In some cases it is possible to add accessories to a mainstream device to replicate

[115] The two questions read: 'To what extent is a standard consumer tablet (eg an iPad or Surface Pro) a viable alternative to a dedicated AAC solution? To what extent does this vary depending on the needs of the user?' and 'In circumstances where a standard consumer tablet is a viable alternative for a particular user, how do you decide between a consumer tablet and a dedicated AAC solution?'.

some of these features (eg external speakers, batteries, etc), but some customers commented that this can be unwieldy and impractical.

(c) When the user requires environment control functionalities (eg controlling lighting, doors, or a TV). Some customers commented that such functionalities are harder to incorporate into mainstream devices as they require infrared or radio connectivity.

(d) When the user is likely to require continuous support and training. Suppliers of dedicated AAC solutions typically provide a higher level of support and repair service than is available with a solution based on a mainstream device. For example, suppliers of dedicated AAC solutions may provide temporary replacement devices while performing repairs; they guarantee the integrated operation of their solutions; they provide initial training.

(e) When the user requires certain AAC software functionalities or language packages that are only available on a dedicated AAC solution. For example, one customer commented that Scottish and regional voices are typically less available on AAC software for iPads.

5.19 The responses from interest groups were broadly similar in substance to those obtained from customers. One interest group thought that the improvement of mainstream devices could somewhat lessen (though not completely remove) the impact of the Merger. Other respondents said that a large number of users can and do use mainstream devices, but there is a subset of users who have a strong preference for dedicated solutions.

5.20 For example, Communication Matters, a UK charity which provides information on AAC solutions, told us that there is a relatively small, but significant, cohort of disabled people for whom a dedicated and highly customised device and software (and follow up support) may be essential. These include: children and adults with cerebral palsy who need AAC from childhood and who will often also have associated physical impairments which can make using off the shelf consumer computer equipment very difficult, if not impossible; those with complex physical disabilities, including adults with acquired deteriorating conditions whose needs can change over a short period of time, who require customised wheelchair seating and communication aid mounting; those with poor hand function who need large screens with keyguards (finger guides) or eye gaze technology; people who also have sensory impairments which require a lot of additional specialist software.

5.21 1 Voice, a charity supporting a network of parents and professionals working with people with communication needs, told us that for some end-users, a solution based on a mainstream device would involve a complex setup and peripherals, and that the resulting solution would not be user-friendly especially if the user has a cognitive or physical impairment. For example, in such set-ups, the Bluetooth peripherals needed to enable these features often 'drop out', leaving the person voiceless again.

Diversion ratios

5.22 The diversion questions asked NHS hubs to explain what alternatives they would use if Tobii (and separately Smartbox) dedicated AAC solutions were no longer available.[116] The purpose of this question was to elicit information about what customers see as the closest alternatives to the products provided by the Parties. In differentiated product markets, such products are the most relevant competitive constraints on the Parties.[117]

5.23 The diversion ratios estimated from responses to these questions are presented in paragraph 6.46. We estimated the diversion ratio from Tobii products to non-dedicated AAC solutions to be [✄] [0-5%], and the diversion ratio from Smartbox products to non-dedicated AAC solutions to be [✄] [0-5%]. In other words: we found that, on average, a NHS hub considers that non-dedicated AAC solutions are the closest alternative to a dedicated AAC solution for [✄] [0-5%] of their expenditure on dedicated AAC solutions. For both Smartbox and Tobii, the majority of the diversion was to other suppliers of dedicated AAC solutions, namely the other merging party, Liberator and Techcess.

Tobii's views on diversion ratios

5.24 Tobii has argued that our estimates of diversion ratios are not robust because our approach to questioning NHS hubs was biased and not in line with the CMA's recommendations on the design and presentation of customer survey evidence in merger cases. In particular, Tobii submitted: the diversion question was not framed in terms of the most recent purchase; it was not designed to cover all possibilities; it prompted certain options and did not randomise the ordering of options; and the questions asked prior to the diversion questions had not been framed neutrally. These points are discussed below. Tobii has also argued that the definition of the relevant

---

[116] The question read 'Suppose that Tobii dedicated AAC products were no longer available in the market, which products would you use instead'. This was followed by an equivalent question for Smartbox products.
[117] *Merger Assessment Guidelines* paragraph 5.2.15

product used in our questionnaires was not consistent with that set out in our provisional findings, and this is discussed in paragraph 6.56(a).

Our assessment

5.25 For the reasons set out below, we disagree with Tobii’s submission and consider that it is appropriate to place some weight on these results for the purposes of assessing both market definition and horizontal unilateral effects, albeit this evidence has also been assessed in conjunction with several other evidence sources.

5.26 It is important to understand that there are material differences between a ‘customer survey’, to which our Good Practice recommendations apply, and the type of detailed customer engagement exercise that we have used in this case.

5.27 First, customer surveys are generally used where the parties’ products are purchased by a large number of small customers (often individual end-consumers). The aim of a statistical sample survey is then to interview a small proportion of these customers in such a way that robust inferences can be made from their responses about the population of customers as a whole. In this context it is important that the diversion question is framed in terms of the most recent purchase, so that responses can be weighted adequately.[118] In contrast, in this case, a large proportion ([50-60%]) of the Parties’ products are bought by a small number of large, experienced customers (16 NHS hubs). It was therefore possible to approach all these customers directly and structure the diversion question in terms of their annual purchases to get a direct estimate of diversion ratios, without resorting to a process of sampling and statistical inference.[119] In this context it would not make sense to frame the question in terms of the most recent purchase.

5.28 Second, in contrast to a large-scale customer survey which typically only allows for multiple-choice questions, a detailed questionnaire allows for more open questions where respondents can explain or qualify their views. In this

[118] Technically the sampling unit in a customer survey is generally a customer visit, rather than a customer. Framing the question in terms of the last visit can also be desirable to limit recollection issues.
[119] As noted in paragraph 5.16, we did not ask smaller customers the ‘structured’ diversion questions, but asked for their qualitative views. We have used responses to these questions to assess whether there were any differences between NHS hubs and smaller customers (such as schools, local authorities, or charities) in how they approached the choice between dedicated and non-dedicated AAC solutions. The responses we have received from these other customers indicate that in many cases they also purchase dedicated AAC solutions for users with severe conditions, and their views on substitutability between dedicated and non-dedicated AAC solutions are not materially different from those expressed by NHS hubs. One of these customers, Surrey County Council, told us that it could not purchase mainstream devices because it did not have the insurance and technical support service to deal with any issues, which suggests that in some cases smaller customers might actually face additional barriers in using non-dedicated AAC solutions.

context, our views on diversion and the closeness of competition between alternatives are informed not just by the quantitative responses to the diversion question, but also by the more qualitative explanations provided. As discussed in paragraph 5.18, customers have highlighted many factors that limit the substitutability between dedicated and non-dedicated AAC solutions, and the low diversion to mainstream devices is consistent with these representations.

5.29 Third, a customer survey often seeks views from retail customers who might buy the product infrequently and might not possess good knowledge of their options at the point of responding. In this context it is often crucial that the front end of the survey questionnaire be designed carefully to encourage respondents to think about their alternative options without inducing any bias towards any particular options. In contrast, the questionnaire we have used in this case was addressed to expert buyers from the NHS who purchase both dedicated and non-dedicated AAC solutions on a regular basis and with good knowledge of the options available to them. In this context, we consider that the risk of inducing any bias through the particular wording or ordering of the questions is low.

5.30 Nonetheless, we designed our questionnaire carefully to limit the risk of any framing bias. Our diversion question was preceded by a number of more general questions on how NHS experts make purchasing decisions and the type of solutions they use, which were framed neutrally. The questionnaire also included some questions on mainstream devices, except for NHS hubs who had already answered similar questions in our phase 1 questionnaire. We have verified that there was no material difference between the diversion responses of these two groups of hubs, and this corroborates our view that the respondents were not particularly sensitive to the questionnaire structure. We also structured the diversion question in terms of expenditure to accommodate all possible diversion strategies (including the 'unbundling' of purchasing).[120] Moreover, the table included in the questionnaire to collect responses explicitly included an entry for 'suppliers of other alternatives (tablets)' to encourage respondents to keep such alternatives in mind at the point of answering this question.

5.31 We acknowledge that the table that was used to collect responses ordered the options in a non-random way: dedicated AAC solutions appeared first, and within that category the Parties appeared first. We recognise that in general the ordering of options in a diversion question may have some

[120] For example, a customer could in principle decide to replace a Tobii eye-tracking product with a mainstream device and an eye-tracking camera bought from separate suppliers.

impact on responses. However, the customers who responded to our questionnaires are sophisticated purchasers with good knowledge of their options and, as such, we would expect any bias to be small and not to impact our conclusions materially.

5.32 For these reasons, we consider that it is appropriate to put some weight on these diversion results, albeit this evidence has also been assessed alongside several other evidence sources.

Evidence from competitors and resellers

Evidence from suppliers of dedicated AAC solutions

5.33 We sent questionnaires to suppliers and resellers of dedicated AAC solutions operating in the UK and abroad. As part of those questionnaires, we asked about the extent of substitutability between dedicated and non-dedicated AAC solutions. All respondents told us that substitutability was limited for many users. For example, Liberator told us that the development of the iPad had enabled the emergence of a system of specialised AAC apps developed by small companies, but noted that solutions involving the combination of a tablet with specialised apps are only suitable for certain categories of users, notably those who can access functionalities by using buttons and touch screens, and who can 'look after the device'. Liberator added that the accessibility of the iPad is improving, but it still has important limitations, particularly in terms of sound volume, reliability and robustness. It noted that it is often necessary to add several accessories and peripherals to overcome these issues, which can make it complicated.

5.34 Techcess pointed out that dedicated AAC solutions tend to be 'tidier' with fewer trailing cables. While people with good motor control can use tablets, people with more advanced disorders affecting movement and co-ordination tend to find dedicated AAC solutions more effective.

5.35 Other suppliers of dedicated AAC solutions had similar views. Abilia told us that the improvement of consumer tablets was a significant threat that had already impacted the market, but that the growth of consumer tablets had declined due to realisation that dedicated products were more 'fit for purpose' for certain uses.

Evidence from suppliers of mainstream equipment

5.36 We sent a questionnaire to three technology companies highlighted by Tobii as potential constraints: Google, Apple, and Microsoft. The questionnaire asked a series of questions to understand the role of the products provided by these companies to address AAC needs, and how this might evolve over time.

5.37 Google told us that Android was designed to be accessible to as many users as possible. It pointed to specific features of Android designed to improve accessibility, including ‘Talk Back’ (which is an accessibility service that helps vision-impaired users interact with their devices) and ‘Switch Access’ (which allows users to control and interact with the screen by using a single switch rather than by using the touchscreen). Google told us that it provides the ‘framework’ (ie the Android application programming interface) for developers of AAC apps to be run on Android devices, but it does not see itself as competing with suppliers of dedicated AAC hardware and software such as Tobii or Smartbox. Google does not have any partnerships with companies that use Android tablets to meet AAC needs, and it does not currently have any specific plans to expand in the market for dedicated AAC hardware and software.

5.38 Microsoft told us that it has invested in meeting the needs of customers with disabilities and has engineering teams dedicated to investigating and investing in platform and application level assistive technologies. Its website lists a number of initiatives designed to improve the accessibility of Windows 10, including built-in support for eye-control.[121] Microsoft also has partnerships with a number of suppliers of AAC hardware and software, [✄]. Due to the diverse and varying needs of customers, it could not say whether its Surface hardware is a good alternative for end-users who used dedicated AAC.

5.39 Apple told us that the iPad incorporates a number of accessibility features designed to improve accessibility for individuals with special needs, including Siri Shortcuts, Switch Control, and Guided Access. However, Apple thought that the Parties were ‘distant competitors’ to itself as they offered hardware and software dedicated to serving the AAC market. Apple stated that while it is always improving its products to make them accessible to as many consumers as possible, including those with special needs, [✄].

5.40 Overall, these representations indicate that these companies try to make their products as accessible as possible. However, meeting the specialised needs of users of dedicated AAC solutions is not their focus, and they tend not to see themselves as competing directly with suppliers of dedicated AAC solutions. We also note that when Apple acquired SMI, a supplier of eye gaze cameras, it discontinued the supply of SMI cameras to suppliers of dedicated

[121] Microsoft website: ‘Accessibility’.

AAC solutions, and we have seen no indication that it plans to re-introduce these cameras in AAC applications (its own or those of competitors).

Internal documents

5.41 We considered how the Parties characterise the competition from non-dedicated AAC solutions in their internal documents. Many of the Parties' internal documents (especially Tobii's) relate to their global activities. We are conscious that there are some regulatory differences between countries that may affect competitive interactions between dedicated and non-dedicated solutions, notably between the US and other countries. We have discussed this separately in paragraph 5.52 and following.[122]

Smartbox documents

5.42 A number of Smartbox documents provided insights into how the company perceives the interactions between dedicated and mainstream devices. We have split them between three categories: documents related to the monitoring of competition; documents related to product development; and documents related to the launch of the Grid Pad range.

5.43 The documents in the first category (the monitoring of competition) are discussed in paragraph 6.33 and following in Chapter 6 (Horizontal effects). These documents focus entirely on other suppliers of dedicated AAC solutions, and do not mention mainstream devices.

5.44 The documents in the second category (product development) sometimes mention non-dedicated AAC solutions, but these are typically presented less as a competitive threat than as a source of ideas for enhancing the functionalities of dedicated AAC solutions. These documents indicate that Smartbox sees limited competitive interactions between dedicated and non-dedicated AAC solutions, with the latter involving fewer functionalities and being intended for different types of users.

5.45 The most relevant documents can be summarised as follows:

(a) A document dated March 2016 sets out a roadmap for [✄] and discusses various developments in mobile technology. The document states that the introduction of the iPad initially displaced simple forms of communication solutions, but the impact of 'tablets' on high-end AAC solutions has been more limited. The document further explains that developments in mobile technology have actually been positive for high-end devices, as Smartbox

[122] See also our assessment of Tobii submission on regulatory distortions in Appendix C.

has learned from these developments and has incorporated some concepts in its dedicated devices to improve their usability and effectiveness.

(b) [✂].

(c) [✂].[✂].

5.46 The documents in the third category (regarding the development of the dedicated Grid Pad and Power Pad devices) are also informative. These documents indicate that the development of purpose-built devices by Smartbox stems from a belief that it is essential for Smartbox to offer such devices to compete effectively in the market for dedicated AAC solutions, and that dedicated devices (both purpose-built and wrapped tablets) appeal to different groups of customers than non-dedicated solutions.

5.47 The two main documents in this category can be summarised as follows:

(a) A marketing plan for the Power Pad dated March 2017 sets out [✂]. The plan states that there is a segment in the market that requires [✂], showing very limited overlap between the categories of intended customers for dedicated AAC solutions (both purpose-built and wrapped tablets) and non-dedicated devices.

(b) A note in relation to a strategy meeting dated July 2017 highlights a number of developments in terms of manufacturing costs that are likely to make purpose-built devices [✂].

Tobii documents

5.48 Tobii has provided a number of its internal documents that provide some insights into its views on competitive interactions with mainstream devices. The most recent of these documents can be summarised as follows.

(a) [✂]

(b) [✂][123]

Figure 5-1: Extracts from Tobii's 2019-2021 business plan

[✂]

Source: [✂]

[123] [✂]

5.49 [✂], which is discussed in paragraph 6.38. [✂]. The latter of these versions is prefaced by a slide that mentions the increased competition from the iPad for 'touch devices':

> [✂].

5.50 A number of documents focus on Tobii's 'touch' products, mainly the Indi and, to a lesser extent the I-110. They can be summarised as follows:

(a) [✂]

(b) [✂]:

> [✂]

(c) [✂]

5.51 Overall, we observe that Tobii's internal documents do discuss the competitive impact of non-dedicated AAC solutions, but such discussions are much less prominent than the regular monitoring of other suppliers of dedicated AAC solutions (see paragraphs 6.36 and following). Furthermore, when they are mentioned, non-dedicated AAC solutions are presented with a specific positioning, typically competing on price with particular products, [✂], for particular users ([✂]). The emphasis is often not on the threat that non-dedicated AAC solutions represent for dedicated AAC solutions, but on the business opportunity that can be realised by producing low-cost dedicated devices that could appeal to customers who would otherwise buy a non-dedicated AAC solution. [✂], but there are no clear examples of Tobii altering the pricing or the functionalities of other dedicated AAC solutions specifically in response to competition from non-dedicated AAC solutions.

Tobii's views on our summary of its internal documents

5.52 Tobii has submitted that we have neither understood the language that is used in its internal documents, nor appreciated the context in which those documents were prepared. Tobii has stated that we have made use of internal documents that relate to Tobii's global business to make inferences on the Merger's possible effects on competition in the UK. [✂].

Our assessment

5.53 We note that while some of Tobii's internal documents discuss competitive developments at a global level, many focus on markets outside the US (which are collectively referred to as 'Europe and the Rest of the World' or 'EUROW'). In general, these documents do not make any mention of a stronger competitive pressure from mainstream devices in these markets. [✂]:

(a) [✂]

(b) [✂]

(c) [✂]

(d) [✂][124]

5.54 More fundamentally, we are not persuaded that the differences in regulatory requirements between the US and UK markets should have a material impact on the extent to which the purchasers of dedicated AAC devices regard mainstream devices as substitutes. As UK funders are not subject to the requirement only to purchase medical-grade devices and given that these devices tend to be more expensive than alternatives, it is reasonable to believe that UK funders only purchase such devices when it is genuinely essential to meet the needs of end-users. Put differently, even if less stringent rules in the UK allow the NHS to purchase mainstream devices for a larger share of users, it does not mean that, for those users that are provided with a complex dedicated device, mainstream devices are closer substitutes.

Sales and pricing of dedicated AAC solutions

5.55 This section discusses submissions made by Tobii on trends in the sales of its products and the pricing of dedicated and non-dedicated AAC solutions.

Tobii analysis of 'transaction' data

Tobii's views

5.56 Tobii submitted an analysis of its sales data (which it terms 'transaction data') for the period [✂].

5.57 At the main party hearing, however, Tobii told us that these different devices were targeted at different types of users: the Indi was described as being 'for the ambulatory touch user' whereas the I-12 is 'for someone who is bed bound or in a wheelchair', pointing out that these were 'two different markets' and that there had been no 'cannibalisation'.

[124] [✂]

Our assessment

5.58 We do not agree with the conclusions that Tobii draws from its analysis, for the following reasons. First, in our view Tobii's transaction data does not show that its customers have migrated from more expensive to cheaper devices. [✂]. Figure 5-2 below shows the absolute numbers of devices sold by Tobii in the UK, [✂].[125] [✂].[126] [✂].

Figure 5-2: AAC devices sold by Tobii in the UK (numbers)

[✂]

Source: [✂]

5.59 If we assume that the pattern of demand is constant over time (in the sense that there is a constant flow of users with a constant distribution of needs), this trend is more consistent with the proposition that the Indi is not considered to be a suitable alternative by users of the devices with built-in eye-tracking. That is, the categories of users who would have used an I-12 or an I-15 before the introduction of the Indi are still using an I-12 or an I-15 after the introduction of the Indi, and sales of the Indi have gone to other types of users. This view is also consistent with what Tobii told us at the main party hearing (see paragraph 5.57), and with the way Tobii describes the positioning of the Indi in its internal documents. When Tobii developed the Indi, it evaluated the risk of cannibalisation and concluded that it was low. [✂].

5.60 Second, Tobii's analysis only discusses trends in the shares of sales accounted for by various types of dedicated AAC solutions, and it is not clear that it could support any inferences with respect to the competitive constraint exerted by mainstream devices. Devices with built-in eye-tracking are differentiated from lower and upper mid-range devices, which in turn are differentiated from mainstream devices. Based on our analysis of sales volumes (Figure 5-2), it could be argued that the growth in volumes of lower and upper mid-range segments is consistent with these taking volumes away from mainstream devices (rather than the opposite).

5.61 Third, what matters from the point of view of understanding the Parties' incentives post-Merger are the preferences of their existing customers. Even if it were true that some customers have 'migrated' from devices with built-in eye-tracking to cheaper devices (which we do not consider to be the case, based on the available evidence), it does not follow that the remaining purchasers of devices with built-in eye-tracking find cheaper devices to be

[125] [✂]
[126] [✂]

close substitutes. The opposite could be true if the remaining users of devices with built-in eye-tracking are those who really value the functionality of these products, and therefore are less likely to divert to cheaper solutions if the price of devices with built-in eye-tracking increased.

5.62 Lastly, if there was a material change in the competitiveness of non-dedicated AAC solutions, such that the customers of dedicated AAC solutions considered non-dedicated solutions to be increasingly good substitutes for their needs, we would expect suppliers of dedicated AAC solutions to respond by lowering their prices over time to make them more competitive. Tobii's sales data indicates that there have been no material changes in the prices charged by Tobii for dedicated AAC solutions over the recent period: the prices of [✂] products decreased slightly between 2017 and 2018; the price of [✂] increased slightly between 2016 and 2018 (see Table 5-2).

Table 5-2: Average gross prices charged by Tobii for dedicated AAC solutions to UK customers (£)

[✂]

Source: CMA analysis of Tobii sales data

5.63 Table 5-3 below shows the equivalent information for Smartbox products. This indicates that the prices of most dedicated AAC solutions have slightly increased over the past three years.

Table 5-3: Average net prices charged by Smartbox for dedicated AAC solutions to UK customers (£)

[✂]

Source: CMA analysis of Smartbox sales data.

5.64 For these reasons, we do not consider that recent trends in prices and volumes indicate that the competition from mainstream devices is growing. On the contrary, the fact that the unit sales and prices of the I-series and the I-110 have remained broadly constant over time suggests that the Indi is appealing to different categories of users, and that the competitive pressure from non-dedicated AAC solutions has not changed over time.

Tobii's pricing ladder analysis

Tobii's views

5.65 Tobii has submitted a 'pricing ladder analysis' that compares the price of consumer tablets with that of purpose-built devices. This analysis starts with the price of a consumer tablet (eg an iPad or a Surface Pro) and then adds the price of the additional components required to replicate the functionalities of a dedicated AAC solution (AAC software, case, insurance, speaker, mount, and in some cases an eye-tracker). The analysis then compares this ‘total package’ price with that of various dedicated AAC solutions, both in terms of their upfront cost, and their lifetime cost. The comparison of lifetime costs relies on the baseline assumption that a solution based on a mainstream device lasts 3 years while a dedicated AAC solution lasts 5 years. This analysis concludes that the price differential is narrow for most configurations (typically less than [✄]%, with some comparisons showing the dedicated AAC solution as cheaper than a solution based on a mainstream device), indicating that customers would consider substituting from a dedicated AAC solution to a solution based on a mainstream device.

5.66 Tobii subsequently combined the results of this analysis with its transaction data to identify the proportion of its UK sales which was consistent with there being an equivalent price point for a non-dedicated AAC solution. [✄].

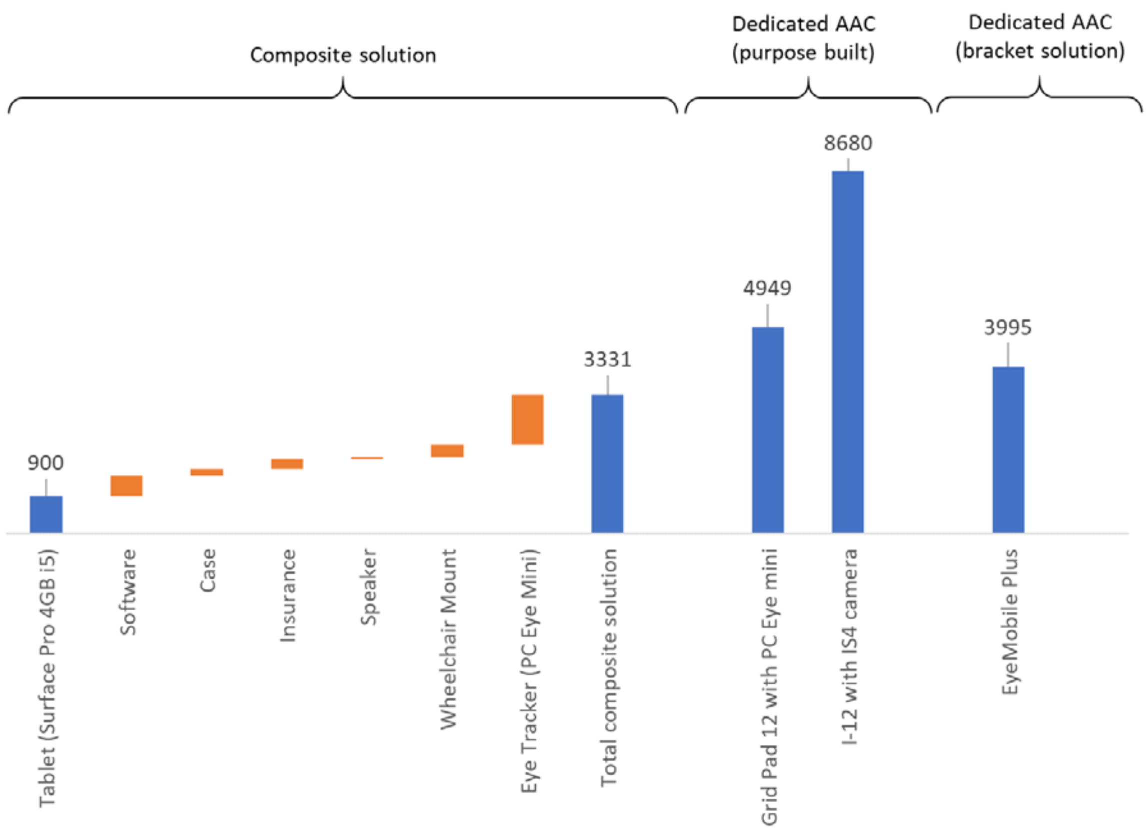
Our assessment

5.67 We consider that Tobii’s analysis understates the price differential between dedicated and non-dedicated AAC solutions. In many cases, the analysis builds the composite solution based on relatively expensive versions of available mainstream devices, without any justification. For example, it is not clear to us why the appropriate benchmark for a Microsoft-based solution should include a Surface Pro with 16GB of RAM and an i7 chip (priced at £1,800) when Tobii’s own Eye Mobile product relies on a version of the Surface Pro with 4GB of RAM and an i5 chip (priced at £900). Similarly, it is not clear to us that the appropriate benchmark for such a solution should incorporate an Alea camera (priced at £1,700) when the dedicated AAC solution it is compared to incorporates a Tobii PC Eye Mini (priced at £1,200).

5.68 More importantly, for the most expensive dedicated AAC solutions, the conclusion that the price gap is narrow is entirely contingent on the assumption that these devices have a product lifespan almost twice as long as that of solutions based on mainstream devices (5 years versus 3 years). Tobii subsequently submitted that dedicated AAC devices must be expected to last at least 5 years to obtain medical grade certification in the US, whereas both Apple and Microsoft assume average ‘years of use’ of 3 years for their mobile products. However, we note that Tobii provides a warranty of only 3 years on its devices in the UK, similar to that assumed by Tobii for mainstream devices. Moreover, even if tablets did have a shorter useful life, customers could prolong the useful life of the solution by combining a new tablet with the same peripheral and software licences. This would allow customers to prolong the useful life of the solution at a relatively low cost (this is relevant as the tablet typically represents less than half of the cost of a dedicated AAC solution). Finally, no customer has mentioned differences in product lifespan as a significant factor in their purchase decisions. For these reasons, we consider that there is a basis for comparing the cost of dedicated and non-dedicated AAC solutions based on upfront costs, without any adjustment for the expected lifetime of the equipment.

5.69 Such a comparison with adjusted input costs shows much broader cost differentials than suggested by Tobii. For example, a solution with eye-tracking based on a Microsoft tablet would cost approximately £3,300, while Smartbox's Grid Pad 12 costs £4,950 and Tobii's I-12 costs £8,680 (Figure 5-3). The cost of an EyeMobile (£3,995) is lower but still substantially higher than that of the non-dedicated solution.

Figure 5-3: Upfront purchase price of solutions with eye-tracking (£)



Source: Tobii assumptions (for the cost of software, case, insurance, speaker, mount, eye-tracker), amazon.co.uk (for the cost of the tablet), Parties' websites, CMA analysis.

5.70 Further, even if it could be established that the cost of dedicated and non-dedicated AAC solutions were comparable, it would not follow that these solutions are substitutable as there are still some significant non-price differences between them. First, a solution based on a mainstream device does not include the same level of customer support, training and warranty as a dedicated AAC solution. Many customers have told us that this is a key factor of differentiation between dedicated and non-dedicated AAC solutions. For example, Beaumont College told us that consumer tablets with added peripherals only work for its students during assessment trials or when used temporarily while waiting for funding, since during these periods students can have access to the college's technical support in case issues arise. However, Beaumont College would not recommend such a solution to its students when they leave college and no longer have access to this support. Barnsley Hospital told us that one of the factors that influences its choice between a dedicated and a non-dedicated AAC solution is the amount of ongoing support likely to be needed by the user.

5.71 In addition, Tobii told us at the main party hearing that its customer support was its [✂]. Also, when describing its business strategy in the UK, Tobii told us that it saw it as necessary to 'have people on the ground' because this was 'not a plug and play business' and 'you need to have experts typically with a clinical background that go out and either educate the prescribers or actually sit together with the user and the prescriber to make sure it works'.

5.72 We also note that suppliers of dedicated AAC solutions tend to emphasise customer support in their sales documentation, and that the level of support, training and technical warranty that they specify in this documentation goes beyond that advertised by suppliers of mainstream tablets and standalone AAC software. For example, the brochure for Tobii's I-110 emphasises that the product comes with 'A comprehensive ecosystem of support' and 'Dedicated support to give you peace of mind'. The technical support includes a '2-year TD Care warranty which provides complete coverage for repair or replacement parts, labor, return shipping, and telephone support'. Similarly, Smartbox's Grid Pad 12 comes with three years of Smart Care, a warranty that includes free repairs, including one case of accidental damage per year, and guaranteed access to a swap out device when the repair is performed. This level of technical warranty goes much beyond what is proposed by suppliers of mainstream devices. For example, the iPad comes with only a one-year warranty, which does not cover accidental damage, or damage to peripherals, or the provision of a swap out device.

5.73 Second, there are circumstances where a non-dedicated AAC solution may not replicate the technical performance of a dedicated AAC solution, in particular where it is used with eye-tracking. Smartbox has told us that eye-tracking cameras use a lot of power in dedicated devices, and that [✂]. As such, it is not clear that it would be feasible to use an eye-tracking camera with a mainstream device in the way assumed by Tobii. The NHS hub Regional Communication Aid Service (RCAS) has told us that, because of the power usage of eye gaze cameras, it thought that Tobii's Eye Mobile products (which combine a Surface Pro tablet with a purpose-built bracket incorporating additional battery power) were the only practical solution to use an eye gaze camera with a mainstream device. Some customers noted other types of technical limitations with non-dedicated AAC solutions. For example, Surrey County Council also told us that there are some peripherals requiring specific switch ports or infrared control which cannot be integrated into standard tablets.

5.74 Third, many customers and competitors told us that complex solutions incorporating a mainstream device and many peripherals are often impractical and unreliable, and that there are benefits to buying integrated solutions. For example '1 Voice' told us that Bluetooth speakers often drop out, leaving the user voiceless (see paragraph 5.21). Liberator and Techcess have both told us that adding peripherals to overcome the limitations of mainstream devices can be complicated and that dedicated solutions are 'tidier' (see paragraphs 5.33 and 5.34).

5.75 Similarly, we noted the evidence that indicated that when seeking support from their suppliers, customers prefer a single point of contact for hardware and software. Suffolk Communication Aids Resource Centre told us that they prefer buying hardware and software from the same supplier to avoid issues as to which supplier is responsible when technical problems arise. A parent of a user of a dedicated AAC solution who responded to our provisional findings highlighted that 'having several different programs from different companies that don't interact well together or with the hardware is a hindrance to her [their daughter's] ability to have control in her life'.[127] Smartbox echoed this view, emphasising the benefits of offering just one point of contact for customer support: 'They [our customers] want to get complete support from one place, which is why they do not like mix-and-match solutions.' These representations further support the argument that customers see benefits in buying integrated solutions.

5.76 We have considered how Tobii approaches such price comparisons in its internal documents. The only examples we have found relate to the Indi: [✂]. These comments are consistent with the views of customers summarised in paragraph 5.74. There is no adjustment for different useful lives. We have not found [✂] (see paragraph 6.37).

5.77 For these reasons, we do not consider that this analysis supports the view that customers of dedicated AAC solutions find non-dedicated AAC solutions to be close substitutes. If anything, the large price difference in the upfront costs of these two types of solution is consistent with the proposition that

[127] Submission from Individual D

customers consider them to be highly differentiated. However, we note that the price differential is narrower for the Indi, and that Tobii internally benchmarks the price of that device against that of the iPad.

Conclusions on the product market

5.78 Our conclusions on the competitive constraint exerted by mainstream devices on dedicated AAC solutions can be summarised as follows:

(a) Almost all stakeholders who responded to our request for information highlighted some differences between the characteristics of dedicated and non-dedicated AAC solutions in terms of functionalities, ease of use, and level of customer support available, and identified a range of circumstances where the latter are not a good alternative to the former.

(b) Smartbox's benchmarking of competitors focuses [✄] on other suppliers of dedicated AAC solutions, and the company's internal documents indicate that it sees limited competitive interactions between dedicated and non-dedicated AAC solutions, with the latter involving fewer functionalities and being intended for particular categories of users.

(c) Non-dedicated AAC solutions feature much less prominently than dedicated solutions in Tobii's internal documents and are typically described as having a very specific positioning, competing on price mainly with the Indi.

(d) The price of the Parties' dedicated AAC solutions has remained broadly constant over the past 3 years, which is difficult to reconcile with the proposition that the competitive constraint from non-dedicated AAC solutions is growing. Similarly, the volume of I-series devices sold by Tobii has remained broadly constant over time despite the introduction of the Indi and improvements in mobile technology, which is consistent with the proposition that these different devices appeal to different categories of users.

(e) Consistent with the qualitative evidence on substitutability, measured diversion from dedicated to non-dedicated AAC solutions is low, indicating that customers of the Parties' dedicated AAC solutions generally think of other dedicated AAC solutions as their next best options rather than non-dedicated AAC solutions.

5.79 Taken together, this evidence demonstrates that, in general, the competitive constraint exerted by non-dedicated AAC solutions on suppliers of dedicated AAC solutions is much weaker than that exerted by suppliers of dedicated AAC solutions on each other. As market definition is intended to capture the closer and most relevant constraints on the merging parties' products, we consider that non-dedicated AAC solutions do not form part of the same product market as dedicated AAC solutions. However, the evidence we have received also indicates that non-dedicated AAC solutions exert a stronger competitive constraint, particularly on price, on the Indi. We have taken this evidence into account in the horizontal unilateral effects assessment (see paragraph 6.61(h).

5.80 Tobii submitted that 'the analysis must be forward-looking and take account of likely technological and other developments which will make mainstream consumer devices even more suitable for delivery of AAC solutions for even those end-users with challenging needs'. However, Tobii has not specified what these developments could foreseeably be. We have seen no evidence in Tobii's internal documents indicating that the company is expecting any significant change of this kind in competitive conditions. The prices of dedicated AAC solutions have remained broadly stable over the past three years, which is not consistent with the proposition that the market is facing greater competitive pressure from non-dedicated AAC solutions.

Tobii's representations on our provisional findings

5.81 Tobii submitted that we have not provided sufficient evidence to define a market for dedicated AAC solutions in relation to the degree of hardware integration and the level of customer support provided. Tobii stated that there was a wide range of different levels of integration available to consumers and that tablets have a level of customer support supplied by the manufacturer.[128]

5.82 We consider that Tobii's argument has two strands: whether it is correct to define the relevant product market as incorporating hardware, software, access means, and customer support (an alternative being separate markets for each component); and whether the type of customer support provided by suppliers of dedicated AAC solutions is a significant factor of differentiation from non-dedicated AAC solutions.

5.83 On the first point, several customers and competitors told us that complex solutions incorporating a mainstream device and several peripherals are often impractical and unreliable, and that there are benefits to buying integrated solutions (paragraph 5.74). Moreover, customers' comments on the relative competitiveness of different suppliers of dedicated AAC solutions (paragraph 6.15) suggest that when deciding which product to buy they are willing to trade-off perceived strengths and weaknesses across different

[128] Tobii response to provisional findings, paragraph 5d

characteristics (eg they might be willing to compromise on the hardware to obtain their preferred software), which is the behaviour we would expect if customers had a preference for buying an integrated solution rather than sourcing and assembling components from different suppliers. In our view this evidence justifies the definition of the relevant product as integrating four components: hardware, software, means of access, and customer support. We have not received any views from customers or competitors suggesting that this approach is inappropriate.

5.84 We have discussed the second strand of this argument in paragraph 5.70. We have found that the level of training and warranty offered with dedicated AAC solutions goes beyond that available with non-dedicated AAC solutions, that many customers value this extra level of training and support (as well as the opportunity to access it from one single supplier), and that Tobii and Smartbox have told us that this was an important element of differentiation with non-dedicated AAC solutions. For these reasons we believe that customer support is an integral part of the relevant product definition.

5.85 In its response to our provisional findings, Tobii stated that [✄], and that this demonstrates the competitive constraint imposed by mainstream tablets on all AAC devices.[129]

5.86 It is conceivable that historically the introduction of the iPad led to a significant loss of business for suppliers of dedicated AAC solutions. However, it does not follow that non-dedicated AAC solutions represent a good substitute for the remaining users of dedicated AAC solutions. On the contrary, it may imply that the remaining users of dedicated AAC solutions are those who value the features of these products most and are therefore less likely to divert to other solutions. This latter interpretation is more consistent with the evidence received from current customers and suppliers of dedicated AAC solutions, which has been summarised in this chapter.

5.87 Tobii also submitted that independent research performed in the US demonstrated that, by some distance, its principal competitor was an iPad-based solution.[130] In fact, this research shows only that the iPad brand is more frequently used and more widely recognised than other brands by a sample of speech-language pathologists in the US. It does not provide any evidence on closeness of competition between dedicated and non-dedicated AAC solutions.

[129] Tobii response to provisional findings, paragraph 27 a and b.
[130] Tobii response to provisional findings, paragraph 27(c).

5.88 Tobii told us that in June 2019 Smartbox launched two new products, the ‘Eye Gaze Essentials’ and the ‘iPad Essentials’, and submitted that this confirmed both that there is substantial competition between dedicated and non-dedicated AAC solutions, and that mainstream tablets are an effective platform for AAC solutions that use eye gaze as an access method.

5.89 In our view this recent development does not show that non-dedicated AAC solutions can support eye gaze to the extent that they can provide an effective constraint on dedicated AAC solutions. The Eye Gaze Essentials combines a Windows tablet computer with an eye gaze camera, the Grid Software and customer support. It is therefore a different proposition from a non-dedicated AAC solution. In our view the Eye Gaze Essential is more comparable to other dedicated AAC solutions that seek to provide eye gaze functionalities at cheaper price points, and Smartbox told us that the Eye Gaze Essentials competes with Tobii’s Eye Mobile (when the Eye Mobile is supplied with a tablet, software, and customer support). This recent development might, therefore, strengthen the competitive overlap between the Parties.

Downstream geographic market

5.90 Suppliers have told us that having a local presence is important, both to understand the local health care system and to provide training and support to customers. We also note that UK customers only purchase dedicated AAC solutions from suppliers with a UK presence (involving at least a permanent local sales team).[131] For these reasons, we consider that the relevant geographic market for dedicated AAC solutions is the UK.

Upstream markets

5.91 As part of our inquiry we have also considered three vertical theories of harm, which are summarised in paragraph 7.2. To support our assessment of these theories of harm we have considered distinct upstream markets for the supply of individual components to suppliers of dedicated AAC solutions.

5.92 The first of these vertical theories of harm relates to the input foreclosure of the Grid. The Grid is a piece of AAC software that performs a number of functions including text communication, symbol communication, access means control, computer control, environment control, and accessible apps. Even though certain types of AAC software do not perform all the functions

[131] See market shares in paragraph 6.8. All suppliers with a significant market share have a UK presence.

performed by the Grid, our view is that it is appropriate to define the relevant product market on a wide basis as the upstream supply of AAC software[132] and to consider the substitutability of other AAC software with the Grid as part of our assessment of vertical effects. This is in line with Tobii's submissions, which noted that there is likely to be distinct market for AAC software (for the purposes of the CMA's inquiry) and that this is a market for highly differentiated products.[133]

5.93 The other two vertical theories of harm relate to the supply of eye gaze cameras to suppliers of dedicated AAC solutions. There is no or very limited demand-side substitution between eye gaze cameras and other access methods (for example switches), as these involve very different skills and motor limitations on the part of users.[134] On the supply-side, there are different sets of firms involved in the upstream supply of eye gaze cameras compared to other access methods. We therefore consider that the relevant product market is no wider than the supply of eye gaze cameras.

5.94 Tobii submitted that there is distinct market for eye gaze cameras (for the purposes of the CMA's inquiry) and that this comprises eye gaze cameras for all applications (for example in consumer electronics, vehicles, gaming, and virtual reality as well as AAC solutions).[135]

5.95 Suppliers of dedicated AAC solutions in the UK source eye gaze cameras from only Tobii and four other firms (Alea, EyeTech, Irisbond, and LC Technologies). With the exception of Tobii, these firms focus on AAC applications. Their cameras need to be supported by AAC software and they engage with providers of dedicated AAC solutions to address challenges in eye-tracking technology that are specifically relevant for AAC users. We consider that it is unlikely that other eye gaze technology suppliers do this to the same extent (see our assessment and evidence on the above points in Chapter 7 (Vertical effects), in particular paragraphs 7.78, 7.96, 7.135 and 7.136). No third party has referred to any other eye gaze cameras as an alternative to eye gaze cameras supplied by Tobii, Alea, EyeTech, Irisbond or LC Technologies.[136]

5.96 In light of the above, our view is that there are important demand-side and supply-side differences in the conditions of competition between eye gaze

---

[132] This includes 'fully featured' AAC software developed by suppliers of dedicated AAC solutions (Tobii, Smartbox, PRC and Jabbla), as well as symbol/text only AAC software provided by third parties (such as AssistiveWare and Therapy Box). See paragraphs 7.28 to 7.31.
[133] Tobii response to phase 1 decision, paragraph 37.
[134] This was confirmed by third parties.
[135] Tobii response to phase 1 decision, paragraph 38.
[136] With the exception of eye gaze cameras supplied by SMI, which are no longer available following Apple's acquisition of SMI.

cameras supplied in AAC applications and those supplied in other applications. We therefore define a product market for the upstream supply of eye gaze cameras in AAC applications. While we used this product market definition, we also considered in our competitive assessment eye gaze suppliers in other applications.

5.97 Suppliers of dedicated AAC solutions source AAC software and eye gaze cameras worldwide. We therefore consider that the relevant geographic market for these two products is worldwide.

Conclusion on market definition

5.98 In conclusion, we have defined three frames of reference:

(a) the supply of dedicated AAC solutions in the UK;

(b) the upstream supply of AAC software worldwide; and

(c) the upstream supply of eye gaze cameras in AAC applications worldwide.

6. Competitive assessment – horizontal unilateral effects

Introduction

6.1 Horizontal unilateral effects may arise when one firm merges with a competitor that previously provided a competitive constraint. The concern is that the removal of one party as a competitor could allow the merged entity to increase prices, or deteriorate other aspects of its offering that are valued by customers, for example the quality and range of products, or the level of service associated with these products. The merger might also reduce incentives for the merged entity to engage in R&D and innovate. Such non-price effects are particularly important in the context of dedicated AAC solutions since the availability of suitable products and customer support, and the improvement of such products over time, can have life-changing implications for end-users. For simplicity, in the remainder of this document we use the expression ‘raising price’ as shorthand for all these possible price and non-price effects.

6.2 In this chapter we consider whether the Merger is likely to give rise to horizontal unilateral effects in the market for the supply of dedicated AAC solutions in the UK, allowing the merged entity to raise its prices relative to the counterfactual. We have defined dedicated AAC solutions as explained in paragraph 5.4.

Assessment framework

6.3 Where products are differentiated, as is the case for dedicated AAC solutions, unilateral effects are more likely where the merger firms' products compete closely, relative to other alternatives.[137] We have used a broad range of evidence to inform our assessment of the closeness of competition between the Parties relative to their competitors, including: representations from customers and suppliers, representations and internal documents from both Parties, and estimates of diversion ratios between the Parties based on customer responses.

6.4 In this chapter, we first summarise Tobii's views on whether the Merger would lead to horizontal unilateral effects. We then provide our estimates of market shares in dedicated AAC solutions in the UK, then set out the evidence we obtained from third parties including the Parties' customers, competitors and other interested parties. We present our assessment of the Parties' internal documents. We then estimate diversion ratios between the Parties from the evidence we received. Lastly, we present our findings on horizontal unilateral effects arising from the Merger.

Tobii's views

6.5 Tobii submitted that the Merger is unlikely to lead to an SLC as a result of horizontal unilateral effects because the Parties are not particularly close competitors.[138] Tobii told us that Tobii Dynavox had particular strengths in AAC hardware (including eye-tracking), [✂]. By contrast, Tobii told us that Smartbox had particular strengths in AAC software, but had a weak position in AAC hardware, as its products had [✂]. [✂]. Moreover, in Tobii's view, the merged entity will continue to face significant competition from numerous other suppliers of dedicated AAC solutions.

6.6 Tobii also submitted a series of more detailed comments on the evidence that we have considered in our investigation, which are discussed in paragraphs 6.53 and following, paragraphs 6.59 and following, and Appendix C.

Market shares

6.7 As described in Chapter 5 (Market definition), we have defined a frame of reference for the supply of dedicated AAC solutions in the UK (combining dedicated AAC hardware, AAC software, access means, and support). As

[137] *Merger Assessment Guidelines,* paragraph 5.4.6.
[138] Tobii response to phase 1 decision.

part of our assessment of horizontal unilateral effects, we have produced estimates of market shares in dedicated AAC solutions using two sources of evidence: data provided by customers on their purchases of dedicated AAC solutions, and data provided by suppliers on their sales of dedicated AAC solutions in the UK. We note that, while the CMA may use market shares as an initial indicator of the change in market power resulting from a Merger, when interpreting the evidence on market shares, the CMA considers the extent to which products are differentiated and some products are closer competitors to each other than to others.[139]

6.8 Table 6-1 below provides estimates of market shares based on the aggregation of customer responses.

Table 6-1 Estimated market shares in the supply of dedicated AAC solutions in the UK based on customer responses, 2016-18, by revenue and volume

		2016		*2017*		*2018*
	(£)	*(units)*	*(£)*	*(units)*	*(£)*	*(units)*
Tobii	[10-20%]	[0-10%]	[20-30%]	[10-20%]	[10-20%]	[10-20%]
Smartbox	[50-60%]	[30-40%]	[40-50%]	[30-40%]	[40-50%]	[30-40%]
Liberator	[20-30%]	[30-40%]	[20-30%]	[30-40%]	[20-30%]	[30-40%]
Techcess	[0-5%]	[10-20%]	[5-10%]	[10-20%]	[5-10%]	[10-20%]
Abilia	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]
Inclusive technology	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]
Others	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]
Tobii + Smartbox	[60-70%]	[40-50%]	[60-70%]	[40-50%]	[60-70%]	[50-60%]

Source: CMA analysis of customer questionnaire responses

6.9 These results show that Smartbox, Tobii, Liberator and Techcess are the only sizeable suppliers of dedicated AAC solutions in the UK. In 2018 other suppliers accounted in aggregate for only [0-10%] in value and [0-10%] in volumes. The 'others' category in Table 6-1 includes a number of suppliers mentioned by some customers, namely Ability World, Therapy Box, Sensory Guru and Dad in a Shed. Based on these suppliers' websites and their own representations (summarised in paragraph 6.29), it is not clear that they actually supply dedicated AAC solutions, but we have kept them in our estimates of market shares as the position of the Parties does not materially vary whether or not they are included.[140]

[139] *Merger Assessment Guidelines*, paragraphs 5.31-5.32, 5.34.
[140] A small number of customers further included in their response purchasing information from additional suppliers not included, namely Curry's/PC World, Nexgen Computers, E2I Limited, Logan Technologies, Access Audio, Unex and Atos Medical. Based on a review of their websites (where found), we concluded these suppliers were not active in the market for dedicated AAC solutions, and therefore excluded them from our estimates. The total revenue values provided for each these suppliers were all (mostly materially) below £[✂].

6.10 Table 6-2 below provides estimates of market shares in the supply of dedicated AAC solutions in the UK based on the aggregation of competitor responses. These are broadly consistent with the estimates based on customer responses.

Table 6-2 Estimated market shares in the supply of dedicated AAC solutions in the UK based on supplier responses, 2016-18, by revenue and volume

		2016		***2017***		***2018***
	(£)	***(units)***	***(£)***	***(units)***	***(£)***	***(units)***
Tobii	[0-10%]	[0-10%]	[10-20%]	[10-20%]	[10-20%]	[20-30%]
Smartbox	[50-60%]	[50-60%]	[40-50%]	[50-60%]	[40-50%]	[40-50%]
Liberator	[20-30%]	[20-30%]	[20-30%]	[20-30%]	[20-30%]	[20-30%]
Techcess	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[5-10%]	[0-5%]
Abilia	[0-10%]	[10-20%]	[0-5%]	[0-5%]	[0-5%]	[0-10%]
Inclusive Technology	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]
Therapy Box	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]
Microlink	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]
Tobii and Smartbox	[60-70%]	[60-70%]	[60-70%]	[60-70%]	[60-70%]	[60-70%]

Source: CMA analysis of competitor questionnaire responses

6.11 The market share estimates show that the merged entity would have a market share in the supply of dedicated AAC solutions in the UK of between [60-70%] by value (with an increment of [10-20%]), and between [50-70%] by volume (with an increment of between [10-30%]).[141] Between 2016 and 2018, Tobii's market share has increased, while Smartbox's market share has slightly decreased. The market share of the next largest competitor, Liberator, is substantially smaller than that of the merged entity (between [20-30%], depending on the source considered). The market share of Techcess is between [0-10%].

6.12 Tobii submitted that observable outcomes, such as falling prices, low profits, and lots of innovation are diametrically opposed to our view that the Parties hold very high market shares in the relevant market. We disagree with the proposition that prices have been falling in the market (see paragraph 5.62), and we do not consider that there is any robust evidence that profits in this market are low (see Appendix C). In any case, whilst the question of whether current market outcomes are consistent with effective competition is relevant context to our inquiry, it is not determinative of whether the Merger could lead

[141] Given the evidence suggests that the Indi is subject to stronger price constraints from non-dedicated AAC solutions (paragraph 5.79), we have also estimated market shares excluding the Indi from the relevant product market. However, we note that such exclusion would not have a material impact on market share estimates: Tobii's market share would decrease from [10-20%] to [10-20%] by value, and from [20-30%] to [10-20%] by volume; and Smartbox's market share would increase from [40-50%] to [40-50%] by value and from [40-50%] to [40-50%] by volumes.

to a substantial lessening of competition and poorer outcomes for customers and end-users.

Evidence from third parties

Evidence from customers

6.13 This section summarises the evidence received from customers on the closeness of competition between the different suppliers of dedicated AAC solutions.

Views on the relative positioning of different suppliers

6.14 We asked customers to comment on the relative positioning, strengths and weaknesses of suppliers of dedicated AAC solutions (both in written answers to our questionnaire and in a series of bilateral calls). In general, customers identified Tobii, Smartbox and Liberator as the main suppliers of dedicated AAC solutions, with Techcess as a smaller, lesser-known competitor. Some customers listed alternative suppliers, but these were generally described as providers of lower tech and/or niche solutions.

6.15 These responses can be summarised as follows:

(a) **Tobii** is generally considered a leader in eye gaze technology and its hardware is often praised. Some customers have also highlighted the quality of its language packages (Communicator and Snap), while others perceive them as inferior to the Grid. Many customers have told us that Tobii's customer service was [✂].

(b) **Smartbox** has been consistently highlighted for its excellent customer service and the integration of customer feedback into their product development. It has also been praised for its collaborative approach with other suppliers, and the flexibility of its products to integrate elements from different suppliers to obtain the best solution. There is general consensus that Grid 3 is excellent, particularly because it is intuitive, easy to use, and familiar to most therapists and users. The views on its hardware offering were mixed and depended on the product considered.

(c) **Liberator** has been consistently highlighted for its strong customer service. Its hardware offering is perceived as strong by most customers, particularly due to its reliability and robustness. The views on its software offering are more mixed. Some customers explained that its language system was harder to grasp than others, but offered more possibilities once mastered.

(d) **Techcess** is generally seen as a smaller player, with some good hardware characteristics and software features. However, lack of familiarity with its software, Mind Express, makes it difficult for it to gain popularity among therapists and users. Its software is also generally perceived as somewhat less intuitive than the Grid. Views on its customer support are more mixed.

(e) **Inclusive Technology** was mentioned by a few customers as an additional competitor in the supply of dedicated AAC solutions. However, it was generally perceived as a supplier of mostly lower priced, simpler solutions. NHS Lanarkshire specifically defined it as an 'excellent supplier of peripheries and accessories to enable access to dedicated devices and mainstream technology'. CALL Scotland highlighted as a weakness the fact that it is 'not an AAC specialist supplier'.

(f) **Abilia** was also mentioned by some customers, primarily for its mid-tech Lightwriter device. Abilia's Lightwriter is a text-to-speech device which is accessed either via direct typing or switch scanning of the keyboard.

(g) Similarly, **Logan Technologies** was mentioned by two customers, as a supplier of lower range devices. Surrey County Council stated that Logan Technologies 'doesn't supply the high end tablet devices, so [is] completely different to the bigger players'. Treloar School and College told us that Logan Technologies supplies 'unique and robust hardware which meets a specific need, not available from other suppliers'.

(h) **Therapy Box** was mentioned by two respondents, mainly as a supplier of 'niche products' compatible with an iPad and sold with more limited customer support than for dedicated AAC solutions.[142]

General views on the Merger

6.16 We provided the opportunity for customers to add any further comments or views about the Merger.[143] As shown in Table 6-3, the majority of customers who responded to the questionnaire raised concerns about the Merger. Only a few customers had positive views about the Merger, particularly relating to the ability to purchase Tobii devices with Smartbox's Grid software installed.

142 Birmingham Community Healthcare, The Communication Advice Centre, Belfast
143 The question read 'If you have any other views or comments on the merger and its potential impact on the market for AAC solutions, please provide them below'.

Table 6-3 Summary of general views about the Merger

	Number of customers
Raised concerns about the Merger	18
Had a positive view about the Merger	4
Had no further comments	8
Total number of respondents	**30**

Source: CMA analysis of customer questionnaire responses

6.17 Most customers provided further details about the rationale for their concerns about the Merger. Table 6-4 below summarises the key topics identified and how frequently they were raised.

Table 6-4: Specific negative concerns about the Merger mentioned by respondents

	Number of customers
Deterioration of customer service	12
Reduction of product range/choice	12
Lower incentives for innovation	11
Increase in prices	6
Loss of access to the Grid	3
Loss of compatibility with Tobii cameras	3
Respondents who raised concerns	**18**

Source: CMA analysis of customer questionnaires

6.18 The most frequent concerns raised related to the potential deterioration of Smartbox's strong customer service, lower incentives for innovation and the reduction of available product range. For instance, Assistive Communication Service expressed some concern that Smartbox's offering might change as a result of the Merger, highlighting specifically the loss associated with the discontinuation of some of Smartbox's hardware announced following the Merger:

> Smartbox is a very strong UK brand with excellent support, software and innovation. We have worked hard with them over many years and are concerned that this brand identity will change. There are currently less solutions available for us and we are having to look at alternative combinations of software and hardware. Smartbox dedicated devices were often a much more cost-effective product that met patients' needs.

6.19 Other topics raised related to the potential move from Smartbox's 'open software' approach to Tobii's more integrated business model. Assistive Communication Service expressed concerns about the potential loss of access to Smartbox's Grid software from competitors' devices:

As a service, it's important to stress that for our population of users we frequently use Grid 3 software as this is most clinically appropriate. Losing the ability to use this software across a range of hardware would be significantly detrimental for many of our users.

6.20 Some customers also commented on expected changes to the Parties' product range. Upon completion of the Merger, the Parties announced that they would immediately discontinue sales of Compass (a Tobii software product) and Smartbox's hardware range (with the exception of the Grid Pad 12 and the Touch Pad), and that they would place Communicator 5 in maintenance mode.[144] Some customers told us that the products that would be discontinued had value to them. For example, Barnsley Hospital said that Smartbox's traditional hardware range, based on commercial tablets with additional equipment 'bolted on', included devices that could be used more flexibly and were lighter than other options, and that the termination of these products would leave a 'gap' in the market between 'really portable tablets' and a dedicated device. Similarly, with respect to the proposed termination of Communicator 5, RCAS said:

> I understand that Tobii intend to drop Communicator 5 in favour of Grid 3. There are some unique features within Communicator 5 which might then be lost if not first implemented in Grid 3. These include a dwell free keyboard, user editable phrase categories, greater ability for the user to change settings using their chosen access method, and the ability to pause selections while video clips are played.

6.21 Tobii subsequently told us that it would [✂] Tobii's internal documents indicate that before the Merger Tobii was still contemplating a series of options for its software suite, and that the Merger was a significant factor in its decision [✂].

Responses to our provisional findings

6.22 In response to our provisional findings, we received a number of submissions from customers and individual end-users, ten of which are published on our website.[145] Eight of these submissions are supportive of the Merger. Many of these submissions were prompted by an email sent by Tobii to some of its customers in which Tobii explained its disagreement with our provisional findings, expressed its enduring commitment to end-users, and outlined its

---

[144] Smartbox's website (2019), 'Your questions answered'.
[145] CMA cases: Tobii AB / Smartbox Assistive Technology Limited and Sensory Software International Ltd merger inquiry

remedies proposal (including a price cap and the commitment to make the Grid available).

6.23 Many of these respondents highlighted their satisfaction with the products currently offered by the Parties, and their confidence in the proposition that ethical considerations would prevent the merged entity from raising prices post-Merger. For example one CEO from a NHS hub stated that both Parties have a track record of developing and delivering products that improve outcomes for people with complex communication needs, and that there is 'no cause to doubt that this ethos and philosophy will change in the future'.[146] Similarly, an individual customer stated that 'this is a market where families work with the companies, help develop products, the understanding from Tobii and Smartbox is there'.[147] Another individual user told us that 'though Tobii is a large company by comparison, it is still small enough that we know several employees (in tech support and in engineering) by name and vice versa'.[148] Another individual expressed its satisfaction with Tobii's software suite (Compass, Snap, and Core First) as these are cheaper than alternatives, and shared his understanding that Tobii was working on addressing some of its weaknesses.[149]

6.24 We do not dispute the dedication of individuals working for the Parties, and their achievements in developing and delivering products that have had life-changing impacts for their users. However, in our view it would not be appropriate to rely purely on representations on the Parties' company cultures to conclude that a lessening of competition would not have adverse effects. There is evidence in the Parties' internal documents that many of the Parties' pricing and development decisions are driven by competition between them and with other suppliers of dedicated AAC solutions (see for example paragraphs 6.37 and 6.42). There is also evidence that the Merger would lead to the abandonment of various R&D projects (paragraph 8.102) and the withdrawal of various products that are valued by customers (paragraph 6.20). [✂].

6.25 Two respondents said that the focus of our inquiry had been too narrow. A service lead for a NHS hub stated 'The focus of CMA does seem to have been the smaller proportion of more complex individuals requiring AAC who represent less than 10% of the whole and are well supported, funded and equipped'. A representative of a charity said 'in order to get a true opinion on this merger you need to speak to these families that are going out alone.

146 Submission from Anna Reeves
147 Submission from Individual C
148 Submission from Individual D
149 Submission from Individual E

They are a very high percentage of TD [Tobii Dynavox] and SB's [Smartbox's] clients'.

6.26 We are aware that many people with AAC needs do not obtain their solutions through the NHS, and in many cases do not use the type of dedicated AAC solutions sold by the Parties. However, for the purpose of assessing whether this Merger gives rise to an SLC, the relevant population of customers is not all people with AAC needs, but the Parties' customers. It is the preferences of these customers that will determine the Parties' incentives to raise price post-Merger (or otherwise deteriorate their offer). As explained in paragraph 5.14, 90% of the Parties' sales of dedicated AAC solutions in the UK are made to organisations such as the NHS, schools and charities, who purchase dedicated AAC solutions on behalf of end-users (only 10% of the Parties' sales of dedicated AAC solutions in the UK are made directly to end-users).[150] In this context we considered it was more appropriate to obtain evidence on relevant customer preferences by engaging with these organisations and the majority of those who responded to our questionnaire raised concerns about the impact of the Merger (paragraph 6.16).

6.27 Some respondents also valued the possibility of being able to use Tobii hardware with Smartbox software, and thought that this could be facilitated by the Merger. For example, one family from Canada which uses Grid 3 on a Tobii device said that the Merger might enable them to access support for the Grid more easily through Tobii in North America.[151] A specialist speech and language therapist further explained:

> Professionals and parents / carers frequently prefer Grid 3 software from Smartbox. It is then felt that choosing a Smartbox device would be preferable as if there are any issues, there is only one place to call not two. Frequently Tobii hardware would be preferred and devices have a better spec and battery life but Smartbox hardware is purchased to allow the purchase to come from one supplier. I feel that if Tobii were to go ahead and merge with Smartbox, this would much less of an issue

6.28 As explained in our analysis of the counterfactual, while we consider that it is unlikely that Tobii and Smartbox would have successfully concluded the RA and DA absent the Merger (paragraph 4.58), the fact that Smartbox currently licenses the Grid to its other competitors indicates that the possibility of purchasing a Tobii device with the Grid installed need not materialise only under the Merger scenario. Further, we have found that absent the Merger

[150] CMA's analysis of the Parties' transaction data.
[151] Submission from Individual D

Tobii would have continued its efforts to improve its software and Smartbox would have continued its efforts to improve its hardware (paragraph 6.62), resulting in a greater choice of dedicated solutions and potentially removing the need for some customers to purchase dedicated AAC solutions combining components from both Parties.

Evidence from competitors and resellers

6.29 We asked the Parties’ competitors and resellers to identify their competitors and comment on their relative positioning, strengths and weaknesses. The responses were consistent with the views expressed by customers. In general, they identified the Parties, Liberator and Techcess as the only significant suppliers of dedicated AAC solutions. Other market participants were generally described as having a different positioning in the market.

(a) **Liberator** stated that its main competitors in the provision of dedicated AAC solutions in the UK are Tobii and Smartbox, ranking itself as ‘number 3’ in the market. It further noted that ‘there is a quite a big gap with the next on the list which is Techcess’. With regard to positioning, Liberator considers that Smartbox is particularly strong in software, while Tobii is stronger in hardware. Liberator noted that its hardware offering is similar to that of its competitors (Tobii and Smartbox), while its software offering is different. Liberator believes its language solution is ‘more difficult to learn at the beginning’, but once the user masters it, it ‘enables richer and more effective communication’. With regard to customer service, Liberator considers that Tobii’s customer support is weaker than that of Smartbox.

(b) **Techcess** told us that ‘its main competitors (Tobii, Smartbox and Liberator) are much bigger and have more resources’, which constrains its ability to grow, even with the backing of Jabbla (its parent company). Techcess also mentioned Abilia and Inclusive Technology, which ‘do some work with schools, they have communication AC in their catalogue and have eye gaze cameras’. However, Techcess noted that Abilia and Inclusive Technology are not as big as its main competitors.

(c) **Abilia** supplies a specific range of dedicated AAC devices, namely the ‘LightWriter’ series. Abilia’s LightWriter includes a physical keyboard, which converts the text entered by the user into speech. Text entry can either be by direct typing or by ‘switch scanning’. Therefore, this product is targeted specifically at literate users who are unable to speak but are able either to direct type into a keyboard or to switch scan a keyboard.

(d) **Inclusive Technology** is a reseller of AAC products in the UK, focused on education customers. It buys AAC products at a discount from

manufacturers and resells these products at list price to UK customers (as part of a broader portfolio of assistive technology products). In 2018 it sold [✂] dedicated AAC solutions in the UK, for a value of £[✂]. Inclusive Technology told us that [✂].

(e) **Therapy Box** is a developer of AAC apps, sold through the AppStore and Play Store in the UK and internationally. In the UK only, it is also a reseller and supplier of AAC solutions, since it sells bundles combining its apps with AAC hardware (dedicated and non-dedicated) from other manufacturers. Therapy Box told us that its products compete with the Grid for some customer groups, but Tobii is a more distant competitor because it focuses less on software.

(f) **AssistiveWare** is the developer of Proloquo2Go, an AAC app sold on Apple's app store. AssistiveWare told us that its software competes with the Parties' software to the extent that it is available on iPads. However, AssistiveWare also noted that some users may require or prefer to use communication software on dedicated devices, and that it did not compete in that space.

(g) **Microlink** is a supplier of workplace adjustments for disabled employees, which also acts as a reseller of AAC products. In the last three years, Microlink has sold only seven units of dedicated AAC solutions in the UK.

6.30 We also contacted **DH2 Solutions**, **RSL Steeper** and **Medequip Assistive Technology**, which were listed by Smartbox as AAC resellers. DH2 Solutions told us that it generally does not have a presence in the AAC market, but its environmental control solutions sometimes include a simplified AAC function. RSL Steeper is an ATS provider which has recently entered the AAC market through the reselling of Abilia equipment in some regions of the UK. Medequip Assistive Technology told us that it does not compete with the Parties in the supply of dedicated AAC solutions.

Internal documents

6.31 This section summarises our analysis of the Parties' internal documents that we found relevant to the assessment of competition in the relevant market. We first summarise documents related to the Parties' monitoring of competitors, and then focus on the Parties' product development plans.

6.32 In our view, Smartbox's internal documents show that Smartbox benchmarks its offering of dedicated AAC solutions exclusively against other providers of dedicated AAC solutions, namely Tobii, Liberator and Techcess, while Tobii's internal documents show that Tobii's monitoring of competition focuses on

Smartbox and [✂]. The product development plans indicate that Smartbox had significant ambitions to improve its hardware further, while Tobii was concerned about a competitive gap between its software offering and that of Smartbox.

Monitoring and benchmarking of competitors

Smartbox documents

6.33 Smartbox provided a number of documents discussing its performance compared to competitors. These documents indicate that Smartbox benchmarks its hardware offering exclusively against the three other providers of dedicated AAC solutions, namely Tobii, Liberator, and Techcess. We observed that Tobii appears to be mentioned more often than Liberator, which in turn appears to be mentioned more often than Techcess. There is no mention of non-dedicated solutions.

6.34 These documents can be summarised as follows:

(a) A presentation initiating the development project for the Grid Pad in 2016 mentions three competitors: Tobii, Jabbla and Liberator.

(b) A presentation prepared for Smartbox by a market research company and dated January 2017 discusses the results of a customer survey (focused on NHS hubs). The presentation discusses various aspects of Smartbox's performance (notably in terms of customer support). It exclusively compares this performance with that of Tobii.

(c) A marketing plan for the Power Pad dated March 2017 identifies only three competitors for the device: Tobii, Liberator, and Techcess. The internal sales guide for the device lists only two competitors: Tobii and Liberator.

(d) A presentation dated July 2017 and entitled 'Device comparison' compares the technical specifications of Smartbox devices with those of Liberator, Tobii, and Techcess. An updated version in Excel format dated July 2018 uses the same competitor set.

(e) The internal sales guide for the Grid Pad 12 dated 2018 explains that the product is intended for 'people with complex communication and access needs'. [✂] (Figure 6-1).

Figure 6-1: [✂]

[✂]

Source: [✄]

(f) The launch plan for [✄] discusses competitors to these devices. [✄]. The document does not mention other competitors. Smartbox also told us that its customers would consider its Grid Pad 8 and 10, [✄], as potential alternatives to the Indi.

(g) Several documents present some information on individual competitors. A presentation dated July 2018 focuses on [✄].Another presentation dated October 2018 focuses on particular [✄]. A 'competitor analysis note', also dated October 2018, provides more factual information [✄]. An Excel spreadsheet dated 2017 compares the pricing of Smartbox products to [✄]. There were no such documents focusing on other competitors.

6.35 A number of Smartbox's documents focus on competition in AAC software. In particular:

(a) An Excel spreadsheet entitled [✄]:

(i) [✄];

(i) [✄];

(ii) [✄].

We note that the traditional suppliers of dedicated AAC solutions feature prominently in this benchmarking of competitor software. Other suppliers only feature as suppliers of symbol and text AAC software and not as suppliers of 'fully featured' AAC software.

(b) The sales guide for the Grid for iPad (which is sold by Smartbox as a symbol- and text-AAC software rather than 'fully featured' AAC software), dated 2018, mentions a number of competitors. However, Tobii figures prominently in this analysis, with three different pieces of software presented as competing with the Grid for iPad.

Tobii documents

6.36 Tobii provided a number of internal documents discussing competition, which are summarised below. Tobii monitors a number of competitors, including [✄]. However, these other suppliers are generally described as focusing on particular segments of the market, and Tobii's monitoring of competition for dedicated AAC solutions generally focuses on Smartbox and [✄]. The documents indicate that Tobii regarded Smartbox's hardware as inferior to its own and expected to be able to maintain this gap in the future. Despite this relative perceived weakness in hardware, the documents show that Tobii considered Smartbox as a strong competitor, both due to the attractivity of its wrapped tablets for certain customers and the quality of its software. There are examples of Tobii expanding its product range and improving its software specifically in response to competition from Smartbox (see paragraph 6.37(c)). The sequence of documents indicates that, over the 18 months preceding the Merger, Tobii was increasingly concerned by the competitive threat posed by Smartbox (see paragraph 6.38), and the documents issued shortly before the Merger place more weight on Smartbox than on other competitors (see for example paragraph 1(e)). [✂].

6.37 These documents can be summarised as follows:

(a) [✂][152]

Figure 6-2: [✂]

[✂]

Source: [✂]

(b) [✂]

(c) [✂]

(d) [✂]

(e) [✂]:

[✂]

The document also highlights the closeness of competition between Tobii and Smartbox for eye gaze solutions based on commercial tablets:

[✂]

This shows that Tobii considered Smartbox as a competitor even before it introduced its purpose-built hardware range.

(f) [✂][153]

(g) [✂]

(h) [✂]

[152] [✂]
[153] [✂]

6.38 [✂]

Figure 6-3: [✂]

[✂]

Source: [✂]

Table 6-5 [✂]

[✂]

Sources: [✂]

Product development plans

Smartbox documents

6.39 Smartbox provided a number of documents outlining the company's thinking on its hardware strategy. These documents indicate that the company has [✂] in the development of new hardware.

6.40 The documents can be summarised as follows:

(a) A presentation on Smartbox's hardware strategy dated October 2017 states that the goal is [✂].It lists the top suppliers of AAC hardware being: [✂].

(b) A presentation discussing product strategy in March 2018 outlines various hardware development projects, distinguishing between 'large' and 'small' devices. Projects for large devices include [✂]. Projects for small devices include a [✂].

6.41 Tobii has submitted that [✂]. As discussed in Chapter 4 (Counterfactual), our conclusion is that in the counterfactual scenario Smartbox is financially able to compete as it had done pre-Merger, including funding [✂]. We further note that Smartbox introduced the Grid Pad 12 in 2018 (shortly before the Merger), and that this has been successful with some UK customers.[154] [✂].

[154] For example: Beaumont College told us that, while Tobii used to be stronger than Smartbox in the supply of dedicated AAC hardware with eye gaze, the balance has shifted with the introduction of Smartbox's Grid Pad, which provides an all-in-one solution. Beaumont College does not typically purchase dedicated AAC solutions for its students, but it owns dedicated AAC solutions for assessment purposes, including one Grid Pad with eye gaze, which it considers works very well. Severndale Specialist School told us that it decided to use Smartbox's Grid Pad as the sole device used within the whole school, as it allows interaction through eye gaze and touch and it can be adapted to meet the needs of all students. Barnsley Hospital told us that, while they were still evaluating Smartbox's new hardware range, the preliminary view was that it had an improved battery life. In particular, Barnsley Hospital NHS Foundation Trust Assistive Technology Team considered that the Grid Pad 12 was not significantly different from the Power Pad, but it was less heavy, which can be particularly important for children who need a more portable device.

For these reasons, we consider that Smartbox's plans to develop its hardware range are credible.

Tobii documents

6.42 Tobii's documents related to product development plans indicate that it has been conscious of a competitive gap between its software offering and that of Smartbox. [✂].

6.43 [✂]:

(a) [✂]

(b) [✂]

(c) [✂]

(d) [✂]

(e) [✂]

(f) [✂].

6.44 [✂]

Estimates of diversion ratios

6.45 In differentiated product markets, the CMA often uses diversion ratios to inform its assessment of the risk of unilateral effects. The diversion ratio from Tobii to Smartbox is the proportion of Tobii's sales of dedicated AAC products that would divert to Smartbox. The diversion ratio from Smartbox to Tobii is defined symmetrically. Diversion ratios are useful in that they have a direct interpretation in term of incentives to raise price.[155] However they are difficult to estimate with precision and are therefore best interpreted

[155] The economic intuition underpinning this framework is best understood with a simple 'thought experiment'. Suppose that Tobii is contemplating a price increase for its dedicated AAC solutions in the UK. The customers who really value the features of Tobii's products will continue to buy these products after the price rise, but other customers who have a weaker preference for these products will 'divert' to other solutions (these customers are often referred to as 'marginal customers'). The set of alternative solutions that marginal customers can divert to includes both other dedicated AAC solutions sold by competing suppliers, and mainstream devices. Tobii will increase the price until the extra revenue earned on the customers who continue to buy its products (this can be thought of as the 'benefit' of the price increase) is offset by the lost margin on the customers who divert to other solutions (this can be thought of as the 'cost' of the price increase). In this context, the effect of the Merger can be understood as reducing the cost of a price increase: before the Merger, the cost of a price increase reflects diversion to all other solutions, including Smartbox; after the Merger, that cost is reduced since the merged entity can 'recoup' the margin associated with customers who divert to Smartbox. Therefore, the incentive to increase prices for Tobii post-Merger is proportionate to the share of Tobii's marginal customers who regard Smartbox products as their second-best option (the 'diversion ratio').

alongside other evidence, and this is the approach we have taken in this case.

6.46 As explained in paragraph 5.22, we have estimated diversion ratios based on responses from NHS hubs to our written questionnaire. Table 6-6 below presents (unweighted) average diversion ratios from each party to alternative suppliers.

Table 6-6 Unweighted average diversion ratios from the Parties' products

Alternative supplier	***Scenario 1: Tobii AAC solutions no longer available***	***Scenario 2: Smartbox AAC solutions no longer available***
Tobii	0%	[30-40%] [✂]
Smartbox	[50-60%]	0%
Liberator	[20-30%]	[30-40%]
Techcess	[10-20%]	[20-30%]
Therapy Box	[0-5%]	[0-5%]
Consumer Tablets	[5-10%]	[0-5%]

Source: CMA analysis of customer questionnaire responses

6.47 We found the diversion ratio from Tobii's dedicated AAC products to Smartbox's products to be [50-60%], and the diversion ratio from Smartbox's dedicated AAC products to Tobii's products to be [✂] [30-40%]. That is, when NHS hubs buy a dedicated AAC solution from Tobii, in more than half of the cases the closest alternative is a product from Smartbox. Conversely, when NHS hubs buy a dedicated AAC solution from Smartbox, in [30-40%] of the cases the closest alternative is a product from Tobii. This indicates that the Parties are close competitors, and is consistent with the qualitative evidence from customers. The estimated diversion ratios also support the position that only Liberator and, to a lower extent, Techcess exert any competitive pressure on the Parties. Other suppliers receive minimal diversion.

6.48 Table 6-7 below presents 'weighted' diversion ratios, where diversion responses have been weighted by each customer's reported 2016-18 expenditure on the Parties' products.

Table 6-7 Average diversion ratios from the Parties' products, weighted by expenditure

Alternative supplier	***Scenario 1: Tobii AAC solutions no longer available***	***Scenario 2: Smartbox AAC solutions no longer available***
Tobii	0%	[30-40%] [✄]
Smartbox	[40-50%]	0%
Liberator	[30-40%]	[30-40%]
Techcess	[10-20%]	[20-30%]
Therapy Box	[0-5%]	[0-5%]
Consumer Tablets	[0-5%]	[0-5%]

Source: CMA analysis of customer questionnaire responses

6.49 In general, weighting diversion ratios is a more robust methodology, since it places more weight on the responses of customers who spend more on the Parties' products. However, in this case the number of responses available to calculate weighted diversion ratios (10 responses) is slightly smaller than the number of responses available to calculate unweighted diversion ratios (12 responses). This is because two of the NHS hubs that responded to the diversion question did not provide any expenditure data. The 10 respondents who did provide expenditure data bought approximately £[✄] million worth of dedicated AAC solutions from the Parties (representing [✄]% of the Parties' sales of dedicated AAC solutions in the UK). Considering both metrics and rounding results, the estimates set out above imply a diversion ratio from Tobii to Smartbox of [40-50%], and a diversion ratio from Smartbox to Tobii of [30-40%].

6.50 To help interpret these diversion ratios, we have combined them with estimates of the variable margins of each party to form an estimate of the Gross Upward Price Pressure Index (GUPPI). The GUPPI is a simple indicator that consists of a multiplication of the diversion ratio from company A to company B by company B's margins. The GUPPI provides an indication of the incentive of the merged entity to raise price unilaterally post-merger.

6.51 The Parties provided estimates of their variable margins on sales of dedicated AAC solutions. These are [✄]% for Tobii and [✄]% for Smartbox. The GUPPI from Tobii to Smartbox is therefore [10-20%]. The GUPPI from Smartbox to Tobii is [10-20%].

6.52 While the threshold GUPPI level at which competition concerns may arise will vary, depending on all the circumstances of a given case, we note that these GUPPI figures are high on any basis (particularly in comparison to previous merger cases where the CMA has used a GUPPI threshold to indicate whether a merger is likely to give rise to price rises).[156] We have also checked that this observation is robust to relatively large changes in the underlying diversion ratio (see paragraph 6.55(c)).

Tobii's submissions on GUPPI

6.53 In response to our working papers, Tobii submitted that:

- The CMA's GUPPI results should be disregarded because the diversion ratios on which they are based are unusable;
- The survey of end-users carried out by Tobii provides alternative diversion ratios which are consistent with much lower GUPPI results;
- The considerable doubt over the plausibility of the CMA inputs to the diversion ratios means careful regard must be paid to the sensitivity of the GUPPI results to the parameter values;
- Significant changes in product offer and mix occurring in the market for AAC solutions means that care must be exercised when drawing inferences from GUPPI analyses which are static in nature.

6.54 In response to our provisional findings, Tobii also submitted that:

(a) the terminology we have used in our questionnaires was not consistent with our definition of the relevant product, in particular because the word 'dedicated' has a specific meaning in the industry;

(b) the diversion ratio analysis is based on evidence from only 12 customers, a sample size that is clearly inadequate, given sales to over [✄] customers in total, for the purpose of quantitative analysis of the possible effect of a merger;

(c) the only logical evidence collection methodology in a market characterised by differentiated products is to collect data on diversion at a product level;

(d) we relied on the expenditure data provided by NHS hubs for the weighting of diversion ratios, which is inappropriate because (i) there are significant discrepancies in the expenditure data relied on by us and the sales to

[156] For example, in three recent cases the CMA has considered that a GUPPI in excess of 10% gives rise to an expectation of an SLC: Ladbrokes/Coral (2016), Greene King/Spirit (2015), and Eurotunnel (2013).

NHS hubs recorded in Tobii's transaction data, and (ii) sales to NHS hubs have 'lumpy' demand patterns.

Our assessment of Tobii's submissions

6.55 Considering the representations made in response to our working papers:

(a) We have discussed the first of Tobii's points (reliability of our diversion ratios) in paragraph 5.24 and following. For the reasons set out in those paragraphs we consider that it is appropriate to put some weight on this evidence.

(b) We have discussed the second of Tobii's points (reliability of Tobii's survey of end-users) in Appendix C to this document. In our view, Tobii's survey suffered from several significant methodological flaws. In particular, the survey did not target the relevant population (it targeted individual purchasers of AAC solutions in general, rather than purchasers of the dedicated AAC solutions sold by the Parties), it achieved an insufficient sample size, it lacked transparency around the recruitment and composition of its online panel, and screening and consistency checks were not sufficiently rigorous for us to be confident that respondents were actually purchasers of AAC solutions. For these reasons, we cannot put any weight on this evidence.

(c) With respect to the third point (sensitivity of GUPPI estimates), we consider that our finding that GUPPI levels are high relative to typical thresholds would hold even if diversion ratios were lower than our estimates. Even if the diversion ratios were half the level we have estimated, the GUPPIs would still be approximately [5-10%], a level at which the CMA typically finds competition concerns.

(d) With respect to the fourth point (dynamic aspect of the market), while we recognise that competition from non-dedicated AAC solutions has prompted the development of new devices, in particular, Tobii's Indi, we have seen no other evidence indicating that competitive dynamics have changed materially in the market for dedicated AAC solutions, or were about to change materially in the near future. The prices of the Parties' dedicated AAC solutions have remained broadly stable over the past 3 years (see paragraph 5.62). The volumes of I-series devices sold by Tobii have remained broadly stable despite the introduction of the Indi (see paragraph 5.58). Neither Smartbox's nor Tobii's internal documents forecast any significant changes in the competitive outlook. Tobii's internal documents [✂], but these are associated with high volume forecasts and do not seem to be in response to a new competitive threat.

6.56 Considering the representations made in response to our provisional findings:

(a) We consider that Tobii's first comment (on the lack of consistency in definitions) has no validity. For the purpose of this inquiry we have defined a dedicated AAC solution as a combination of four components: dedicated AAC hardware, AAC software, access means, and customer support (see paragraph 5.4). In our questionnaire to third parties, we defined a dedicated AAC solution as 'the supply of a dedicated AAC Device (combining dedicated AAC hardware with AAC software and an access method such as an eye gaze camera) alongside customer support and training services'. These two definitions are clearly not materially different. Moreover, it is not clear to us that Tobii's specific interpretation of the word 'dedicated' (as a device that meets the US regulatory requirements for a 'speech generating device') is widely shared in the UK market.[157] As a practical point, no customer raised this issue with us. Finally, supposing that customers had misunderstood our definition of the product, for example by excluding 'wrapped tablets' from the scope of dedicated AAC solutions, we would expect to see a systematic bias between their reported purchase volumes of 'dedicated AAC solutions' from Tobii and Smartbox, and the Parties' sales volumes of products that fall under that definition (as recorded in their sales data). We have checked that this was not the case. That is, customers did not systematically under-report purchases of dedicated AAC solutions compared to the Parties' sales data. This gives us additional confidence that customers understood our definition of the relevant products and that their responses to our questions reflect that understanding.

(b) With respect to Tobii's second point ('sample size' of 12 customers), our approach to data gathering is explained in paragraph 5.14. In 2018, Smartbox had [✂] customers of dedicated AAC solutions in the UK,[158] and Tobii had [✂] customers of dedicated AAC solutions in the UK.[159] However, 16 large customers (the NHS hubs) account for [50 to 60%] of the Parties' sales of dedicated AAC solutions. On that basis, it was possible to estimate diversion ratios based on direct engagement with these large customers instead of resorting to a process of statistical sampling and inference. The NHS hubs who responded to our questionnaire account for a large proportion ([✂]%) of the Parties' sales of dedicated AAC solutions in the UK, and therefore their preferences are

[157] For example, Smartbox uses the word 'dedicated' to describe its Grid Pad range on its UK website (Smartbox website).
[158] Based on the number of unique customer names for purchases of 'systems' in Smartbox's transaction data. [✂] of these customers were classified as individual.
[159] [✂].

likely to directly shape the Parties' incentives to raise price post-Merger. In addition, the more qualitative submissions from NHS hubs and smaller customers (schools, charities, local authorities, etc) suggest that there are no systematic differences in the way these different groups of customers choose AAC products. For this reason, we consider that the diversion ratios we have estimated for NHS hubs are likely to broadly reflect the preferences for the Parties' broader customer base.

(c) With respect to Tobii's third point (diversion should be measured for individual products), we consider that this has no basis for three reasons. First, from a methodological standpoint it is only appropriate to measure diversion ratios at individual product level where suppliers can flex all parameters of competition (price, quality, range, service) for individual products. In the market for dedicated AAC solutions this is not the case. Some of the decisions made by suppliers (eg in terms of the development of new software, or the quality of customer service) have implications for their whole product range, and therefore incentives to flex these parameters will be shaped by diversion at the level of the product range. Second, as a practical matter the CMA has not seen any evidence (either at phase 1 or in the course of this inquiry) that conditions of competition vary materially across different products within the relevant market (with the possible exception of the Indi). The Parties do not tend to monitor different competitors for different products, and the four main competitors all offer a range of dedicated AAC solutions with different levels of portability, access options, and price points. It is therefore unlikely that diversion ratios would be significantly different for individual products (and no customer has raised this point as an issue). Third, as our diversion ratios are effectively average diversion ratios across the Parties' product ranges, to the extent that these product ranges include products over which the Parties compete less closely (eg the Indi), then they would **underestimate** the closeness of competition between the Parties for other products.

(d) With respect to Tobii's fourth point (inappropriate weighting of diversion ratio), this is unfounded for the following reasons. First, we have used both weighted and unweighted diversion ratios to form our conclusions on diversion patterns and closeness of competition. Second, we consider that, precisely because purchasing patterns are somewhat volatile, it is appropriate to weight diversion ratios using total purchases over 3 years rather than purchases in any single year. Third, the discrepancies between the purchases reported by customers and sales reported by Tobii are not necessarily indicative of reporting 'mistakes' but could reflect differences in how transactions are recorded in accounting systems.

Fourth, our estimates of diversion ratios are not very sensitive to our choices of weights: when we weight diversion ratios using the Parties' sales data for 2018 instead of the Hub's reported purchases for 3 years, diversion from Tobii to Smartbox increases from [✂]% to [✂]%, and diversion from Smartbox to Tobii is unchanged.

6.57 Overall, we consider that it is appropriate to put some weight on this evidence, albeit we have used it in conjunction with other evidence sources. The key findings from this analysis are that: the diversion from Tobii accrues primarily to Smartbox, which indicates that Smartbox is Tobii's closest competitor; the diversion from Smartbox is more evenly spread between its three main competitors, but diversion to Tobii remains significant, indicating Tobii is a close competitor to Smartbox; and the combination of these diversions with the Parties' margins imply that the merged entity would face a strong incentive to increase price post-Merger.

Other evidence submitted by Tobii

6.58 Tobii submitted a number of reports and analyses that it considered relevant to our competitive assessment. We assess the submission on the closeness of competition below, and assessments of other submissions (where not previously discussed in this chapter) are in Appendix C.

Tobii submission on the closeness of competition

6.59 Tobii asked its UK sales team to provide a list of all the marketing activities it undertook in the last three years and the competitors it faced at each of these events. Marketing activities included awareness days, clinics, conferences, exhibitions, individual assessments and training events. The information was collected specifically for the purpose of this inquiry and based largely on memory recall. Tobii submitted that Tobii Dynavox frequently came up against AAC solutions provided using consumer tablets, and a broad range of suppliers who both build AAC solutions based on purpose-built devices and develop AAC solutions based on consumer tablets. Tobii submitted that Tobii Dynavox came up against these suppliers more than it came up against Smartbox, and that this evidence suggests that Tobii and Smartbox are not each other's closest competitors, and may not even be particularly close competitors.

Our assessment

6.60 Tobii has provided no information on the theme or focus of these marketing events and limited information on how this information was collected (eg how the request to its sales team was framed). Based on what we have seen, we find it difficult to draw any strong inference on closeness of competition between the Parties from this evidence. It is not clear that the marketing events included in this analysis focused on users of dedicated AAC solutions. Tobii asked its sales team to consider 'which other product(s) or competitor(s) the customer would have considered'. It is not clear how the respondent would have interpreted this question in the context of a marketing event (eg a conference or an exhibition) where the sales person might have spoken with a broad range of customers, whose interests may have ranged across a variety of AAC solutions and components. We recognise the fact that many customers use non-dedicated solutions to meet their AAC needs,[160] and as such we do not find it surprising that such solutions (or suppliers of their components) are present at marketing events. It does not follow that such solutions are regarded as good alternatives by customers of dedicated AAC solutions.

Our findings on horizontal unilateral effects

6.61 Our findings can be summarised as follows:

(a) The Parties' market shares in the supply of dedicated AAC solutions in the UK are [10-20%] for Tobii and [40-50%] for Smartbox, depending on the source and metric considered, indicating that they have a very significant market presence at present. This gives them a substantial combined market share of approximately [60-70%], with a significant increment arising from the Merger. Market shares also indicate that there are only two other sizeable competitors in the market, Liberator and Techcess (with Techcess being significantly smaller than the other three).

(b) Most customers identify the Parties and Liberator as the main suppliers of dedicated AAC solutions in the UK, with Techcess mentioned as a smaller, lesser-known competitor.

(c) The majority of the customers who responded to our questionnaire raised concerns about the impact of the Merger. Most of the concerns raised related to potential deteriorations in quality, service (including customer support) and/or the range of products available.

(d) Submissions from competitors and resellers were consistent with the views expressed by customers. In general, they identified the Parties, Liberator and Techcess as the only significant suppliers of dedicated AAC

[160] See paragraph 5.6.

solutions in the UK. Other market participants were generally described as providing different types of products or focusing on more specific customer segments.

(e) Based on the internal documents we have seen, Smartbox benchmarks its offering of dedicated AAC solutions exclusively against the three other providers of dedicated AAC solutions, namely Tobii, Liberator, and Techcess. Tobii appears to be mentioned more often than Liberator, which in turn appears to be mentioned more often than Techcess.

(f) Based on the internal documents we have seen, Tobii's monitoring of competition for dedicated AAC solutions focuses on Smartbox and [✂]. The documents show that Tobii considered Smartbox as a strong competitor, in particular due to the quality of its software. There are examples of Tobii expanding its product range and improving its software specifically in response to competition from Smartbox. The sequence of documents indicates that, over the 18 months preceding the Merger, Tobii was increasingly concerned by the competitive threat posed by Smartbox. [✂].

(g) Smartbox's product development plans indicate that, in the period leading up to the Merger, it had [✂] to improve its hardware.

(h) Tobii's product development plans indicate that, in the period leading up to the Merger, it was conscious of a competitive gap between its software offering and that of Smartbox. [✂].

(i) The closeness of competition between Tobii and Smartbox indicated by third party views and the Parties' internal documents and development plans is also supported by our estimates of the diversion ratios from Tobii's dedicated AAC solutions to Smartbox's products (at [50-60%]) and from Smartbox's dedicated AAC solutions to Tobii's products (at [✂] [30-40%]). Combining these diversion ratios with estimates of variable margins gives an estimate of the Gross Upward Pricing Pressure Index (GUPPI) of around [10-20%] for both Parties. We consider that the conclusion that the Parties face a significant incentive to raise prices post-merger is robust to potential measurement uncertainty: even if diversion ratios were half the level we have estimated, the Parties would face high GUPPIs and, therefore, would have strong incentives to raise prices post-Merger. Diversion to other suppliers indicates that only Liberator and, to a lower extent, Techcess, represent a meaningful constraint on the Parties.

(j) As discussed in Chapter 5 (Market definition), the competitive constraint exerted by non-dedicated solutions on suppliers of dedicated AAC

solutions is much weaker than that exerted by suppliers of dedicated AAC solutions on each other. As such, the competitive interaction with non-dedicated solutions is unlikely to alleviate the effects of the removal of Smartbox as a competitor to Tobii.

(k) As discussed in paragraph 5.50, Tobii's internal documents indicate that it developed the Indi [✂] to compete on price against non-dedicated AAC solutions, while Tobii's transaction data suggests that the introduction of the device has [✂] on sales of Tobii's other dedicated AAC solutions. As noted in paragraph 6.34(f), Smartbox's internal documents show that some of its devices, notably the Grid Pad 8 and the Grid Pad 10, compete to an extent with the Indi. Based on this evidence, our view is that the Indi is subject to stronger competitive constraints, particularly on price, from non-dedicated AAC solutions than the rest of the dedicated AAC solutions market and, as such, we consider it unlikely that Tobii could profitably raise the price for the Indi post-Merger.

6.62 Overall, our view is that this evidence, taken together, shows that the Parties were close competitors in the supply of dedicated AAC solutions in the UK pre-Merger, and that their competitive interaction may have intensified as Smartbox had plans to improve its hardware while Tobii was working to improve its software. Following the Merger, PRC (Liberator) would be the main significant remaining constraint on the merged entity, with Techcess exerting a lower degree of constraint. We note that the views of customers and rival suppliers on the state of competition in this market were remarkably consistent. For these reasons, we are concerned that the removal of one party as a competitor is likely to allow the merged entity to increase prices, or deteriorate other aspects of its offering that are valued by customers, for example the quality and range of products, or the level of service associated with these products. The Merger is likely to also reduce incentives for the merged entity to engage in R&D and innovate.

6.63 We also note that at least two of these possible manifestations of an SLC, namely a reduction in the range of products available to customers and a reduction in R&D,[161] had been decided upon prior to completion of the Merger, and were about to materialise when the CMA initiated its investigation (paragraphs 6.20 and 8.102). Our view is that these are concrete manifestations of an SLC caused by the Merger that would directly harm customers.

[161] See paragraph 6.20. We also note that the CMA's unwinding order applied to the discontinuation of certain Smartbox projects and the shelving of certain development projects.

6.64 Tobii submitted that the appropriate counterfactual should include the Agreements entered into between Tobii and Smartbox in August 2018 (paragraph 4.16). We disagree, but for completeness we note that some important aspects of the pre-Merger rivalry between the Parties (eg in terms of the quality of their customer support, and their propensity to innovate and develop new products) would likely be maintained in an alternative counterfactual where the parties had reseller arrangements. As such, our findings are not contingent on the choice of counterfactual.

Tobii's representations on our provisional findings, and our response

6.65 Tobii submitted that innovation incentives for AAC products are determined at a global level. The UK represents a small proportion of the global sales of all market players, and there are many other players operating and providing their products and services in other countries. As a consequence, Tobii submitted that innovation incentives for AAC products will not be affected by the transaction.[162]

6.66 We have not investigated conditions of competition outside the UK in any depth, but we note that Tobii's internal documents do not highlight any significant differences in conditions of competition across geographical areas (see paragraph 5.53). Smartbox also monitors the same set of competitors globally (see paragraph 6.33). There is also direct evidence from Tobii's internal documents that [✄]. For these reasons, we continue to believe that the Merger could dampen innovation incentives for the Parties.

6.67 Tobii submitted that there is no evidence of a clear boundary between the 'Indi segment' and other dedicated AAC solutions, and therefore no basis for finding that the competitive impact of non-dedicated AAC solutions is only affecting the Indi.[163]

6.68 We agree with Tobii that the evidence does not suggest a clear-cut boundary between the Indi and other dedicated AAC solutions (see, for example, paragraph 6.34(f)). However, in our view the evidence also suggests that the Indi is subject to stronger competitive constraints, particularly on price, from non-dedicated AAC solutions than the rest of the dedicated AAC solutions market. First, Tobii's internal documents show that Tobii monitors different competitors for different products: [✄]. On the other hand, Smartbox benchmarks its offering of dedicated AAC solutions exclusively against the three other providers of dedicated AAC solutions (paragraph 6.33). Second,

[162] Tobii response to provisional findings, paragraph 5(a).
[163] Tobii response to provisional findings, paragraphs 5(c) and 9.

Tobii's sales data shows that the introduction of the Indi [✂] on sales of its other dedicated AAC solutions (paragraph 5.58).

6.69 Tobii has submitted that, to the extent that the CMA's concerns are limited to one particular segment for 'high end devices', the nature and extent of competition needs to be considered in this particular segment. It submitted that sales of 'high-end devices' [✂].[164]

6.70 Our assessment has considered the competitive constraints on dedicated AAC solutions and has not focused on any particular segment. As part of this assessment, the evidence has shown that competitive constraints, particularly on price, are different for one particular product, the Indi. The Indi only represents [✂]% of Tobii's sales of dedicated AAC solutions in the UK in value and, therefore, excluding that product from the market is unlikely to materially change the results of our analysis.[165] There is no evidence that unit sales of other dedicated AAC solutions have been falling over 2017 or 2018 (paragraph 5.58 and following). Tobii has told us that more recent sales data for the first 5 months of 2019 indicates that [✂].[166] However, we note that sales of dedicated AAC solutions in Tobii's 'upper mid-range' are [✂], and Tobii separately told us that [✂]. Therefore, in our view [✂] cannot be taken as evidence of a shift in customer preferences.

6.71 Tobii submitted that the CMA's own evidence shows that Liberator is Smartbox's closest competitor in the UK, whether measured in terms of customer feedback on expenditure, or in sales volume and value terms. [167] The closeness of competition in the UK will not, therefore, be changed by the transaction.

6.72 When products are differentiated, market shares provide only limited information on the closeness of competition between suppliers, and it is necessary to consider other evidence to reach a view on closeness of competition.[168] Further, for an SLC to arise when products are differentiated, it is not necessary for the Parties to be each other's closest competitors. It is sufficient that the Parties compete closely and that the remaining competitive constraints are not sufficient to offset the loss of competition between the

[164] Tobii response to provisional findings, paragraph 5(e).
[165] In relation to market share estimates, see footnote to paragraph 6.11. In relation to diversion ratio estimates, if anything, the inclusion of the Indi might imply that our estimates of diversion ratios overstate diversion to non-dedicated AAC solutions and understate diversion between the Parties. As respondents to our questionnaire took account of their purchases of Indi when responding to the diversion question, then measured diversion to non-dedicated solutions is in fact higher than it would have been if we had asked respondents to only take account of their purchases of dedicated AAC solutions excluding the Indi.
[166] Tobii response to provisional findings, paragraph 21.
[167] Tobii response to provisional findings, paragraphs 5.f and 10.
[168] *Merger Assessment Guidelines,* paragraph 5.3.2, see also paragraph 6.7.

Parties,[169] and in our view the evidence summarised in this section shows conclusively that this is the case. In addition, we note that while diversion from Smartbox to Liberator is higher than from Smartbox to Tobii ([✄]% versus [✄]%, paragraph 6.46), Smartbox's internal documents mention Tobii more frequently than Liberator (paragraph 6.33). Moreover, based on diversion ratios and evidence from internal documents, Smartbox can be regarded as Tobii's closest competitor. Tobii has submitted that since our view is that no SLC arises in relation to the Indi and Eye Mobile, these devices should be excluded from market share calculations of the relevant market being that which is affected by the Merger. On that basis, Tobii submitted that it may have [✄].

6.73 We consider that Tobii's argument misrepresents our views. While we recognise that dedicated AAC solutions are differentiated products, we have not identified any substantial discontinuities in the conditions of competition within this market that would warrant the delineation of distinct product segments. As discussed in paragraph 6.61(k), we have found that the Indi is subject to stronger competitive constraints, particularly on price, from non-dedicated AAC solutions than the rest of the dedicated AAC solutions market, and for this reason our presentation of market shares includes a sensitivity excluding the Indi. However, we have also seen some evidence that some of Smartbox's products compete with the Indi (paragraph 6.34(f)). In addition, we note that some of the Parties' competitive decisions ([✄]) are taken at the level of their product range rather than for individual products. For these reasons, we do not consider it appropriate to define distinct product segments within the market for dedicated AAC solutions. With respect to the Eye Mobile range, we have seen no evidence indicating that it belongs to a distinct segment subject to different conditions of competition.

6.74 Tobii's representation of market shares is also flawed in that it excludes some of its products (the Indi and the Eye Mobile), but does not make any equivalent adjustments for competitors. This artificially reduces Tobii's market share. This bias is exacerbated by Tobii's use of sales volumes rather than value (since Tobii's calculation excludes cheaper products for itself, but retains such products for competitors). In general, when products are differentiated the CMA estimates market shares based on sales values.[170]

6.75 Tobii has also submitted that the Monitoring Trustee's Third Report indicates [✄]. Tobii submitted that this evidence should call into question [✄], as well as whether the Merger could properly be seen to give rise to an SLC.

[169] *Merger Assessment Guidelines*, paragraph 5.4.6.
[170] *Merger assessment guidelines*, paragraph 5.3.3.

6.76 We disagree with Tobii's argument and consider that Tobii is conflating the current situation (since completion of the Merger on 1 October 2018) with the counterfactual situation. [✂]. As with any merger, the performance of the target business is liable to be influenced by issues which would not have existed in the absence of the Merger (eg uncertainty and confusion regarding the future of the business pending the outcome of the CMA investigation). These issues are likely to be particularly acute in completed mergers where both the acquirer and target businesses are under common ownership.[171] In particular, we consider that there have been a number of developments [✂] since around the time of the completion of the the Merger which show that the current post-Merger situation cannot be considered to be equivalent to the counterfactual situation.[172] Tobii separately told us that the uncertainty surrounding the Merger situation was [✂].[173]

6.77 Notwithstanding our view that Smartbox's 2019 financial performance is of limited relevance to our assessment of the counterfactual and to our competitive assessment, we note that Smartbox's sales of its dedicated AAC solutions for January to June 2019 in the UK were [✂] than sales for January to June 2018 in value terms. This level of variation is unlikely to result in a material change in market shares in 2019 compared to 2018, and we do not consider this to be indicative of a sustained decline in Smartbox's competitiveness.

6.78 In addition, as discussed in paragraph 6.3, in markets with differentiated products, market shares (including those based on revenues) must be considered alongside other evidence on closeness of competition. The evidence we have gathered from customers and competitors on closeness of competition (including diversion ratios and comments on the relative competitiveness of different suppliers) is more recent and does not indicate a significant recent change in Smartbox's relative competitiveness.

6.79 Tobii has submitted that the Monitoring Trustee's Third Report indicates that [✂].

6.80 We consider that this argument misrepresents the content of the document: the Monitoring Trustee's Third Report indicates that, for the financial year

[171] As recognised by the Tribunal in *SRCL Limited v Competition Commission [*2012] CAT 14, 'in any completed merger there are concerns about the diminishing viability of the acquired entity in the hands of the acquirer, even if the business is being handled by a Hold Separate Trustee in the interim' (paragraph 52).
[172] For example, Smartbox told us that given the current uncertainty, customers were concerned that the relaunch of its previously discontinued Grid Pad 8 and 10 was only 'temporary', and that this had had an adverse impact on their respective sales. See paragraph D35 of Appendix D. We also note that an individual who supports people with Rett syndrome and their families, carers and professionals told us that 'At the moment families are scared to make decisions about what to purchase. They don't know what's happening with the merger… they are instead not purchasing anything'.
[173] See paragraph 6.70.

2019, Smartbox expects [✂]. Moreover, we have not identified a specific segment for ‘high-end devices’ and we consider that there is a competitive overlap between the Parties over their whole range of products, including wrapped tablets (such as Tobii’s Eye Mobile products) and more portable devices (such as Tobii’s I-110 and the Indi).

Conclusions on the horizontal unilateral effects of the Merger

6.81 For the reasons given above, we conclude that the Merger has resulted and may be expected to result in an SLC in the supply of dedicated AAC solutions in the UK.

7. Competitive Assessment - Vertical Effects

7.1 The Parties are involved in different levels of the supply chain: upstream in the supply of AAC software and eye gaze cameras in AAC applications, and downstream in the supply of dedicated AAC solutions.[174] We considered the interrelationship between these different markets, and the extent to which the merged entity may be able to reduce competition by withholding or deteriorating access to an important input or route to market to its rivals.[175] We considered whether such vertical concerns arise from the merged entity’s position in AAC software (specifically Smartbox’s Grid software) and in eye gaze cameras (supplied by Tobii).

7.2 We assessed whether the Merger has resulted, or may be expected to result, in an SLC due to the following vertical effects:

(a) Input foreclosure[176] by the merged entity of Smartbox's Grid software to the Parties’ rivals in the downstream supply of dedicated AAC solutions in the UK.

(b) Customer foreclosure by the merged entity of Tobii’s eye gaze camera competitors upstream on a worldwide basis.

(c) Input foreclosure by the merged entity of Tobii's eye gaze cameras to the Parties’ rivals in the downstream supply of dedicated AAC solutions in the UK.

---

[174] The Parties are also active in dedicated AAC hardware, but they do not supply it as an individual component to competitors.
[175] We use the terms ‘rivals’ and ‘competitors’ interchangeably
[176] In relation to these vertical theories of harm ‘foreclosure’ means weakening the ability of rivals to compete post-merger.

7.3 We set out our assessment of these vertical effects below, starting with our assessment framework.

Assessment framework

7.4 Vertical theories of harm involve the merged entity harming the ability of its rivals to compete post-merger, for example through:

(a) **Input foreclosure**: raising effective prices or worsening non-price aspects, such as quality, of an input to its rivals (partial input foreclosure), or refusing to supply them completely (total input foreclosure); and

(b) **Customer foreclosure**: using the merged entity's position downstream in the value chain to affect the routes to market available to its competitors upstream, leading customers to divert to its own products as a result.

7.5 Such actions may harm the ability of the merged entity's rivals to provide a competitive constraint on the merged entity. The CMA only views foreclosure as anticompetitive where its effect is to reduce competition sufficiently to give rise to an SLC in the affected market, not where it merely disadvantages one or more competitors.

7.6 The CMA's approach to assessing these vertical theories of harm involves three steps.[177]

(a) Assessing the **ability** of the merged entity to foreclose competitors: for input foreclosure, we considered the extent to which rivals can use alternative inputs to the merged entity's products. For customer foreclosure, we considered to what extent competitors have alternative routes to market that are not dependent on the merged entity.

(b) Assessing the merged entity's **incentive** to foreclose competitors: an input foreclosure strategy implies a loss of profits in the input market upstream (from the lost sales of the input to competitors) but a gain of profits in the market downstream (from customers' switching to the merged entity's products). We considered these gains and losses in determining whether input foreclosure would be profitable, taking into account the relative size of the margins upstream and downstream and other factors. We undertook a similar assessment for customer foreclosure. We also considered how the Merger changes the incentives to foreclose rivals.

[177] See *Merger Assessment Guidelines,* paragraph 5.6.6.

(c) Assessing the overall **effect** of the foreclosure strategy on competition in the affected market. Examples of effects in this case would be: the extent to which an input foreclosure strategy of Smartbox's Grid software and/or Tobii's eye gaze cameras may reduce the ability of competitors to compete post-Merger and increase further the merged entity's already strong position in the supply of dedicated AAC solutions in the UK; and the extent to which a customer foreclosure strategy towards Tobii's eye gaze camera rivals may reduce the ability of these rivals to compete post-Merger and increase further Tobii's already strong position in the supply of eye gaze cameras worldwide (and possibly consequently the merged entity's position in dedicated AAC solutions in the UK).

7.7 Below we apply the CMA's framework on ability, incentives and effect to each of the vertical theories of harm.

Input foreclosure of Smartbox's Grid software

7.8 In this section we consider whether the merged entity would be likely to harm or weaken competitors in the downstream supply of dedicated AAC solutions in the UK by making their access to Smartbox's Grid software more expensive or of inferior quality (input foreclosure of the Grid software). We consider whether such vertical effects are likely in terms of the ability and incentives of the merged entity to foreclose its downstream rivals from the Grid in this way, and whether the effects of this strategy are likely to lead to a substantial lessening of competition in the supply of dedicated AAC solutions in the UK.

Ability (input foreclosure of Smartbox's Grid software)

7.9 We have focused on the ability to foreclose the Parties' most significant competitors in the downstream supply of dedicated AAC solutions in the UK, Liberator and Techcess (as identified in our assessment of horizontal unilateral effects in Chapter 6).

7.10 In this section we consider:

(a) the feasibility of a number of mechanisms to foreclose downstream rivals from the Grid; and

(b) the extent to which downstream rivals can avoid being foreclosed by using alternative software to the Grid.

Grid foreclosure mechanisms

7.11 We considered the ability of the merged entity to foreclose rival suppliers of dedicated AAC solutions in the UK from the Grid in the following ways:

(a) Selling the Grid on worse terms to these competitors (partial input foreclosure);

(b) Reducing the extent to which the Grid supports rival dedicated AAC hardware (partial input foreclosure) such that the Grid runs less smoothly on rivals' devices and/or does not support all features of their hardware (eg their eye gaze cameras);

(c) Producing different versions of the Grid software for dedicated AAC solutions:

(i) a complete version of the Grid that is only available on the merged entity's dedicated AAC solutions; and

(ii) one with fewer functionalities that is available on a standalone basis and is the only version available to competitors (partial input foreclosure).[178]

(d) Restricting the sale of the Grid software by ceasing to license the Grid to these competitors (total input foreclosure); and

(e) Making the Grid software incompatible with hardware from its competitors (total input foreclosure).

7.12 Our view is that there is more limited scope for the last three of these foreclosure mechanisms (listed above at paragraph 7.11(c) to (e)) to arise on the basis that:

(a) Producing another version of the Grid would increase software development costs and add complexity to the software development process.[179]

(b) If the merged entity ceased to license the Grid to its downstream rivals, these competitors could still buy and resell a retail version of the Grid

[178] Smartbox already supplies Grid for iPad, which has fewer features than the Grid 3 windows software that Liberator and Techcess use as part of their dedicated AAC solutions. We considered the feasibility of developing another version of the Grid, specifically another version of Grid 3 for the windows operating system, as a mechanism for partially foreclosing Liberator and Techcess from the complete version of Grid 3 that they currently use.
[179] Smartbox told us that it had previously maintained multiple versions of the Grid (specifically its Grid 2 software) but that [✂] and it was a lot of work to maintain a separate version' [✂].

(albeit at a higher price).[180] This type of total foreclosure would therefore not be feasible in practice.

(c) It would be difficult to make the Grid completely incompatible with rival dedicated AAC hardware given that the Grid runs on Windows 10 (and other versions of Windows), an operating system used by both the merged entity and its rivals in their respective dedicated AAC solutions. As such, PRC/Liberator and Jabbla/Techcess did not express particular concerns over this total foreclosure mechanism.[181] However, we note that this evidence does not relate to, and therefore does not undermine, the feasibility of the partial foreclosure mechanism described in paragraph 7.11(b), as set out in our assessment below.

7.13 Our assessment has therefore considered the following two partial input foreclosure mechanisms: (i) selling the Grid on worse terms, namely price, to downstream rivals; and/or (ii) reducing the extent to which the Grid supports rival dedicated AAC hardware, thereby affecting the quality of competitors' access to the Grid.[182]

7.14 While we consider both strategies to be plausible, we are particularly concerned by the deterioration of the quality of competitors' access to the Grid, either on its own or in combination with a price increase, given the likely effects of this strategy on product range and quality in the market for dedicated AAC solutions (see paragraph 7.71).

Selling the Grid on worse terms to downstream competitors

7.15 We considered the extent to which the merged entity could increase the wholesale price of the Grid, taking into account its pricing of the retail version of the Grid (which downstream competitors could buy).

(a) The merged entity could readily raise the wholesale price it charges downstream competitors for the Grid up to its retail price level. Based on the existing retail price,[183] we estimated that, in that event, Liberator and

---

[180] Under an EU directive, a copyright holder of software cannot use its copyright to oppose the resale of this software, including for software downloads. See UsedSoft GmbH v Oracle International Corp, Court of Justice of the European Union, Judgment in Case C-128/11, 3 July 2012.
[181] For example, [✂]. Similarly, Techcess explained that the Grid operates in a Windows 10 environment so every tablet that runs Windows 10 can run the Grid.
[182] We note that Tobii has stated that it has made a public commitment to continue to license the Grid to third parties (See Tobii response to Issues Statement, paragraph 57). This public commitment does not prevent the merged entity from foreclosing downstream rivals from the Grid. It is not an irreversible commitment and does not prevent the merged entity from raising prices of the Grid to its rivals or reducing the extent to which the Grid supports rival hardware.
[183] We assume a retail price of £480, based on the price advertised on Smartbox's website, as accessed in June 2019.

Techcess could face an increase in the wholesale price they pay of approximately £[✂].[184] If this is passed on to customers, it would equate to an increase of around [0-5%] in the prices of the dedicated AAC solutions sold by Liberator and Techcess with the Grid (which vary from around £4,000 to £7,500).

(b) The merged entity could also increase its retail price of standalone copies of the Grid in order to increase the wholesale price it charges downstream competitors for the Grid (wholesale prices cannot exceed retail prices as otherwise competitors could opt to pay the lower retail price). In such a scenario, price rises faced by competitors could account for more than the [0-5%] of the price of their dedicated AAC solutions as estimated above.

7.16 Tobii submitted that [✂]. Tobii also stated that an increase in the retail price of the Grid would contradict its public commitments to customers and shareholders, as well as its published strategy.[185]

7.17 While our assessment of a wholesale price increase of the Grid has considered the merged entity's incentives to increase wholesale prices up to the current retail price level, we consider that an increase in both the retail and wholesale price levels cannot be ruled out. Indeed, while we agree with Tobii that an increase in the retail price of the Grid would lead to a loss of retail sales of standalone software, we note that the wholesale price increase would be likely to increase the number of customers switching to the merged entity's own dedicated AAC solutions, where the margins are higher than in AAC software (see paragraph 7.48 below). We also consider that the merged entity could minimise any losses of its retail sales of the Grid from an increase in the Grid's retail prices by offering discounts off its standard retail price to key retail customers.

Reducing the extent to which the Grid supports rival dedicated AAC hardware

7.18 We consider that the merged entity could deteriorate the quality of competitors' access to Smartbox's Grid software by reducing the extent to which the Grid supports rival dedicated AAC hardware, for example how smoothly the Grid runs on the device and what hardware features it supports. This would in turn result in a deterioration of the quality of competitors' dedicated AAC solutions incorporating the Grid.

---

[184] CMA calculation of the current discount offered to Liberator and Techcess, based on Smartbox's transaction data.
[185] Tobii response to provisional findings, paragraph 62.

7.19 Tobii submitted that reducing the extent to which the Grid supports rival hardware is not a credible foreclosure strategy, and that no evidence has been presented as to how this would be achieved and how it would restrict competitors' ability to compete.[186] We disagree with Tobii and consider that the available evidence suggests that this would be a credible foreclosure strategy:

(a) Smartbox told us that, once a manufacturer wants to move beyond a generic Windows solution and start adding the features that turn the device into a dedicated AAC solution, there is a need for proprietary interfaces and related technology, with the burden of development lying on both the hardware and the software manufacturer. For example, Smartbox undertook specific development work to enable the Grid to support [✂], as well as to support [✂].

(b) A Smartbox software strategy document on the Grid from November 2017 includes 'support[ing] all features of competitor hardware' as one of the points listed under the heading 'expected quality'. This strategy document also refers to integration of the Grid with new eye gaze cameras. The merged entity could withdraw this support or charge downstream competitors for it.

(c) Similarly, Tobii told us that Smartbox has done a [✂].[187] However, we consider that Tobii's statement indicates that there is scope for reducing the level of integration between the Grid and competitors' dedicated AAC hardware.

The extent to which downstream rivals can avoid being foreclosed by using alternative software to the Grid

7.20 Tobii submitted that the Grid software is not an essential or 'must-have' input and referred to other alternatives, including software developed in-house by rival suppliers of dedicated AAC solutions and other software that competitors could license or develop.[188] Tobii further submitted that, until the Merger, it did not install the Grid on its devices ([✂]), and nevertheless we consider that Tobii was an effective competitor in the UK market for dedicated AAC solutions.[189]

[186] Tobii response to provisional findings, paragraph 64.
[187] Tobii response to provisional findings, paragraph 65.
[188] Tobii response to the phase 1 decision, paragraphs 93-96
[189] Tobii response to the provisional findings, paragraph 61.

7.21 We note that for vertical effects to arise from a merger an input does not need to be 'must have' or essential. Indeed, the relevant question to assess the ability to foreclose is whether these competitors could turn to good substitutes of the input and thus avoid an input price increase (or quality deterioration) by the merged entity.[190]

7.22 Below we consider how important the Grid is to rival suppliers of dedicated AAC solutions in the UK and the extent to which these rivals could use alternative software.

The importance of the Grid as a driver of competitors' sales of dedicated AAC solutions

7.23 Table 7-1 below shows the dedicated AAC hardware and AAC software combinations (including the Grid) offered by the merged entity (Tobii and Smartbox) and their competitors in the UK. Suppliers of dedicated AAC solutions offer their own in-house AAC software as part of their dedicated AAC solutions. In Liberator's case, this is software from its parent company, PRC. For Techcess, this is Mind Express software from its parent company, Jabbla. Smartbox is the only supplier of dedicated AAC solutions that supplies its software to rivals to be used as part of their own dedicated AAC solutions.

Table 7-1: UK software offering in dedicated AAC solutions

		Dedicated AAC providers that offer the software on their hardware			
Software	*Software Developer*	*Smartbox*	*Tobii*	*Liberator (part of PRC)*	*Techcess (part of Jabbla)*
Grid 3	Smartbox	Yes	Yes*	Yes	Yes
Communicator 5	Tobii	-	Yes	-	-
Unity	PRC	-	-	Yes	-
Essence	PRC	-	-	Yes	-
LAMP	PRC	-	-	Yes	-
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Mind Express 4	Jabbla	-	-	-	Yes

Sources: Information from Techcess and Liberator, Techcess online price list, Liberator UK website, Smartbox UK website, Tobii Dynavox UK Website.
- indicates that the software is not offered by a dedicated AAC provider on its own hardware. The software may still be compatible with the hardware if both are Windows based. * Tobii has explained that the Grid is offered on a range of its devices. It was offered at no extra cost on the I-110, I-series and EyeMobile Plus devices from 24 August 2018. From 6

[190] This is the approach taken in previous CMA merger inquiries, for example in the CMA's phase 2 merger inquiry on Tesco/Booker (2017). In the vertical effects assessment of that case, the CMA considered the extent to which retailers could switch away wholesale purchases from Booker to alternative wholesalers rather than having a narrower focus on whether Booker's wholesale offering was a 'must have'. The CMA's approach is also reflected in the *Merger Assessment Guidelines*, paragraph 5.6.10(b).

November 2018, Tobii started automatically adding the Grid to these devices. This stopped on 1 of April 2019, when Tobii began offering the Grid as a separate SKU which had to be separately requested and which incurred an extra cost.

7.24 Liberator's supply of dedicated AAC hardware with the Grid installed accounts for [20-30%] of Liberator's sales of dedicated AAC solutions in the UK. This share is even higher for Techcess, whose sales of dedicated AAC hardware with Grid software account for [30-40%] of its sales of dedicated AAC solutions in the UK.

7.25 The fact that Liberator and Techcess offer the Grid even when they have their own in-house software (see Table 7-1) – and that the shares of Liberator's and Techcess' sales of dedicated AAC solutions incorporating the Grid are significant – suggests that the Grid is differentiated from their own software and is an important driver of their sales of dedicated AAC solutions.

7.26 In this regard, Liberator and Techcess estimated that they would lose around [10-30%] of their sales of dedicated AAC solutions in the UK if the Grid was no longer offered as a software option on their dedicated AAC solutions:

(a) Liberator estimated that it would [✂] of its sales of devices that it had made with the Grid installed, therefore losing [20-30%] of its total sales of dedicated AAC solutions.

(b) Techcess estimated that it would lose around [40-60%] of its sales of devices that it had made with the Grid installed,[191] therefore losing [10-30%] of its total sales of dedicated AAC solutions.[192]

7.27 Tobii submitted that this evidence relates to what might happen in the event of total foreclosure, and that there is no evidence as to what might happen in the event of partial foreclosure.[193] However, while Liberator's and Techcess' estimated losses are based on a scenario where they did not offer the Grid as part of their dedicated AAC solutions, we considered that these estimates are also relevant for the partial foreclosure scenarios insofar they suggest that Liberator and Techcess would have limited ability to defeat a price increase (or quality deterioration) by switching away from the Grid as this would significantly weaken their competitive position downstream.

[191] This implies that it could use other software to retain the sales of the remaining [✂]% of its devices that did have the Grid installed.
[192] Specifically, Techcess stated that it would lose [✂]% of its sales of devices, which is equivalent to around [✂]% of its sales of devices with the Grid installed.
[193] Tobii response to provisional findings, paragraph 71.

7.28 The importance of the Grid as a component of dedicated AAC solutions is further corroborated by other evidence, which is also relevant in a partial foreclosure scenario:

(a) The Grid is the most popular software included as part of dedicated AAC solutions in the UK. In 2018 [50-60%] of dedicated AAC solutions sold in the UK included the Grid software. In contrast, the equivalent figures for PRC's software and Jabbla's software were only [10-20%] and [0-5%] respectively.[194]

(b) Customers consider the availability of the Grid as important to their decisions to purchase a dedicated AAC solution (see paragraph 7.51 below).

(c) The Grid has a number of strengths over alternative software provided by PRC and Jabbla, including being more intuitive[195] and having unique features, in particular the flexibility built into the system and the wide range of content developed for it.[196] Smartbox's benchmarking of its Grid software against software offered by Tobii (Communicator 5), Jabbla (Mind Express 4) and PRC (NuVoice) shows that the Grid has many features that this rival AAC software does not replicate. For example, this benchmarking shows that the Grid is unique among this software in offering symbolised email, communication via certain social media platforms (WhatsApp, Twitter and Instagram), remote editing, an integrated online app store, and cloud storage.

(d) As set out in paragraph 6.42, evidence from internal documents suggests that, prior to the Merger, Tobii was conscious of the competitive gap between the Grid and its own software, and that [✂].

(e) For existing users of the Grid, user inertia over changing software makes it difficult for suppliers of dedicated AAC solutions to replace the Grid with other software. Liberator noted this, explaining that existing users would need to invest time and effort to learn new software. User inertia over changing software is confirmed by a Smartbox hardware strategy document from October 2017, which notes that [✂] and that 'people don't like changing operating system'. Smartbox has further clarified that it has an open file format but that it is hard to transition a user to different

[194] The equivalent figures for Tobii's software are: Communicator 5 [10-20%], Snap + Core First [10-20%] and Compass [5-10%]. Tobii sometimes installs more than one type of software on one of its devices' therefore there is some overlap between these figures, which is why the sum of the figures for each piece of AAC software (including software from Smartbox, PRC and Jabbla) is over 100%.
[195] Liberator has noted that PRC's software is not generally considered as intuitive as the Grid. This is also consistent with evidence submitted by customers in the assessment of incentives.
[196] As noted by Smartbox [✂].

software, particularly when there has been a lot of customisation or when comparable features are not available in other software.

7.29 Tobii submitted that the Monitoring Trustee's third report did not anywhere note as material the sale of the Grid to PRC or any market players other than Tobii, and that this is relevant in assessing the importance of the Grid for providers of dedicated AAC solutions. We disagree with Tobii, and it is important to note the context of the Monitoring Trustee's investigation. The Monitoring Trustee's report provides a breakdown of the recent trade activities between the Parties, including Smartbox's sales of the Grid to Tobii. This was relevant as part of the Monitoring Trustee's investigation, at a time when the CMA was considering a potential unwinding of the Reseller Agreement and/or the Distribution Agreement. It was not within the scope of the Monitoring Trustee's investigation to comment on the materiality of any sales to other dedicated AAC solution providers. Further, we consider that the relative size of PRC or Jabbla as purchasers of Smartbox's Grid software is not a relevant indicator of the importance of the Grid as an input for such providers, and we have set out the evidence relevant to our assessment in the paragraphs above.

7.30 Finally, we note that Liberator told us that its parent company (PRC)'s launching of a new version of its Empower software in the UK [✂] might mitigate, to some extent, the impact on its sales of not being able to offer the Grid. However, Liberator also estimated that to develop software that competed more closely with the Grid would cost millions of pounds and take many years. As explained in paragraph 7.36, we do not consider that PRC's improvements to its software are likely to be sufficient to avoid input foreclosure by the merged entity.

Availability of alternative software from third parties

7.31 We consider that there is no AAC software from third party software providers that Liberator and Techcess could use as a credible alternative to the Grid. While the Grid has a range of unique strengths relative to the software provided by other suppliers of dedicated AAC solutions (as set out in paragraph 7.28), there is also an important distinction between the software offered by suppliers of dedicated AAC solutions and other AAC software offered by third parties. This differentiation is reflected in Smartbox's benchmarking of its Grid software using three software segments ('fully featured' AAC apps, 'symbol AAC only' and 'text AAC only') with only software offered by Tobii, Jabbla and PRC listed as 'fully featured' software. Other software by AssistiveWare and Therapy Box is listed as either 'symbol AAC only' or 'text AAC only'.

7.32 The Grid is an AAC software platform that performs a number of functions including text communication, symbol communication, access means control, computer control, environment control, and accessible apps. Third party AAC software does not offer all these features. For example, software from AssistiveWare, Avaz, CoughDrop and Therapy Box focus on symbol and/or text communication using touch control but provide no support for eye gaze cameras or head pointers.

7.33 The difference between the AAC software by these third parties and the Grid is reflected in Smartbox's submissions on Avaz and CoughDrop, with Smartbox referring to:

(a) Avaz offering a 'single solution' (ie only one language system that can be used within the app) and 'not an editing platform that lets you create whatever you want'; and

(b) significant functional difference between what you can do with CoughDrop and what you can do with the Grid.

7.34 In addition, most third party AAC software does not run on Windows, the operating system used on Liberator and Techcess's dedicated AAC solutions. This is the case for software provided by AssistiveWare, Avaz, and Therapy Box. The only exception of which we are aware is CoughDrop.[197]

7.35 The lack of credible alternatives to the Grid offered by third party AAC software providers is also consistent with Liberator and Techcess not referring to this software as an alternative to the Grid even when prompted by us.[198]

7.36 Lastly, we consider that there are significant barriers to developing AAC software that would be a credible alternative to the Grid, which means it is unlikely that any such alternative will be available in the near future. We have set out our assessment on this in the section on barriers to entry and expansion in Chapter 8 (Countervailing factors). Due to these barriers to entry and expansion, in particular the costs and time involved in developing software to rival the Grid, we also consider that improvements that PRC and Jabbla are making to their own software are unlikely to be sufficient for their software to be a credible alternative to the Grid in the near future.[199]

[197] See Cough Drop Inc. website.
[198] The CMA asked suppliers of dedicated AAC solutions, 'Is there any other AAC software currently available in the market that you are not currently using but that could provide an alternative to Smartbox's Grid?'
[199] In particular see paragraphs 8.20, 8.55 to 8.58, 8.60 to 8.62, 8.67, 8.68 and 8.75 to 8.77.

The extent to which customers could ‘side-step’ a foreclosure strategy by buying the retail version of the Grid

7.37 Tobii submitted that customers can simply download the Grid themselves, from the Internet, thereby ‘side-stepping’ completely any ‘hypothetical’ foreclosure strategy.[200] We note that, while it is not clear to us that many customers would turn to this self-assembling option (see, for instance, paragraph 5.74), by downloading the Grid from Smartbox’s website, customers would have to pay the higher retail price of the Grid, which would still imply an increase in the overall price of competitors’ dedicated AAC solutions with the Grid. Further, we note that this would not resolve our concerns with regard to a foreclosure strategy based on a reduction of the extent to which the Grid supports competitors’ dedicated AAC hardware, which would in turn lead to a deterioration of the quality of competitors’ dedicated AAC solutions with the Grid.

Conclusion on ability

7.38 We conclude that the merged entity is likely to have the ability to foreclose its downstream competitors in the supply of dedicated AAC solutions in the UK from the Grid.

7.39 Based on our assessment above, we find that the merged entity has a strong position in the upstream supply of AAC software due to its control of the Grid and that constraints from alternative software are weak. In particular:

(a) we consider that the merged entity could significantly increase the price it charges downstream competitors for the Grid and/or could reduce the extent to which the Grid supports rival dedicated AAC hardware, thus deteriorating the quality of rival dedicated AAC solutions sold with the Grid; and

(b) we find that downstream rivals would not be able to avoid such foreclosure mechanisms by switching away from the Grid without significantly weakening their competitive position in the supply of dedicated AAC solutions.

Incentives (input foreclosure of Smartbox’s Grid software)

7.40 In this section, we assess whether foreclosing downstream competitors from the Grid (through an increase in the price of the Grid to these competitors and/or a reduction in the extent to which the Grid supports rivals’ hardware)

---

[200] Tobii response to provisional findings, paragraph 68.

would be profitable and, therefore, whether the merged entity would have an incentive to engage in such a strategy. As part of this assessment, we consider the extent to which the Merger increases the incentives to foreclose downstream competitors relative to the situation absent the Merger.

Framework for assessing whether foreclosure would be profitable

7.41 To understand what determines whether foreclosure would be profitable, we first consider the simplest foreclosure scenario, total foreclosure, where the merged entity would stop supplying the Grid software to its competitors (Liberator or Techcess) or would make the Grid incompatible with their products. In this scenario, some of the customers who previously bought dedicated AAC solutions with the Grid from these competitors may switch to the merged entity's dedicated AAC solutions. By pursuing this strategy, the merged entity would lose the wholesale margins it had made on sales of the Grid software to competitors (this is the financial cost of the strategy), but it would gain the retail margins made on any additional sales of its dedicated AAC solutions to customers downstream (this is the financial benefit of the strategy).

7.42 In a partial foreclosure scenario where the merged entity increases the wholesale price of the Grid to its competitors up to the retail price, competitors may pass on this price increase to their customers of dedicated AAC solutions. This could lead some of these customers to switch to the merged entity's dedicated AAC solutions. As with total foreclosure, the merged entity would lose the wholesale margins from any lost sales of the Grid to competitors and gain the retail margins from any new sales of its own dedicated AAC solutions to customers downstream. The difference from total foreclosure is that, with partial foreclosure, the merged entity still sells the Grid to competitors and it earns higher wholesale margins on these sales, an additional benefit of such strategy.

7.43 Similar effects could arise if, rather than increasing the price of the Grid to competitors, the foreclosure strategy involved a reduction in the extent to which the Grid supports the competitors' dedicated AAC hardware, which would in turn deteriorate the quality of their dedicated AAC solutions sold with the Grid. Such a quality deterioration could similarly lead some customers to switch to the merged entity's dedicated AAC solutions. We note that this strategy could also benefit the merged entity by lowering software development/support costs.

7.44 To assess whether a foreclosure strategy would be profitable, we need to assess whether the financial benefits are likely to be higher than the financial costs, which in turn depends on:

(a) the lost sales of the Grid upstream, made via rival dedicated AAC solutions;

(b) the proportion of these lost sales that are recaptured by the merged entity's sales of its own dedicated AAC solutions downstream (which we refer to as a diversion); and

(c) the margins the merged entity earns on the Grid upstream and the margins it earns on dedicated AAC solutions downstream.

7.45 We do not have quantitative estimates of diversion in these foreclosure scenarios, but we can use the Parties' margins to calculate the minimum diversion ratio that would make a total foreclosure strategy profitable (the 'critical diversion threshold'). It is then possible to undertake a qualitative assessment of whether the diversion is likely to exceed this critical diversion threshold.

7.46 We only calculated critical diversion thresholds for total foreclosure. It is not straightforward to estimate a critical diversion threshold for other scenarios. For example, in a partial foreclosure scenario based on charging higher prices to competitors, the critical diversion threshold depends on the scale of this price increase (on which we would have to make an assumption) and the volume of sales of the Grid to competitors that the merged entity retains at a higher price (of which we do not have an estimate).

7.47 The critical diversion threshold in a partial foreclosure scenario will, however, be lower than in a total foreclosure scenario: the merged entity needs to recapture fewer sales for a partial foreclosure strategy to be profitable because of the additional benefits involved (see paragraphs 7.42 and 7.43). The critical diversion threshold under total foreclosure is therefore still informative for assessing the incentives to engage in partial foreclosure. If we find that diversion is likely to exceed this threshold under total foreclosure, then diversion is also likely to exceed the lower threshold under partial foreclosure.

Assessment of whether diversion is likely to exceed the critical diversion threshold

7.48 The average wholesale variable margin made by Smartbox on its sales of the Grid software to competitors and resellers of dedicated AAC solutions in 2018 was £[✂].[201] The average variable margin made by Smartbox and

[201] CMA analysis of margin data provided by Smartbox. This CMA analysis adjusted the variable margins submitted by Smartbox by adding the cost of materials to variable costs.

Tobii on sales of dedicated AAC solutions in 2018 was £[✂][202] (where the margins made by Smartbox and Tobii were weighted by their sales in the UK market). The critical diversion threshold in a total foreclosure scenario is therefore [10-20%].[203] That is, the merged entity would need to recapture at least [10-20%] of the lost upstream sales volumes of the Grid software made via competitor devices through customers switching to its dedicated AAC devices.

7.49 We consider that diversion to the merged entity's dedicated AAC solutions is likely to be higher than the [10-20%] critical diversion threshold. It is our view that customers of dedicated AAC solutions that combine the Grid with rival AAC hardware are more likely to switch to dedicated AAC solutions that have the Grid (ie the merged entity's solutions) than they are to switch to other options (ie dedicated AAC solutions offered by Liberator and Techcess that use these rivals' in-house AAC software). This is due to the Grid being a key driver of sales of dedicated AAC solutions in the UK, which we explain further below.

7.50 First, the role of the Grid in driving sales of dedicated AAC solutions is reflected in its high share of supply of AAC software installed on dedicated AAC solutions in the UK compared to other AAC software (see paragraph 7.28(a) above).

7.51 Second, it is important to customers to have the Grid as part of a dedicated AAC solution, including for customers of Liberator and Techcess:

(a) Most customers (11 out of 18)[204] that bought a Liberator or Techcess dedicated AAC solution with the Grid found the availability of the Grid of 'high' or 'significant' importance. Only two (out of 18) customers[205] did not

---

[202] CMA analysis of margin data provided by Smartbox and Tobii. The CMA analysis adjusted these margins by adding the bill of materials as a variable cost for Tobii and 'materials, production labour/overheads and under/over recoveries to inventory' as variable costs for Smartbox.
[203] This is the average wholesale variable margin made by Smartbox on its sales of the Grid software to competitors and resellers of dedicated AAC solutions in 2018 divided by the average variable margin made by Smartbox and Tobii on sales of dedicated AAC solutions in 2018. Because the margins on Grid software are this fraction ([✂]) of the margins on dedicated AAC solutions, the merged entity only needs to recapture this fraction of lost Grid sales volumes through customers switching to its dedicated AAC devices for foreclosure to be profitable.
[204] Barnsley Hospital NHS Foundation Trust Assistive Technology Team, GOSH, Lincolnshire EATS, Birmingham Community Healthcare, Royal Hospital for Neuro Disability, RCAS, Assistive Communication Service, Sequal Trust, The Communication Advice Centre, Belfast, NHS Ayrshire & Arran, Leeds Community Healthcare NHS Trust.
[205] ACE Centre North and ACE Centre South

find the availability of the Grid on Liberator or Techcess devices very important.[206] [207]

(b) When asked to consider what they would do in a scenario where the Grid software could not be incorporated in Liberator and Techcess solutions, most customers responded that this would generally depend on how important specific features of the Grid or of the Liberator/Techcess device are for each end-user, and on a user-specific assessment of the alternatives in each case. Two NHS Hubs subsequently indicated that, while it depended on the needs of each user, there were generally fewer users for which hardware features were more important than software features. Only four respondents specifically mentioned that in some/most circumstances they would likely still have purchased a Liberator and/or Techcess device even if the Grid had not been available on these devices.

7.52 Third, the Grid has a number of strengths over alternative software provided by PRC and Jabbla (as noted at paragraph 7.28(c) above). In particular, customers have told us that the Grid is more intuitive compared to software from Liberator and Techcess. Customer responses in general indicate that this is a key point of distinction (notwithstanding the positive aspects of Liberator and Techcess's software). For instance, Cambridge CASEE noted that Smartbox's software from a usability perspective is extremely good. In contrast, it noted that a key weakness of Liberator's Unity software is the time that it takes to learn to use this language system, with this resulting in fewer new AAC users of Liberator's Minspeak language systems. Similarly, it noted that Jabbla's Mind Express software has a user interface that is quite complex and people supporting the AAC user often require considerable levels of support initially until they get accustomed to using it themselves.

7.53 Fourth, for existing users of the Grid, changing to alternative software is unlikely due to significant customer inertia (see paragraph 7.28(d) and 7.28(e)).

[206] The remaining 5 customers noted that the importance of the Grid varied depending on the needs of the user (Cambridge CASEE, Bristol Communication Aid Centre, Surrey County Council, Treloar School and College, MK CAT (Adults)).

[207] We do not have diversion estimates on what customers would do if they could no longer combine the Grid with dedicated AAC hardware from Liberator and Techcess (or if these combinations were more expensive or more prone to technical issues) since what customers do depends on how important the specific features of the Grid or the Liberator/Techcess device are for each end-user. Nevertheless, we consider that the importance that customers place on the Grid strongly indicates that the diversion ratio to the merged entity's dedicated AAC solutions (which offer the Grid) would be significant. That is, out of the customers that stopped buying dedicated AAC solutions which combined Liberator/Techcess hardware with the Grid, a significant proportion of their sales are likely to divert to the merged entity's solutions (which offer the Grid), rather than divert to Liberator/Techcess's dedicated AAC solutions that use other software.

Wider considerations

7.54 Tobii has referred to adverse reputational effects if it were to foreclose its rivals in the supply of dedicated AAC solutions from the Grid.[208] For the reasons set out below, we consider that any adverse reputational effects would not be enough to dis-incentivise the merged entity from foreclosing downstream rivals from the Grid.

7.55 We consider that any reputational effects are unlikely to affect our conclusions on the likely diversion to the merged entity's dedicated AAC solutions in the event of total input foreclosure, as set out in paragraph 7.49. In particular, given the importance customers place on the Grid (see, for instance, paragraphs 7.50 to 7.53), it appears unlikely that any reputational concerns would drive customers to switch away from the merged entity's dedicated AAC solutions with the Grid to rival solutions without the Grid.

7.56 We noted that when asked about the potential reasons why Liberator and Techcess decided to use the Grid as part of their dedicated AAC solutions despite the potential dependence risks involved, Smartbox responded that trust may have been an important factor. Smartbox indicated that Liberator and Techcess may have believed that the risks of future foreclosure were low because in such a small industry it would not be well perceived if Smartbox blocked access to the Grid once customers were used to it. However, we consider that, prior to the Merger, there were other factors that were precluding Smartbox from engaging in an input foreclosure strategy, which were not related to reputational risks. We consider that the merged entity is likely to have significantly higher incentives to foreclose than did Smartbox pre-Merger (see paragraphs 7.59 and below), thereby outweighing any reputational risks to it.

7.57 Further, we consider that any adverse reputational effects would be minimal in a partial foreclosure strategy, as the Grid would continue to be available to downstream competitors (albeit on worse terms). In fact, a partial foreclosure strategy where the merged entity reduced the extent to which the Grid supports competitors' dedicated AAC hardware, thus worsening the quality of rival dedicated AAC solutions, may not be transparent to customers or end-users. In these circumstances, a partial foreclosure strategy may be more likely to adversely affect the reputation of the merged entity's rivals, rather than the merged entity itself.

[208] Tobii has noted that it would be 'complete business suicide' reputationally if it restricted or limited access to the Grid.

7.58 As a further wider consideration, we also find that the prospect of entry and expansion in AAC software is unlikely to disincentivise the merged entity from engaging in Grid input foreclosure. This is due to significant barriers to developing AAC software that would be a credible alternative to the Grid, which means that it is unlikely that any such alternative would be available in the near future (see paragraph 7.36).

Effect of the Merger on foreclosure incentives

7.59 Smartbox supplies its downstream rivals in dedicated AAC solutions with the Grid software so may already have an ability and some incentive to foreclose downstream rivals from the Grid, for example by setting a higher price for this input. To assess the effect of the Merger on the supply of the Grid software to downstream rivals, we have therefore considered the extent to which the Merger increases the incentive to foreclose rivals from the Grid software.

7.60 We consider that the foreclosure incentives of the merged entity would be significantly higher than those of Smartbox absent the Merger.

7.61 First, the merged entity has a stronger position downstream in the supply of dedicated AAC solutions in the UK than Smartbox would have absent the Merger, so there is greater scope for the merged entity to benefit from weakening its rivals in this market. That is, the merged entity would take more sales from these rivals than would Smartbox alone when foreclosing rivals from the Grid. This is to some extent illustrated by the merged entity's combined share of dedicated AAC solutions in the UK of [60-70%] compared to Smartbox's share of [40-50%] by value in 2018 (see Table 6-1).

7.62 Second, adding the Grid to Tobii hardware, in addition to Smartbox's hardware, would put the merged entity in a stronger position to take more sales from foreclosed downstream competitors. This is due to the importance of the Grid in driving sales of dedicated AAC solutions. The increased use of the Grid on Tobii's dedicated AAC solutions therefore mean that these solutions are more likely to take sales from foreclosed downstream competitors than Tobii's current UK market share of [10-20%] by value in 2018 in dedicated AAC solutions would suggest (as in 2018 Tobii generally did not include the Grid software in its dedicated AAC solutions).

7.63 Third, the Merger affects the strategic rationale for Smartbox to support competitor hardware. Pre-Merger, [✂].[209] [✂].

---

[209] [✂].

7.64 Tobii submitted that the Merger would [✄].

7.65 For the reasons set out above, our view is that the Merger would significantly increase the merged entity's incentives to foreclose its rivals relative to Smartbox's incentives pre-Merger. Even assuming (as Tobii does) that the change in incentives to foreclose is driven by the competitors' lost sales of dedicated AAC solutions that the merged entity would recapture through higher sales of Tobii's I-Series/I-100 devices (and not of the Indi),[210] we note that sales of I-Series/I-100 devices represent [✄]% of Tobii's sales in value, there is no evidence that [✄] (see paragraph 5.58 and following), and the increment downstream brought about by the Merger (ie Tobii's share of dedicated AAC solutions excluding the Indi) would still be significant at [10-20%] by value (see footnote to paragraph 6.11).

Further representations from Tobii on our assessment of incentives

7.66 Tobii submitted that, in the 'hypothetical' partial foreclosure scenario where the merged entity reduced the Grid's support of rivals' dedicated AAC hardware [✄].

7.67 We consider that any such additional costs would be limited and would not materially affect our assessment:

(a) Based on the evidence set out in paragraph 7.19, the implementation costs of such a strategy would be negligible if the strategy was given effect by the merged entity simply stopping collaboration with rivals' development of new hardware features. Similarly, Smartbox specifically told us that the costs of disabling full integration with rival eye gaze cameras would be minimal (see paragraph 7.91).

(b) With regards to potential losses of sales of the Grid, we noted that this foreclosure strategy could only affect: (i) wholesale sales of the Grid to Liberator and Techcess (which we assess as part of our framework above), or (ii) any retail sales of the Grid to customers who would then download it to a Liberator or a Techcess device themselves. While we do not have a precise estimate of the size of such retail sales, we consider that these are likely to be small, given that customers generally have a preference for a single point of purchase for dedicated AAC hardware and

[210] While we acknowledge that there are differences between the positioning of the Indi and that of other dedicated AAC solutions in the market, we note that the Indi also competes with certain other dedicated AAC solutions (see paragraph 6.35(f)). As such, it is not clear to us that the incremental gains of a foreclosure strategy relative to the pre-Merger situation would be exclusively through higher sales of Tobii's I-Series/I-100 devices.

software.[211] Therefore, we consider that the potential loss of those sales is unlikely to outweigh all the other benefits of this strategy set out above.

7.68 Tobii further submitted that we have ignored evidence that customers are not concerned about a price increase. We disagree with Tobii. Our analysis of incentives in paragraphs 7.41 to 7.53 explains in detail why the merged entity would have an incentive to increase prices, notwithstanding that these incentives may not be apparent to some customers at present (see paragraphs 6.22 and 6.23). We also note that, even if customers' sensitivity to price appears relatively low (see paragraph 7.74), customers appear more sensitive to variations in non-price aspects of the product (such as quality), and we find partial input foreclosure with respect to quality to be a credible strategy (see paragraph 7.18 and below).

Conclusion on incentives

7.69 Based on our assessment above, we conclude that the merged entity would be likely to have incentives to foreclose rival suppliers of dedicated AAC solutions from the Grid (and such incentives are significantly greater than Smartbox's pre-Merger incentives).

Effects (input foreclosure of Smartbox's Grid software)

7.70 We consider that the competitive constraints exerted on the merged entity by Liberator and Techcess in the downstream supply of dedicated AAC solutions in the UK would be substantially weakened as a result of the foreclosure strategies described above. These strategies involve a reduction in the extent to which the Grid supports their dedicated AAC hardware and/or a higher wholesale price for the Grid. This is of particular concern given that these competitors would be the most important remaining constraints on the merged entity post-Merger in the downstream market (see our assessment of horizontal unilateral effects in Chapter 6).

7.71 A reduction in the extent to which the Grid supports competitors' dedicated AAC hardware would significantly deteriorate the quality of competitors' dedicated AAC solutions including the Grid, thereby weakening their offering in the market for dedicated AAC solutions and reducing the range of options

[211] Out of 17 applicable responses: (i) 14 customers specifically noted a preference for a single point of purchase for dedicated AAC hardware and software, or mentioned they rarely purchase them separately: GOSH, Birmingham Community Healthcare, Suffolk Communication Aids Resource Centre, Communication Advice Centre Belfast, Beaumont College, Severndale Specialist School, Nottinghamshire Healthcare NHS Foundation; (ii) 3 respondents stated that they 'often' or 'very often' purchase dedicated AAC hardware and software separately: Barnsley Hospital NHS Foundation Trust Assistive Technology Team, CALL Scotland, Leeds Community Healthcare NHS Trust.

that can effectively meet end-user needs. In particular, customers and end-users would be worse off from having a reduced range of hardware that is fully supported by the Grid. We place significant weight on this given the vulnerability of the user group, specifically the difficulty end-users face in communicating and the importance of having a wide range of effective dedicated AAC solutions to meet the range of AAC needs.

7.72 An increase in the wholesale price of the Grid charged to Liberator and Techcess would harm customers through higher prices of the dedicated AAC solutions they sell. The extent of these price rises depends on the degree to which these competitors would pass on the higher prices they pay the merged entity for the Grid.

7.73 There may be some scope for the merged entity's downstream competitors to absorb part of the price increases of the Grid. Specifically, Liberator has stated that it offers the Grid software at no additional cost if the Grid is the selected software at device purchase. It has not changed this approach in response to a recent increase in the price it pays for the Grid (from £[✄] to £[✄]).

7.74 However, we consider that it is likely that suppliers of dedicated AAC solutions would pass on cost increases, particularly if they are more significant than the recent cost increases of the Grid faced by Liberator. This is due to evidence that customers in this market are not particularly sensitive to price as their priority is meeting end-user needs:

(a) When asked about their decision process for the purchases of dedicated AAC solutions, only three customers mentioned cost as one of the factors under consideration[212] (out of 20 customer responses[213]).

(b) Even where cost is a factor, there is evidence that customers place higher priority on meeting end-user needs. For instance, the Scottish Centre of Technology for the Communication Impaired told us that it observes and discusses with the user and their support team the needs and requirements of the user and system, and then matches these to the most cost-effective solution that meets all of those needs and requirements.

---

[212] Assistive Communication Service, CALL Scotland, and the Scottish Centre of Technology for the Communication Impaired.
[213] Two further respondents provide funding, but do not typically undertake the assessment as to which dedicated AAC solution is most appropriate for each user (Sequal Trust, and South Lanarkshire Council).

Conclusion on input foreclosure of Smartbox's Grid software

7.75 On the basis of the above assessment, we conclude that there is likely to be an SLC in the supply of dedicated AAC solutions in the UK as a result of the merged entity having the ability and incentive to foreclose its rivals in this market by: (1) reducing the extent to which the Grid supports rival dedicated AAC hardware, thereby deteriorating the quality of rivals' access to the Grid and/or (2) increasing the wholesale price of the Grid charged to rivals.

Customer foreclosure of eye gaze camera competitors

7.76 In this section, we consider whether, by bringing together Tobii's activities in eye gaze cameras upstream and the Parties' activities in the supply of dedicated AAC solutions downstream, the Merger is likely to result in the merged entity having the ability and incentive to foreclose its rival suppliers of eye gaze cameras in AAC applications. In particular, we consider whether the merged entity is likely to have the ability and incentive to reduce competitors' ability to compete in the worldwide market for eye gaze cameras in AAC applications by degrading the Grid's interoperability with their cameras, thus affecting an important route to market for those cameras. We describe the details of our assessment below.

7.77 As set out in paragraph 5.98, we defined the relevant market for our assessment of this customer foreclosure theory of harm as the market for eye gaze cameras in AAC applications worldwide. Suppliers of dedicated AAC solutions source eye gaze cameras from Tobii and four other firms: Alea, EyeTech, Irisbond, and LC Technologies.

7.78 To compete effectively in the supply of eye gaze cameras in AAC applications, these suppliers' cameras need to be supported by AAC software and, therefore, eye gaze camera suppliers invest in collaborations with suppliers of AAC software to develop their cameras for use in AAC applications.

7.79 In particular, Smartbox told us that collaboration with eye gaze camera suppliers works in both directions:

(a) When an existing access feature of the Grid is not available with a specific eye gaze camera, Smartbox may work with that manufacturer to help it incorporate that feature to its camera and integrate it with the Grid;

(b) When an eye gaze manufacturer adds an innovative feature to its cameras which the Grid does not yet support, Smartbox may need to edit its platform to enable integration of the Grid with that new feature.

7.80 This is consistent with evidence received from eye gaze camera manufacturers:

(a) Irisbond told us that in 2017 it started a partnership with Smartbox that led to the successful integration of its Irisbond Duo camera and the Grid software, as well as with Smartbox's new dedicated AAC hardware product GridPad 12. Irisbond explained that it had invested a significant amount of resources in this partnership, and that its future development plans in AAC applications depended on having access to a partnership with an AAC software supplier.

(b) [✂][214]

(c) LC Technologies told us that the investment required to find and integrate an alternative software with its own camera and dedicated AAC hardware would deter a significant amount of its other development plans.

7.81 Furthermore, as noted in our assessment of effects (see paragraph 7.135), the current challenges that eye gaze camera suppliers are addressing to improve the way they meet the needs of AAC users are different from the challenges faced in other eye-tracking applications.

7.82 Therefore, we focused our assessment on the merged entity's ability and incentive to weaken eye gaze camera competitors' product development in AAC applications by limiting their available routes to market, as well as the effect that this foreclosure would have on the markets for eye gaze cameras in AAC applications and for dedicated AAC solutions more widely.[215]

Ability (customer foreclosure of eye gaze competitors)

7.83 In this section, we set out our analysis of the ability of the merged entity to foreclose its rival suppliers of eye gaze cameras in AAC applications by limiting their routes to market. In particular, we set out our assessment of:

(a) the customer foreclosure mechanisms available to the merged entity, in particular the technical ability of the merged entity to limit the compatibility of the Grid with rival eye gaze cameras;

[214] [✂].

[215] Tobii submitted that AAC in general (and Smartbox in particular) represents a very small proportion of total worldwide demand for eye gaze cameras (see Tobii's response to phase 1 decision, paragraph 101-102). However, this does not address our concern that the merged entity would be able to foreclose its competitors in the supply of eye gaze cameras in AAC applications by making the Grid incompatible with their cameras.

(b) the dependence of rival eye gaze camera suppliers on the Grid as a route to market; and

(c) whether, as submitted by Tobii (see paragraph 7.110), the option of these rivals expanding into non-AAC applications would prevent the merged entity from weakening them as competitors in AAC applications.

Customer foreclosure mechanisms

7.84 The Merger brings together Tobii's activities in eye gaze cameras upstream and the Parties' activities in the supply of dedicated AAC solutions downstream:

(a) Tobii Tech is a supplier of eye gaze cameras for a range of applications. Tobii Tech supplies eye gaze cameras in AAC applications to providers of dedicated AAC solutions, including, but not limited to, its sister company Tobii Dynavox. Tobii Dynavox uses only Tobii Tech's eye gaze cameras as part of its dedicated AAC solutions.

(b) Smartbox is a provider of dedicated AAC solutions. It also sells its own AAC software (in particular, the Grid) to rival providers of dedicated AAC solutions worldwide, who use it as part of their solutions. Smartbox does not manufacture its own eye gaze cameras, but it sources them from a range of suppliers.

7.85 We considered two potential foreclosure mechanisms by which the merged entity could reduce the sales of its rival suppliers of eye gaze cameras in AAC applications:

(a) Strategy 1: Through Smartbox's position as a provider of dedicated AAC solutions:

(i) Cease sourcing eye gaze cameras from Tobii's rivals; or

(ii) Promote Tobii's eye gaze cameras over rival cameras.

(b) Strategy 2: Through Smartbox's position in AAC software, make the Grid incompatible with non-Tobii eye gaze cameras (or develop the Grid to favour integration with Tobii's eye gaze products), prompting suppliers of dedicated AAC solutions that use the Grid software to stop buying non-Tobii cameras.

7.86 Our view is that it is unlikely that the merged entity would be able to foreclose its eye gaze camera competitors using 'strategy 1'. To substantially weaken rival suppliers of eye gaze cameras in AAC applications, which supply these cameras on a global basis, the merged entity would need to be able to affect a significant proportion of their global sales in this market. However, the proportion of non-Tobii eye gaze cameras in AAC applications which were sold specifically to Smartbox in 2018 is relatively low (a weighted average of [✄]%).[216]

7.87 In contrast, the proportion of non-Tobii eye gaze cameras in AAC applications which were sold as part of a dedicated AAC solution based on the Grid is significantly higher (a weighted average of [✄]%).[217] Suppliers of dedicated AAC solutions which include the Grid in some or all of their dedicated AAC solutions include not only Smartbox, but also Jabbla and PRC, as well as other suppliers which are not active in the UK (such as Forbes and LC Technologies).

7.88 Therefore, we considered ‘strategy 2’ to assess whether the merged entity could make non-Tobii cameras incompatible with the Grid.

Ability to limit the compatibility of the Grid with rival eye gaze cameras in AAC applications

7.89 We considered a number of ways in which the merged entity could potentially limit the compatibility of the Grid with rival eye gaze cameras:

(a) stopping or reducing its technical support for issues arising with the Grid software when used in conjunction with rival eye gaze cameras;

(b) modifying the current version of the Grid to make its access features incompatible with the current generations of rival eye gaze cameras;

(c) stopping Smartbox’s collaboration with rival eye gaze cameras in the joint development of future generations of cameras such that the Grid’s access features will not be compatible with these new cameras.

7.90 Tobii acknowledged that making the Grid incompatible with rival eye gaze cameras would be technically feasible. Tobii later submitted that any eye gaze camera compatible with software that emulates a mouse cursor can control this software. However, we noted that there are more advanced ways in which an eye gaze camera can control the Grid and make full use of its functionalities. Limiting the compatibility of rival eye gaze cameras with the

---

[216] CMA calculation of the weighted average across Tobii’s eye gaze rivals of their share of eye gaze camera units sold for AAC applications specifically to Smartbox (weighted by each supplier’s number of eye gaze camera units sold for AAC solutions). Based on responses from: Alea, Irisbond, EyeTech and LC Technologies.
[217] CMA calculation of the weighted average across Tobii’s eye gaze rivals of their share of eye gaze camera units sold for AAC solutions which included the Grid (weighted by each supplier’s number of eye gaze camera units sold for AAC solutions). Based on responses from: Alea, Irisbond, EyeTech and LC Technologies.

Grid so that the user can only access the Grid through a means that emulates mouse cursor control would result in a significant reduction in the user's ability to benefit from the Grid's features with those cameras:

(a) Smartbox told us that there are two ways in which eye gaze can be used to control the Grid: (i) full integration, whereby the eye gaze data is interpreted directly by the Grid and used to control the Grid, and (ii) mouse cursor control, whereby the user interacts with the Grid using a mouse cursor controlled with the eyes (through an external processing of the gaze data). Smartbox explained that one of the key differences between both systems is that, under full integration, the user does not see a mouse cursor, and instead he or she only has to focus on a cell's area to select that cell. By contrast, a mouse cursor is more difficult for the user to accurately and uninterruptedly control with the eyes, making the use of the Grid more challenging and less effective.

(b) This is confirmed by a Tobii internal document which [✂].

Table 7-2: [✂]

[✂]

Source: [✂]

7.91 Tobii further submitted that we have not considered whether limiting the compatibility of the Grid with rival eye gaze cameras is technically feasible, nor the time and cost that would be involved in doing so.[218] We explored this point with Smartbox, who told us that disabling full integration with the Grid for any specific non-Tobii camera would be a quick, not technically challenging task.

7.92 We consider that a lack of compatibility of rival eye gaze cameras with most access features of the Grid would significantly weaken the ability of those cameras to meet end-users' needs when used in combination with the Grid. We consider that, in such a situation, these cameras would not be a credible alternative to Tobii's cameras for providers of dedicated AAC solutions using the Grid.

Dependence of rival suppliers of eye gaze cameras on the Grid as a route to market

7.93 By limiting the compatibility of the Grid with rival eye gaze cameras, the merged entity could reduce the ability of these competitors to supply their cameras to dedicated AAC solution providers that use the Grid software worldwide, which accounts for the vast majority of non-Tobii eye gaze

[218] Tobii response to provisional findings, paragraph 74

camera suppliers' global sales (as set out in paragraph 7.95 below). Providers of dedicated AAC solutions that currently use the Grid software in all or some of their solutions include Smartbox, PRC and Jabbla, but also additional suppliers who are not active in the UK market but who use the Grid software as part of their solutions outside the UK, such as Forbes and LC Technologies.

7.94 We contacted Tobii's main competitors in the supply of eye gaze cameras in AAC applications: EyeTech, Alea, Irisbond and LC Technologies. All four suppliers had concerns about the loss in sales that they would face if the merged entity were to make the Grid incompatible with their eye gaze cameras.

7.95 A substantial share of each rival's worldwide sales of eye gaze cameras in AAC applications in 2018 was for dedicated AAC solutions that included the Grid:

(a) EyeTech estimated that it would lose [✂]% of its sales of eye gaze cameras in AAC applications as a result of the Grid being incompatible with its cameras.

(b) Alea estimated that [✂]% of its sales of eye gaze cameras in AAC applications in 2018 were for hardware integrated with the Grid.

(c) LC Technologies told us that, in the last two years, all of its eye gaze camera sales for AAC applications were sold as part of its own dedicated AAC solution called Eyegaze Edge. LC Technologies estimated that [✂]% of its Eyegaze Edge product sales in 2018 incorporated the Grid.

(d) Irisbond estimated that [✂]% of its sales of eye gaze cameras in AAC applications in 2018 were for hardware integrated with the Grid. Irisbond noted that it has been selling a significant share of its eye gaze cameras directly to AAC end-users and associations in emerging markets such as Spain and Latin America, along with a very basic AAC software (Akzede/EyeLearn) as an entry level product.[219] However, since its agreement with Smartbox, it has been actively promoting the Grid in these markets as well. In 2018, around [✂]% of its sales in these countries were linked to the Grid, and it expected this share to grow to more than [✂]% in 2019.

219 [✂].

7.96 Furthermore, all four rival eye gaze suppliers estimated that a large share of their total revenues in recent years corresponded to AAC applications, indicating high dependence on this field as a source of revenues:

(a) EyeTech estimated that [✄]% of its total sales of eye gaze cameras in 2018 were for AAC applications.

(b) Alea estimated that [✄]% of its total sales of eye gaze cameras were for AAC applications.

(c) LC Technologies estimated that [✄]% of its total revenues related to AAC applications.

(d) Irisbond estimated that [✄]% of its total sales of eye gaze cameras were for AAC applications.

7.97 The above evidence provides an initial indication that the merged entity's eye gaze camera competitors in AAC applications are highly dependent on the Grid being compatible with their cameras. We analyse the extent to which these competitors could use alternative routes to market in the section below.

Alternative routes to the market for eye gaze cameras in AAC applications that do not depend on the Grid

7.98 We noted that Alea, LC Technologies and Irisbond mentioned ways they could respond to customer foreclosure, such as finding alternatives to the Grid:

(a) [✄]

(b) [✄]

(c) [✄]

7.99 Tobii submitted that the evidence from these suppliers of eye gaze cameras showed that they would not be foreclosed, as there were satisfactory alternatives to the Grid.[220] As described in the paragraphs below, we analysed the extent to which there are credible alternative routes to the market for eye gaze cameras in AAC applications that do not depend on the Grid, including the alternatives mentioned by eye gaze suppliers.

[220] Tobii response to provisional findings, paragraph 75.

7.100 We noted that the main routes to market for suppliers of eye gaze cameras in AAC applications are either through dedicated AAC solution providers that have their own software (PRC, Smartbox, Jabbla) or through other providers that use Smartbox's Grid Software as part of their dedicated AAC solutions (eg Forbes in the US).[221] Tobii uses only its own eye gaze cameras.

7.101 [✂]. Liberator (PRC's UK subsidiary) explained that PRC's software is only compatible with cameras specifically developed for PRC, namely Tobii's Look camera and, previously, SMI's NuEye camera (which is now obsolete). Liberator added that it is able to offer other eye gaze cameras with PRC's AAC hardware by using the Grid software instead of PRC's software.

7.102 [✂]

7.103 Therefore, we considered that PRC is not currently an alternative route to market for suppliers of eye gaze cameras, [✂].

7.104 This leaves Jabbla as the main customer of eye gaze camera suppliers in AAC applications that has alternative software to the Grid. Jabbla estimated that [✂]% of its dedicated AAC solutions sold worldwide in 2018 had the Grid installed, [✂]. Jabbla sold [✂] eye gaze cameras in 2018 worldwide, which represents [✂]% of the total sales of eye gaze cameras for AAC applications worldwide.[222]

7.105 As an additional potential route to market, we considered the potential for expansion of Jabbla's sales of Mind Express as a standalone software, for instance if global providers of dedicated AAC solutions (such as Forbes or LC Technologies) started using Mind Express as part of their solutions as an alternative to the Grid. However, we considered that any such expansion is unlikely to be material for the following reasons:

(a) As set out in paragraphs 7.28 and 7.52, the Grid has a number of strengths over Mind Express. In particular, customers told us that Mind Express is not very intuitive or easy to learn, with users often requiring considerable levels of support initially to get used to it.

[221] Tobii submitted that there are other suppliers of AAC devices which are not dependent on the Grid, either because they have their own software or because they run third party communications software. However, Tobii did not specify who these providers are, and whether the alternative AAC software is compatible with non-Tobii cameras.

[222] CMA analysis of Tobii's transaction data and responses from Alea, Irisbond, EyeTech and LCTech.

(b) While Jabbla told us that Mind Express and the Grid are comparable software products, it does not follow that Mind Express is a credible alternative to the Grid. To the contrary, [✂].

(c) The strengths of the Grid over Mind Express are reflected in the Grid's higher worldwide sales. In 2018, Smartbox sold [✂] licences of the standard version of the Grid 3 worldwide (of which [✂] were sold as standalone software, excluding the Grid 3 for iPad).[223] Smartbox confirmed that a large majority of its global sales of the Grid as a standalone software was made to rival providers of dedicated AAC solutions. In contrast, [✂].This suggests that, while Jabbla offers a standalone version of its AAC software, such sales are small.

(d) Forbes, a US provider of dedicated AAC solutions which sold [✂] units of its own dedicated AAC hardware in 2018, told us that the Grid stands alone in its ability to offer a high level of functionality on a Windows platform, and that there are no other comparable options.

(e) LC Technologies, an eye gaze manufacturer which supplies its cameras as part of its own dedicated AAC solutions, told us that it was considering alternative software to the Grid. However, LC Technologies explained that Mind Express does not have all the features of the Grid and it is currently not customised by LC Technologies to suit its customers' needs.

7.106 We also considered whether other developments of AAC software could be used by worldwide providers of dedicated AAC solutions as an alternative to the Grid in the foreseeable future.

7.107 In this context, we noted that [✂], and that LC Technologies told us that its reseller Interactive Minds is developing its own AAC software with the intention of becoming an alternative to the Grid.

7.108 However, we considered that these developments are unlikely to be timely, likely and sufficient to reduce the dependence of non-Tobii eye gaze cameras on the Grid (see paragraphs 8.67, 8.68 and 8.75 to 8.77). This is because there are significant barriers to developing AAC software that would be a credible alternative to the Grid in the foreseeable future (see, for instance, paragraphs 8.20, 8.21, 8.55 to 8.58 and 8.60 to 8.62).

[223] CMA analysis of Smartbox's transaction data.

7.109 Further, switching to an alternative software would entail significant costs for providers of dedicated AAC solutions, which could reduce further their willingness to switch. For instance:

(a) Smartbox told us that many providers of dedicated AAC solutions worldwide have created their own bespoke language content based on the Grid, so switching to different software would be significantly more disruptive than switching to an alternative camera.

(b) Forbes told us that its WinSlate dedicated AAC device is built around using the Grid as its software engine, and that without affordable access to the Grid, they would not be able to provide this product anymore.

(c) LC Technologies told us that the investment required to find and integrate an alternative software product with its own camera and dedicated AAC hardware will 'siphon off' a significant amount of LC Technologies' resources from other development plans, delaying its market introduction of new products.

Eye gaze camera rivals' potential for expansion into non-AAC applications

7.110 Tobii submitted that eye gaze cameras are used for multiple applications outside of AAC, that the technology required for non-AAC applications is the same as for AAC applications, and that future growth in total global demand for eye gaze cameras is forecasted to be driven mainly by non-AAC applications.[224]

7.111 As set out in the sections above, one of the possible foreclosure mechanisms is for the merged entity to weaken the product development plans of its rival suppliers of eye gaze cameras in AAC applications by limiting the compatibility of the Grid with their new generations of cameras. The potential for expansion into non-AAC applications for these rival eye gaze camera suppliers would not prevent the merged entity from reducing their product development specific to addressing AAC users' needs.

7.112 We also noted that, in any event, the scale of any such expansion is uncertain and unlikely to become material at least in the next two years. This is on the basis of the following evidence:

(a) [✄]

[224] Tobii's response to phase 1 decision, paragraph 101.

(b) Irisbond told us that 10% of its revenue in the last two years came from pilot applications in neuromarketing, and that it has been working on expanding into this and other applications, where it believes there is high growth potential. However, Irisbond noted that a key challenge is the lack of commercial expertise in working with partners outside the AAC field. Irisbond estimated that, although its next generation of cameras may work in other applications, the main driver of sales in 2020 will still be AAC. Irisbond added that this next generation of cameras may include different versions of cameras for each eye-tracking application.

(c) [✂]

(d) LC Technologies told us that less than 2% of its total revenues related to non-AAC applications. LC Technologies sells eye-tracking analysis systems, primarily used in academic research, to monitor people's eye gaze activity while performing specific tasks, such as reading, driving vehicles or operating computers. However, LC Technologies did not refer to these applications when asked about new product development plans for the next 2 years. Furthermore, LC Technologies noted that the unanticipated expenditure required to find and integrate an alternative to the Grid would significantly reduce its available R&D resources for the development of new products.

Conclusion on ability

7.113 We conclude that the merged entity is likely to have the ability to foreclose its rival suppliers of eye gaze cameras for AAC applications by limiting the compatibility of the Grid with their cameras. Based on the evidence above, we find that:

(a) Eye gaze camera suppliers depend on compatibility with AAC software, particularly the Grid, to be able to compete in the supply of eye gaze cameras in AAC applications;

(b) Dedicated AAC solutions based on the Grid software are an important route to market for rival suppliers of eye gaze cameras in AAC applications; and

(c) The alternative routes to market which do not depend on the Grid are currently limited, and providers of dedicated AAC solutions currently using the Grid are unlikely to switch to alternative AAC software in order to be able to use non-Tobii eye gaze cameras.

Incentives (customer foreclosure of eye gaze competitors)

7.114 We assessed whether the merged entity would be likely to gain from weaker competition in the upstream supply of eye gaze cameras in AAC applications given Tobii's position in this market. The merged entity may have an incentive to use Smartbox's Grid software to weaken its eye gaze camera competitors, an incentive that Smartbox would not have absent the Merger as it does not produce eye gaze cameras. We therefore considered whether the potential gains from using the Grid to foreclose the merged entity's rival suppliers of eye gaze cameras were sufficiently high to give the merged entity the incentive to engage in this customer foreclosure strategy.

7.115 As set out in the sections below, we analysed the financial incentives for the merged entity to engage in the customer foreclosure strategy, as well as other strategic and reputational considerations.

Assessment of whether foreclosure would be profitable

7.116 We applied the same analytical framework as in our assessment of the previous vertical theory of harm. This involved calculating a 'critical diversion threshold' using the Parties' margins and assessing whether this threshold is likely to be exceeded such that there may be a financial incentive to foreclose upstream suppliers of eye gaze cameras in AAC applications from their available routes to market (see paragraphs 7.41 to 7.45 above for a full explanation of this framework).

7.117 In the event that the merged entity limited the compatibility of the Grid with rival eye gaze cameras, worldwide providers of dedicated AAC solutions who previously used the Grid in combination with a non-Tobii camera as part of their solution would then have two choices:

- Option 1: Continue using the non-Tobii camera and switch to an alternative software to the Grid, for example Jabbla's Mind Express software. In this case, the merged entity would lose the wholesale variable margin made on its sale of the Grid (£[✄] on average per device in 2018).[225]

- Option 2: Continue using the Grid and switch to a Tobii camera. In this case, the merged entity would retain the margin made on the Grid and

[225] See paragraph 7.48 for further details.

also earn the margin on the Tobii camera (£[✂] per unit on average for the camera in 2018),[226] that is a total margin of £[✂].

7.118 Therefore, in a scenario where providers of dedicated AAC solutions worldwide could no longer use non-Tobii cameras in combination with the Grid, the critical diversion threshold is [20-30%] ([✂]).[227] That is, it would be profitable for the merged entity to foreclose if worldwide providers of dedicated AAC solutions that had sold the Grid in combination with a non-Tobii camera would choose to continue using the Grid and switch to a Tobii camera (option 2) in at least [20-30%] of cases, rather than continuing to use the non-Tobii camera and switching to an alternative software to the Grid (option 1).

7.119 The extent to which dedicated AAC solution providers worldwide would be forced to use a Tobii camera if the Grid's compatibility with rival cameras was significantly reduced depends on whether they can find a credible alternative to the Grid. As set out in paragraphs 7.105 to 7.109, the evidence indicated that there is no such credible alternative and that there are significant costs involved in switching software. In particular, we noted:

(a) The strengths and the popularity of the Grid over the only current alternative (Jabbla's Mind Express);

(b) The significant barriers to developing new software that would be a credible alternative to the Grid;

(c) The significant costs for dedicated AAC solution providers to switch software.

7.120 Given this evidence that switching to an alternative software to the Grid is unlikely to be a credible option (option 1 above), we considered that it is likely that there would be significant switching by these dedicated AAC solution providers to Tobii cameras (option 2 above), enough for the diversion rate to exceed the [20-30%] critical diversion threshold. This would make it profitable for the merged entity to foreclose its eye gaze camera competitors.

Strategic considerations

7.121 We considered wider strategic considerations which might affect the incentive for the merged entity to engage in the customer foreclosure strategy. In

---

[226] For this we used unit gross margin data from Tobii. This included 'bill of materials' as a cost so we consider it a better estimate of Tobii's estimate of variable margins, which excluded this cost category.
[227] This is the average wholesale variable margin made by Smartbox on its sales of the Grid to competitors and resellers in 2018 divided by the total margin made in 2018 on a Tobii camera and the Grid.

particular, we considered the potential strategic incentive for the merged entity to use the foreclosure strategy to strengthen its position in the market for eye gaze cameras in AAC applications, as well as in the downstream market for dedicated AAC solutions.

7.122 A review of Tobii's internal documents indicated that the foreclosure strategy [✂]:

> [✂]

7.123 By contrast, [✂].

7.124 Further, we noted that a situation where the Grid's compatibility with non-Tobii cameras was significantly reduced would also weaken rival suppliers of dedicated AAC solutions worldwide, due to the reduction in the range of cameras that they would be able to provide in combination with the Grid, or their need to use an inferior software as part of their solutions (particularly in the case of LC Technologies, whose dedicated AAC solutions are based on its own cameras). This would create an additional strategic incentive for the merged entity to engage in the customer foreclosure strategy.

Reputational considerations

7.125 Tobii submitted that the merged entity would not have the incentive to limit the compatibility of the Grid with rival eye gaze cameras due to the high reputational costs that such a strategy would imply for the merged entity.[228]

7.126 However, we noted that many access features of Tobii's AAC software products [✂] are only compatible with Tobii's own eye gaze cameras ([✂]).

7.127 Similarly, [✂], even though such an arrangement could, in principle, have reputational costs for Tobii (in limiting the range of options available to customers), similar to those Tobii submitted it would seek to avoid.

7.128 Further, any potential reputational effects of a customer foreclosure strategy would be minimal if the merged entity limited the compatibility of the Grid only with new generations of cameras, since this would not affect existing customers.

7.129 Accordingly, we do not agree that reputational considerations would disincentivise Tobii overall from engaging in a customer foreclosure strategy.

---

[228] In relation to this point, Tobii added that it sells its software on the App and Windows stores, in line with its objective to increase sale volumes of standalone software.

Conclusion on incentives

7.130 We conclude that the merged entity is likely to have incentives to limit the compatibility of the Grid with rival eye gaze cameras in AAC applications, given the low likelihood of dedicated AAC solution providers switching to alternative AAC software in order to be able to use non-Tobii cameras. We also find that Tobii would be likely to have wider strategic incentives to engage in this strategy, [✄].

Effects (customer foreclosure of eye gaze competitors)

7.131 We considered whether the effect of the merged entity foreclosing eye gaze camera suppliers in AAC applications would be to increase further Tobii's already strong global position in the supply of eye gaze cameras in AAC applications worldwide, weakening competition in this market. In particular, we considered whether this weaker competition is likely to give rise to:

(a) reduced innovation in eye gaze cameras used in AAC applications, particularly for features that are relevant specifically for AAC;

(b) higher prices for these cameras;

(c) adverse effects in the downstream supply of dedicated AAC solutions which use eye gaze cameras as an input, in particular a reduction in the range of cameras available to meet end-user AAC needs as well as a worsening of the price and quality of dedicated AAC solutions incorporating eye gaze cameras.

7.132 We discuss each of these potential effects below.

Reduced innovation in AAC applications

7.133 We note that a reduction in the available routes to market for rival eye gaze cameras in AAC applications is likely to reduce the extent to which eye gaze camera competitors invest in improving their cameras for AAC applications. For instance:

(a) As part of its general concerns about the Merger, Irisbond noted that, as the main AAC software provider, Smartbox is currently a catalyser for eye gaze camera manufacturers in enabling product improvement, fair competition and innovation. Irisbond added that the Merger would imply the loss of a key partner for innovation and for the development of a wider variety of innovative and affordable AAC solutions.

(b) As set out in paragraphs 7.78 to 7.80, partnerships with AAC software providers and, in particular, with Smartbox, are key in enabling innovation in the supply of eye gaze cameras in AAC applications.

(c) The evidence set out in paragraphs 7.78 to 7.80 also indicates that the significant investment required to become compatible with alternative AAC software would weaken the ability for eye gaze camera suppliers to invest in other innovation projects in AAC applications. [✄].

7.134 Tobii submitted that research and innovation in eye-gaze cameras is currently driven by the demands of the 'mass market' consumer electronics and automotive sectors as opposed to the AAC sector, [✄]. Tobii added that it estimates that approximately [✄] companies are presently engaged in eye-tracking technology R&D, including Apple, Microsoft, Google, Samsung and Facebook.[229]

7.135 However, the available evidence suggests that some of the current challenges in eye-tracking technology are specifically relevant for AAC users, and that rival suppliers of eye gaze cameras in AAC applications are actively engaging with providers of dedicated AAC solutions to find ways to address these challenges. For instance:

(a) Smartbox told us that a key challenge in AAC is for eye-tracking to work well regardless of the position of the head with respect to the screen. Smartbox noted that this was less relevant for non-AAC applications such as virtual reality, where the headset is fixed in front of the users' eyes. Some AAC users currently have to go through a calibration process every time their position changes, which is [✄].[230] [✄].

(b) Smartbox added that it communicates extensively with suppliers of eye gaze cameras in AAC applications on these opportunities for improvement and that, [✄], they are generally responsive. In particular, Smartbox considered that the most responsive eye gaze supplier is [✄]. Smartbox noted that [✄].

(c) PRC similarly told us that AAC users are typically more likely to have challenging eye conditions and head movement patterns in comparison with the rest of the population. PRC added that a key challenge going forward is for eye gaze cameras to be able to adjust to a wider range of eye conditions. PRC is constantly monitoring the developments of other suppliers of eye gaze cameras in AAC applications. In particular, PRC

---

[229] Tobii's response to phase 1 decision, paragraph 101.4.
[230] Definition of cortical visual impairment sourced from the National Eye Institute's website.

interacts mostly with EyeTech and Irisbond and, to a lower extent, LC Technologies.

7.136 As Tobii acknowledged (see paragraph 7.134 above), research and innovation in eye gaze technology by companies who do not specialise in AAC applications (including Apple, Microsoft and Google) is driven by the demands of 'mass market' consumer sectors.[231] Therefore, we considered that it is unlikely that these companies would focus their innovation efforts on addressing the specific needs of AAC users to the same extent as suppliers of eye gaze cameras in AAC applications would do.

Higher prices for eye gaze cameras in AAC applications

7.137 Weaker competition in the supply of eye gaze cameras in AAC applications worldwide could lead to an increase in prices in this market. In particular, PRC explained that a loss of competition from EyeTech and Irisbond could reduce the likelihood of future availability of alternatives to Tobii's eye gaze camera products, as it considered that EyeTech and Irisbond are in the best position to improve their solutions to compete with Tobii.

Adverse effects in the downstream market for dedicated AAC solutions

7.138 We consider that less innovation in eye gaze cameras and an increase in their prices are likely to have adverse effects on the supply of dedicated AAC solutions which use eye gaze cameras as an input in terms of their prices and quality.

7.139 There would also be direct effects in the downstream market for dedicated AAC solutions arising from the merged entity limiting the compatibility of the Grid with rival eye gaze cameras. This would reduce the range of dedicated AAC solutions available to meet end-users' needs, with dedicated AAC solutions that use the Grid offering a reduced range of eye gaze camera options compared to the counterfactual absent the Merger. This would be particularly problematic for those end-users whose needs are best met by the Grid in combination with a non-Tobii camera.

7.140 While these downstream effects would be global in nature, the adverse effects would likely be more acutely felt in the market for dedicated AAC solutions in the UK. As shown in Table 7-3, Tobii's volume share of eye gaze cameras in AAC applications worldwide is significantly higher than in the UK.

[231] Tobii later submitted that to its understanding there are no eye gaze technology companies who specialise in AAC. This contrasts with the information provided by Alea, Irisbond, EyeTech and LC Technologies, who told us that a large proportion of their revenues relates to AAC applications (see paragraph 7.96).

This implies that, in the UK, the share of AAC users who currently use non-Tobii cameras (and who, therefore, might be most affected by a weakening of these suppliers) is larger than in the rest of the world.

Table 7-3: Volume shares of eye gaze cameras in AAC applications in 2018, UK and worldwide

Eye gaze supplier	*Volume share worldwide**	*Volume share in the UK†*
Tobii	[70-80%]‡	[50-60%]
Alea	[0-5%]	[5-10%]
EyeTech	[10-20%]	[30-40%]
Irisbond	[0-5%]§	[5-10%]
LC Technologies	[0-5%]	[0-5%]

Source*:* CMA analysis of information from responses from third party eye gaze competitors, Liberator, Techcess and Inclusive Technology as well as Smartbox's and Tobii's transaction data.
* Relates to sales to suppliers and resellers of dedicated AAC solutions globally, with the exception of Tobii and Irisbond (which also include direct/retail sales, see individual notes below).
† Only relates to cameras that we know for certain to be sold alongside or integrated with a dedicated AAC solution in the UK. These shares do not include cameras made by SMI as these were taken off the market when SMI was acquired by Apple. Because some AAC providers stocked up on these cameras they were still being sold in combination with solutions. If they were included, the shares would be as follows: Tobii [40-50%], EyeTech [20-30%], Irisbond [5-10%], Alea [5-10%] and SMI [20-30%].
‡ Relates to all (including retail sales) of the PCEye range and the Tobii I12/I15 and EyeMobile devices in 2018.
§ Includes direct sales made in Spain and Latin America for the worldwide shares.

Conclusion on effect

7.141 Based on the assessment above, we conclude that a customer foreclosure strategy where the merged entity limited the compatibility of the Grid with rival eye gaze cameras would likely result in an SLC in the upstream supply of eye gaze cameras in AAC applications worldwide. This SLC would have adverse effects on the downstream supply of dedicated AAC solutions worldwide, and particularly in the UK.

Conclusion on customer foreclosure of eye gaze camera competitors

7.142 On the basis of the above assessment, we conclude that there is likely to be an SLC in the worldwide supply of eye gaze cameras to providers of dedicated AAC solutions, including providers serving customers in the UK, as a result of the merged entity having the ability and incentive to foreclose its rivals from an important route to market by limiting the compatibility of the Grid software with their eye gaze cameras. As a consequence, we also find that there are likely to be adverse effects in the market for dedicated AAC solutions in the UK.

Input foreclosure of Tobii's eye gaze cameras

7.143 In this section we consider whether the Merger would be likely to substantially lessen competition in the downstream supply of dedicated AAC solutions in the UK by the merged entity making its competitors' access to

Tobii's eye gaze cameras more expensive (or otherwise restricting access to these products in a way that would raise downstream rivals' costs).[232]

7.144 We have focused on the foreclosure of the Parties' most significant competitors in the downstream supply of dedicated AAC solutions in the UK: Liberator and Techcess (the same approach we took for input foreclosure of Smartbox's Grid software). Tobii supplies its eye gaze cameras to both Liberator and Techcess via these competitors' parent companies, PRC and Jabbla respectively.

(a) In 2018, Techcess sold [✄] dedicated AAC solutions with an eye gaze camera in the UK, which represented [✄]% of its total sales of dedicated AAC solutions in the UK (up from [✄]% in 2017). Out of these [✄] sales, [✄] had a Tobii camera, [✄] had an EyeTech camera, and [✄] had an Alea camera.

(b) In 2018, Liberator sold [✄] dedicated AAC solutions with an eye gaze camera in the UK, which represented [✄]% of its total sales of dedicated AAC solutions in the UK ([✄]). [✄]. PRC integrates the camera module into the main hardware of its dedicated AAC solutions rather than offering the camera as an accessory that can be mounted to its dedicated AAC hardware. PRC is the only rival to the merged entity in the UK that fully integrates the eye gaze camera in this way. Liberator has also started offering Irisbond eye gaze cameras mounted on its dedicated AAC hardware.

Ability (input foreclosure of Tobii's eye gaze cameras)

7.145 There is scope (in principle) for the merged entity to increase significantly the prices it charges PRC and Jabbla for Tobii eye gaze cameras. [✄].[233] Removing this discount would involve a price increase of around £[✄] per camera. Similarly, while pricing to PRC is subject to an existing agreement between PRC and Tobii, this agreement is subject to termination ([✄]) and renegotiation.[234]

[232] Our assessment below focuses on the ability and incentives of the merged entity to increase the price that it charges downstream competitors for Tobii's eye gaze cameras. Given our provisional findings that it is unlikely that there is an incentive for the merged entity to do this, there is also unlikely to be an incentive to foreclose access to Tobii's eye gaze cameras in other ways. The incentives are likely to be no higher for other foreclosure mechanisms as they do not have the benefit of increasing the margins on Tobii's camera sales to competitors as result of charging these competitors higher prices. We have therefore not considered other foreclosure mechanisms separately.
[233] This is the camera that Tobii predominantly sells to Jabbla.
[234] [✄]

7.146 In this section we consider the ability of the merged entity to impose a price increase on its eye gaze cameras to its downstream competitors PRC and Jabbla using a range of evidence including:

(a) market shares (which provide an indication of how strong Tobii's position is in eye gaze cameras for AAC applications); and

(b) constraints from rival eye gaze cameras used in AAC applications.

7.147 We also assess submissions made by Tobii on this issue.

Market shares

7.148 We estimate that Tobii's global market share of eye gaze cameras used in AAC applications was over [70-80%] by volume (see Table 7-3 in the effects section of the customer foreclosure assessment above) and over [60-70%] by value in 2018 (see Table 7-4 below). These estimates include sales of Tobii's eye gaze cameras used in its own dedicated AAC solutions (both direct sales and sales through resellers), sales of Tobii's eye gaze cameras used in competitors' dedicated AAC solutions, and standalone sales of Tobii's eye gaze cameras. These shares show Tobii's strong global position in the supply of eye gaze cameras in AAC applications.

Table 7-4: Global shares of eye gaze cameras used in AAC applications by value in 2018

Eye gaze supplier	*Global share*
Tobii*	[60-70%]
Alea	[5-10%]
EyeTech†	[10-20%]
Irisbond	[5-10%]
LC Technologies§	[5-10%]

Source: CMA analysis of information from Alea, EyeTech, Irisbond, LC Technologies and Tobii's transaction data.
Note: We have excluded SMI from these shares as SMI no longer supplies eye gaze cameras.
* [✂]
† [✂].
§ To calculate the value for LC Technologies we have assumed that all sales relate to the LC Eyegaze Edge camera and have used the Smartbox retail price for this product (£3,950).

7.149 Based on our estimates, Tobii's position in eye gaze cameras in AAC applications is not as strong in the UK as it is globally, but its share by volume in the UK is still significant at [50-60%][235] (see Table 7-3 in the effects section of our customer foreclosure assessment above).

[235] This volume share specifically refers to the share by volume in terms of eye gaze cameras sold as part of a dedicated AAC solution (ie excluding standalone sales of eye gaze cameras).

7.150 Considering rivals' eye gaze cameras, there have been no sales of dedicated AAC solutions with LC Technologies' eye gaze camera in the UK. Given the lack of existing supply and the fact that LC Technologies' eye gaze camera in the UK appears to be significantly more expensive than other eye gaze cameras,[236] we have not considered LC Technologies as a credible alternative supplier to Tobii. We focus instead on the eye gaze cameras supplied by EyeTech, Irisbond and Alea as possible alternatives to Tobii's eye gaze cameras.

7.151 Tobii's high eye gaze camera market shares indicate that the merged entity may be in a position to weaken Liberator and Techcess by increasing the price their parent companies pay for Tobii's eye gaze cameras.

Constraints from rival eye gaze cameras used in AAC applications

7.152 Tobii submitted that it has no ability to foreclose, in particular noting that:

(a) there are other existing suppliers of eye gaze cameras for use in AAC solutions that competitors could use instead of Tobii's eye gaze cameras;[237] and

(b) when Tobii stopped supplying Smartbox with Tobii eye gaze cameras, Smartbox used other eye gaze cameras instead and was not foreclosed.[238]

7.153 We set out below our assessment on the existence of credible alternatives to Tobii's eye gaze cameras and evidence on Tobii's cameras not being an important driver of choice of dedicated AAC solutions.

7.154 First, there are eye gaze cameras available to Jabbla, PRC and their UK subsidiaries that are similar in price or less expensive than Tobii's cameras.

(a) Jabbla pays around £[✄] per camera for Tobii's PCEye Mini (featuring Tobii Gaze software). Jabbla paid slightly [✄]. [✄] is also looking to source eye gaze cameras from [✄].

[236] Based on retail prices: Smartbox's UK site lists the retail price of LC Technologies' eye gaze camera as £3,950. In comparison, Smartbox's UK site lists significantly lower prices of eye gaze cameras from Alea (£1,695), EyeTech (£1,250), Irisbond (£1,250) and Tobii (£849).
[237] Tobii response to the phase 1 decision, paragraph. 99.
[238] Tobii also submitted that where the merged firm's upstream input is not a 'must have', nor an indispensable input for downstream rivals to be able to compete (because there are range of alternatives), the merger does not limit downstream rivals' choice of supply, so there will be no ability to foreclose. We disagree with this proposition. There can be vertical effects arising from input foreclosure when an upstream input is neither 'must have' nor indispensable for the reasons set out at paragraph 7.20.

(b) PRC pays a unit price of £[✂] for Tobii's IS4 eye gaze camera integration module ([✂]). In comparison, Irisbond offers its eye gaze camera integration module for £[✂] per unit.[239]

7.155 Second, the available evidence also indicates that these alternative products are of broadly similar quality to those of Tobii. While the evidence shows that Tobii's eye gaze cameras are superior to alternative cameras in terms of certain features, the opposite holds in terms of other features.

7.156 In some respects, there is evidence to suggest that Tobii's eye gaze cameras are technically superior to alternative eye gaze cameras used in AAC applications:

(a) A Tobii document notes that its IS4 eye gaze camera supports the tracking of both bright and dark pupils whereas eye gaze cameras from Alea, EyeTech and Irisbond only support dark pupil tracking.

(b) PRC evaluated eye gaze cameras from EyeTech and Irisbond prior to choosing an eye gaze camera from Tobii. [✂].

7.157 In other respects, there is evidence that alternative eye gaze cameras match or outperform Tobii's eye gaze cameras:

(a) A technical test from Smartbox concluded that [✂] eye gaze camera was the clear best performer at being able to track eyes in a wide range of lighting conditions compared to eye gaze cameras from [✂].

(b) Irisbond told us that its camera is just as good as Tobii's camera. Similarly, Alea considered the functionality of its eye gaze camera to be competitive with Tobii's eye gaze cameras based on market feedback.

(c) [✂]

7.158 Third, evidence we received from customers indicates that Tobii eye gaze cameras are not an important driver of choice of a dedicated AAC solution:

(a) Customers that purchased a dedicated AAC solution from Techcess with a Tobii eye gaze camera (11 customer responses to our requests for information) did not indicate that the Tobii camera was an important driver of these purchases when asked.[240]

[239] CMA analysis of information provided by eye gaze camera suppliers and PRC.
[240] No respondents had purchased a Liberator device with a Tobii eye gaze camera, since this solution was not available at the time we sent our request for information to customers.

(b) Instead customers tended to state that the Tobii camera was important only in terms of the flexibility this option adds to being able to find the most appropriate solution for each user, for example because some users have more success with a particular type of eye gaze camera. This was the case for 7 out of these 11 customer responses.[241]

(c) Or customers indicated that the availability of the Tobii cameras was not a major factor in their purchases of Techcess devices (3 out of the 11 customer responses).[242] [243]

7.159 Fourth, when Tobii stopped supplying Smartbox with Tobii eye gaze cameras, Smartbox was able to use eye gaze cameras from Alea, EyeTech, and Irisbond instead. This evidence suggests that dedicated AAC solution providers are able to switch away from Tobii's eye gaze cameras.

7.160 Fifth, we considered estimates from PRC and Techcess on the sales they would lose if they no longer offered Tobii's eye gaze cameras. These estimates suggest that in this scenario these rivals may [✂]. But they nevertheless suggest that in around the other [✂], these competitors could switch to alternative eye gaze cameras.

7.161 We consider that PRC and Techcess would lose significantly fewer downstream sales than they have estimated given the evidence above on Tobii's cameras not being an important driver of choice of dedicated AAC solution. There are credible alternatives to Tobii's cameras that they could use instead, as Smartbox did when Tobii stopped supplying it with eye gaze cameras (as set above at paragraphs 7.154 to 7.159).

7.162 Based on the above, we consider that PRC and Jabbla are likely to be able to switch a significant proportion of their purchases of Tobii eye gaze cameras to alternative eye gaze cameras used in AAC applications. As such, the ability of the merged entity to increase the price of its eye gaze cameras to its downstream competitors is limited by this constraint.

7.163 Before reaching a conclusion on this, we set out below further submissions made by Tobii on the ability to foreclose its downstream rivals from its eye gaze cameras.

[241] Barnsley Hospital NHS Foundation Trust Assistive Technology Team, Royal Hospital for Neuro Disability, Bristol Communication Aid Centre, Leeds Community Healthcare NHS Trust, Treloar School and College, KM CAT (Adults).
[242] Cambridge CASEE, ACE Centre North and the Regional Communication Aid Service.
[243] The one remaining response (Assistive Communication Services) did not specify the importance of having a Tobii camera in driving their decisions.

Constraints from potential entry

7.164 Tobii submitted that there are approximately 30 other suppliers of eye gaze technology which could easily expand into supplying of eye gaze technology and cameras for AAC solutions.[244] As we have found that the existing alternative supply options would limit the merged entity's ability to successfully pursue a foreclosure strategy, we do not consider it necessary to reach a conclusion on the potential constraints from any entry into this market.

The gaming versions of Tobii cameras

7.165 Tobii submitted that competing providers of AAC solutions could purchase Tobii Tech's eye gaze cameras currently supplied for gaming use (eg the Tobii 4C model) from numerous distributors such as Amazon.[245] We consider that this is unlikely to be a credible strategy that Liberator and Techcess could use to avoid being foreclosed due to differences between Tobii's AAC eye gaze cameras and Tobii's eye gaze cameras supplied for gaming use.

7.166 Tobii's internal documents indicate that it sought to address the risk of its eye gaze gaming cameras competing with its AAC cameras by developing AAC eye gaze cameras with purpose-built features. For example, one document notes that the [✄].

7.167 We also note that Tobii's 4C gaming camera is a peripheral so cannot be integrated into dedicated AAC hardware in the way that PRC has done with Tobii's eye gaze camera integration module.

Conclusion on ability

7.168 Based on the evidence above, we conclude that the merged entity has limited ability to foreclose its downstream rivals in the supply of dedicated AAC solutions in the UK due to the constraints from alternative eye gaze cameras used in AAC applications. We have taken into account these constraints in our assessment of incentives below.

Incentives (input foreclosure of Tobii's eye gaze cameras)

7.169 In this section we assess the incentives of the merged entity to foreclose its downstream competitors (Liberator/PRC and Techcess/Jabbla) in the supply of dedicated AAC solutions in the UK from Tobii's eye gaze cameras. We

---

244 Tobii's response to phase 1 decision, paragraph 99. [✄].

245 Tobii's response to phase 1 decision, paragraph 98.

have taken the same approach as in our assessments of the previous two vertical theories of harm. We calculated a 'critical diversion threshold' using the Parties' margins and assessed whether this threshold would be exceeded such that there may be an incentive to foreclose downstream rivals from Tobii's cameras (see paragraphs 7.41 to 7.45 above for an explanation of this).[246]

7.170 The variable margin made by Tobii on sales of its eye gaze cameras to resellers in 2018 was £[✂].[247] The average variable margin made by Smartbox and Tobii on direct sales of dedicated AAC solutions supporting eye gaze in 2018 was £[✂][248] (where the margins made on each product are weighted by their sales). Using these margins we estimate a critical diversion threshold of [10-20%] ([✂]).[249] That is, a total input foreclosure strategy would be profitable if the merged entity recaptured at least [10-20%] of its lost upstream sales of Tobii's eye gaze cameras as result of customers switching to the merged entity's downstream dedicated AAC solutions.

7.171 If the merged entity significantly increased the price of Tobii's eye gaze cameras to its downstream competitors, it is likely that there would be significant switching by these competitors to alternative cameras. Indeed, as noted in our ability assessment, Tobii's cameras are not an important driver of customers' choice of dedicated AAC solutions and there are credible alternatives to Tobii's eye gaze cameras supplied by its competitors (as set out at paragraphs 7.153 to 7.162).

7.172 Downstream competitors that continue to sell Tobii eye gaze cameras as part of their dedicated AAC solutions, but at a higher price, may face some loss of sales, with some customers diverting to the merged entity. We believe, however, that the sales gained by the merged entity downstream would be small compared to the number of Tobii cameras replaced with an alternative camera upstream. This is due to demand for dedicated AAC solutions not being particularly price sensitive (see paragraph 7.74) compared to how suppliers of dedicated AAC solutions would respond to price rises of Tobii's cameras (as set out above at paragraph 7.171).

[246] We also considered Tobii's arguments on the reputational consequences of foreclosing downstream rivals from its eye gaze cameras but consider that any such consequences are unlikely to affect the merged entity's incentives materially. This finding is supported by the fact that Tobii had not agreed to supply Smartbox with its cameras despite the prospect of any reputational issues and due to customers having limited ability to punish the merged entity if such reputational issues were to arise (as set out at a paragraph 7.54).
[247] For this we used unit gross margin data from Tobii. This included 'bill of materials' as a cost so we consider it a better estimate of Tobii's estimate of variable margins, which excluded this cost category.
[248] CMA analysis of margin data from Smartbox and Tobii, based on Smartbox Power Pad and the Tobii I12/I15.
[249] This is the variable margin made by Tobii on sales of its eye gaze cameras to resellers in 2018 divided by the average variable margin made by Smartbox and Tobii on direct sales of dedicated AAC solutions supporting eye gaze in 2018.

7.173 As most switching would be to alternative cameras upstream rather than to the merged entity downstream, we consider that diversion to the merged entity's dedicated AAC solutions would be low and unlikely to exceed the critical diversion threshold. The incentives to increase the price of Tobii's eye gaze cameras to downstream competitors may therefore be limited.

7.174 We also note that foreclosing PRC and Jabbla from Tobii's eye gaze cameras would increase the opportunities for eye gaze camera competitors to supply PRC and Jabbla. This could undermine, at least in the short term, a customer foreclosure strategy of these eye gaze camera competitors, which, as set out in the previous section, we provisionally found to be a profitable strategy for Tobii.

Conclusion on incentives

7.175 Based on our assessment above, and given the limited ability to foreclose, we conclude that it is unlikely that the merged entity has sufficient incentives to make access to Tobii's eye gaze's cameras significantly more expensive for its downstream competitors in the supply of dedicated AAC solutions in the UK. This is due to this strategy likely leading to significantly greater switching to alternative eye gaze cameras upstream compared to switching to the merged entity's downstream dedicated AAC solutions.

Conclusion on input foreclosure of Tobii's eye gaze cameras

7.176 We conclude that there is unlikely to be a substantial lessening of competition in the supply of dedicated AAC solutions in the UK as a result of input foreclosure of Tobii's eye gaze cameras. The merged entity has limited ability and incentives to weaken competitors in this way.

The interaction of vertical effects and horizontal effects

7.177 We have found a substantial lessening of competition due to vertical competition concerns with regard to input foreclosure of the Grid software and customer foreclosure of Tobii's AAC eye gaze camera competitors.

7.178 These vertical effects exacerbate the competition concerns arising from horizontal unilateral effects in the downstream supply of dedicated AAC solutions in the UK. Foreclosing rivals in this market from the Grid would weaken the remaining constraints on the merged entity's dedicated AAC solutions in the UK and add to the loss of competition between the Parties. Customer foreclosure of rival eye gaze camera suppliers would also reduce the strength and range of eye gaze cameras offered downstream in the supply of dedicated AAC solutions in the UK.

8. Countervailing factors

Introduction

8.1 This chapter considers whether there are countervailing factors which may prevent an SLC from arising. Specifically, we consider the effect of entry or expansion, buyer power and efficiencies.

Entry and expansion

Introduction and CMA framework for assessing entry and expansion

8.2 Our Guidelines state that in assessing whether entry or expansion might prevent an SLC, we will consider whether such entry or expansion would be: *(a)* timely; *(b)* likely; and *(c)* sufficient.[250] Our Guidelines also state that potential (or actual) competitors might encounter barriers which adversely affect the timeliness, likelihood and sufficiency of their ability to enter (or expand in) the market, and therefore barriers to entry (and expansion) are specific features of the market that give incumbent firms advantages over potential or growing competitors:[251]

(a) As regards timeliness: entry and/or expansion must be sufficiently timely and sustained to constrain the merged entity. The timeliness of entry or expansion is assessed on a case-by-case basis, depending on the characteristics and dynamics of the market, but the CMA would normally consider entry or expansion that has a significant impact on competition within two years to be timely.[252]

(b) As regards the likelihood of entry or expansion: we consider both the scale of any barriers to entry and/or expansion that may impact on the likelihood of entry or expansion and also whether firms have the ability and incentive to enter the market. For example, in a market characterised by relatively low absolute barriers to entry and/or expansion, entrants may nevertheless be discouraged from entry by the small size of the market, or the credible threat of retaliation by incumbents.[253]

---

[250] *Merger Assessment Guidelines*, paragraph 5.8.3.
[251] *Merger Assessment Guidelines*, paragraph 5.8.4.
[252] *Merger Assessment Guidelines,* paragraph 5.8.11.
[253] *Merger Assessment Guidelines*, paragraph 5.8.8.

(c) As regards sufficiency: entry or expansion should be sufficient to deter or defeat any attempt by the merged entity to exploit any lessening of competition resulting from the Merger.[254]

8.3 In this section we consider entry and expansion into:

(a) the supply of dedicated AAC solutions in the UK as a possible factor offsetting the loss of competition through horizontal unilateral effects that we identified in this market;

(b) the supply of AAC software as a credible alternative to Smartbox's Grid software as a possible factor preventing the loss of competition through input foreclosure of Smartbox's Grid software;

(c) the supply of AAC software (as an element of a dedicated AAC solution) as preventing the loss of competition through customer foreclosure of Tobii's eye gaze camera competitors.

8.4 In relation to the loss of competition arising from customer foreclosure in the market for eye gaze cameras in AAC applications, we also considered whether this loss of competition would be prevented by new entry or expansion into this upstream market from providers of eye gaze technology active in other applications (eg gaming cameras). However, eye gaze cameras in other applications would still need to be compatible with the relevant AAC software in order to be able to compete in the supply of eye gaze cameras in AAC applications. As set out in paragraphs 7.113(c), 7.130 and 7.142, our view is that there are limited routes to market that do not depend on the Grid, and the merged entity would have the ability and incentive to foreclose this route to rivals post-Merger. Therefore, we have not considered entry and expansion of suppliers of eye gaze cameras in other applications further in this chapter.

Parties' views

Tobii's views

8.5 Tobii submitted observations as to entry and expansion in the UK AAC sector more generally, rather than the market specifically regarding dedicated AAC solutions. For example, Tobii told us that it was aware of successful previous entry and expansion in the UK AAC sector and cited the examples of Logan Technologies, Therapy Box and Dad in a Shed.

[254] *Merger Assessment Guidelines,* paragraph 5.8.10.

8.6 Tobii also cited the introduction of the Apple iPad and Microsoft's Surface tablets as new products that have been adopted by a significant number of users of AAC solutions.

8.7 Tobii submitted that barriers to entry were low and that there were a number of other providers of AAC solutions active internationally (in particular in the US, such as Lingraphica, Forbes AAC and Talk To Me Technologies) which could quickly expand to the UK.[255] In particular, Tobii told us that there were no regulatory or localisation requirements in the UK and that existing providers would only need to establish a UK-based sales and customer support function or, alternatively, to operate through UK-based resellers.[256] However, it was not aware of any businesses intending to commence the development and sale of AAC hardware devices, nor did Tobii have specific knowledge of potential entry by third parties.

8.8 Tobii told us that entry in the supply of AAC solutions in the UK from an existing supplier active in another country would be:

(a) timely, as it could be achieved in less than a year, whether through a reseller or establishment of a UK sales operation;

(b) likely, as there were at least eight established suppliers[257] of AAC solutions overseas that could readily enter the UK market and could do so at low cost, building upon their existing AAC or 'eye-control' businesses overseas; and

(c) sufficient, as entry by one or more established suppliers of AAC solutions would be sufficient to replace Smartbox as an effective competitor.[258]

8.9 Tobii further told us that mainstream technology companies (such as Apple, Microsoft and Google) continue to expand their assistive technology capabilities and that, due to their size and technical sophistication, these companies would impose a substantial competitive constraint on the merged entity.[259] In particular, Tobii submitted that these companies were increasingly producing their own assistive technology, and continuing to improve the durability, functionality and accessibility of their devices so that

---

[255] Tobii response to issues statement, paragraph 3(d).
[256] Tobii response to phase 1 decision, paragraph 8.3.
[257] Tobii response to issues statement, paragraph 54. Tobii identified Forbes AAC, Talk to Me Technologies, Ablenet, Rehavista, Humanelektronik, Lingraphica, LC Technologies and EyeFree as international suppliers that could expand into the UK.
[258] Tobii response to issues statement, paragraph 60.
[259] Tobii response to issues statement, paragraph 3(d) and Tobii response to phase 1 decision, paragraph 4.

they can be used to meet the requirements of ever more users of AAC technology.[260]

8.10 Tobii also submitted the results of an entry modelling analysis undertaken in relation to the supply of AAC hardware. In summary, Tobii submitted that the analysis showed that entry is not profitable at prevailing prices and that entry only becomes [✂]. Tobii told us that this was consistent with the effective functioning of competition and consistent with barriers to entry being low, as if entry were profitable already, that could be indicative of barriers to entry (as otherwise entry would already be observed).

8.11 Tobii told us that, while the current penetration rate and awareness of AAC solutions was low, the 'market for AAC solutions' was nascent and had good growth potential. Tobii therefore told us that current low awareness levels should not be viewed as a barrier to entry in the supply of AAC solutions.[261]

8.12 With regard to AAC software, Tobii told us that a significant number of AAC software providers have entered the market in the recent past. As well as software offerings from PRC/Saltillo and Liberator, new AAC software titles continued to enter the market on a regular basis.[262]

Smartbox's views

8.13 Smartbox provided several examples of companies that had been active in the supply of dedicated AAC solutions. However, Smartbox told us that, over time, the number of companies has declined[263] due to financial pressures, acquisitions and exits from the UK market.

8.14 Smartbox told us that a new entrant would face challenges in introducing new hardware to the market and that it considered that its history of adapting tablet computers had helped considerably in bringing the Grid Pad 12 to market.

8.15 Smartbox told us that a new entrant supplying dedicated AAC hardware would need to design and manufacture bespoke hardware to meet the needs

[260] Tobii response to phase 1 decision, paragraphs 30 and 50.
[261] Also, Tobii stated that the needs of 80% of the 350,000 people in the UK who require AAC solutions had not been addressed.
[262] Tobii told us that examples include: 'Proloquo2Go' from AssistiveWare, 'ChatAble' and 'PredictAble' from Therapy Box, 'GoTalk NOW' from Attainment, 'Avaz Pro' from Avaz, 'Clicker Communicator', from Crick Software and 'CoughDrop' from CoughDrop.
[263] Beaumont College, an independent college for learners with AAC needs, also commented on consolidation in the AAC sector, citing the examples of Tobii's acquisition of Dynavox in 2014 and Abilia's acquisition of Toby Churchill (which previously supplied the LightWriter range of AAC devices).

of people with complex communication needs.[264] Smartbox estimated that this would require an initial investment of £[✂] to £[✂] if this was outsourced.[265]

8.16 Smartbox submitted that existing manufacturers of tablet technology (such as Apple, Microsoft, Dell, Lenovo, etc) would have the resources required to create dedicated AAC hardware devices but may face other key barriers including:

(a) motivation to develop products for a relatively small user group;

(b) providing the specialist support required for AAC users; and

(c) time and specialist knowledge to develop their own AAC software and content to complement the devices.

8.17 Smartbox also told us that a new entrant may face challenges in:

(a) establishing a network of resellers, as there are typically a small number of potential resellers with the requisite understanding of the AAC industry and they may be tied into long-term supplier and commercial relationships;[266]

(b) developing its brand reputation;

(c) developing an effective repairs and service network; and

(d) supplying software and content, as customers generally prefer to purchase hardware, software and content from a single supplier.

8.18 Smartbox told us that a less expensive way to develop a dedicated AAC hardware product would be to adapt existing tablet technology, which would include sourcing appropriate tablet computers (which Smartbox suggested would be likely to be rugged industrial tablets) and adding the functionality required for AAC (such as switch input, amplified speakers and environment control). However, such devices would need to compete against bespoke devices that were made for purpose.

---

264 Smartbox told us that typical features include voice amplification, rugged design, mounting capability and compatibility with a range of alternative access methods (eg switches, head trackers, eye gaze cameras). Other features may include a second screen to face the communication partner, a remote power button and user accessible radio-controlled environment control (for alarms, lights etc). [✂].

265 [✂].

266 Based on the evidence that we have seen, standard Tobii reseller agreements appear to apply for a period of three years. We note that one reseller (Microlink) told us that it was “restricted in its freedom to offer alternative AAC solutions to its customers utilising non-Tobii hardware”.

8.19 Regarding barriers to entry in AAC software, Smartbox told us that there was a substantial difference between supplying AAC software which supports a single content product (eg Proloquo2Go) and 'fully featured' software such as Smartbox's Grid 3 or Tobii's Communicator 5. Smartbox told us that 'fully featured' software operated as a 'platform' for content with a large number of setups, each designed and configured to provide different functionality to individual users.

8.20 Smartbox told us that the biggest challenge to the creation or improvement of AAC software, [redacted]. Smartbox told us that the underlying technology supporting the software of its rival suppliers Tobii, PRC and Jabbla [redacted].

8.21 In addition, Smartbox told us that to compete with the market leaders in AAC software (such as the Grid), it is crucial that the quality of content matches that of the software. In this context, Smartbox told us that:

(a) The development of a robust AAC language system was a highly specialised skill and required a deep understanding of language and grammatical conventions.

(b) A new entrant would need to build relationships and contract with third-party suppliers of necessary technologies (such as speech engines, symbol libraries, integration with alternative access methods such as eye gaze cameras).

8.22 In addition to the requirements around hardware, software and content described in paragraphs 8.15 to 8.21, Smartbox told us that an effective competitor in the supply of dedicated AAC solutions in the UK would also require a dedicated support operation comprising staff with both technical and AAC knowledge, and sales and marketing services (including relationships with the major purchasers of AAC products in the UK, and approval for NHS supply contracts).

Parties' internal documents

8.23 As described in Chapter 6 (Horizontal unilateral effects), in the Parties' internal documents that we reviewed, we found that the Parties' benchmarking of performance and monitoring of competitors focuses on each other, PRC/Liberator and Jabbla/Techcess. Tobii's internal documents indicate that Tobii was increasingly concerned by the competitive threat posed by Smartbox, but none of the documents that we have reviewed otherwise refers to, or reflects, a significant threat to Tobii from expansion or entry in the supply of dedicated AAC solutions or in the provision of comparable AAC software.[267] Similarly, our review of Smartbox's internal documents does not indicate that Smartbox perceived a significant threat from entry or expansion in the supply of dedicated AAC solutions or AAC software alternatives to the Grid.

8.24 [✂]. Tobii told us that, as mainstream providers were already competing in the market with their current offerings, they would have no incentive to develop purpose-built devices.

Views of third parties

8.25 In this section we summarise the views expressed to us by other suppliers of dedicated AAC solutions and other third parties. Where applicable, we also summarise views of third parties on their own intentions and/or ability to enter or expand in the supply of dedicated AAC solutions or the supply of AAC software.

Current suppliers of dedicated AAC solutions to the UK

PRC/Liberator

8.26 As part of our phase 1 investigation, PRC told us that:

> The solutions offered by PRC have been fine-tuned over many years. While a new entrant could enter relatively easily and provide solutions for individuals with simpler disabilities, solutions would need to be fine-tuned over many years to function effectively and consistently for individuals (particularly for individuals with more complex needs). As such, it would be difficult for someone new to enter and target the same breadth of users as PRC, Smartbox and Tobii.

8.27 With regard to the provision of AAC software, Liberator told us that its parent company, PRC, had recently launched a new version of its software and that it would be launched in the UK [✂]. Liberator told us that the initial launch would be a 'cut-down' version and would not include some features such as computer access or text messaging. [✂].

8.28 [✂]. Liberator told us that, even if it were to develop software that closely matched the Grid, the strength of the Grid brand and user familiarity with the

---

[267] [✂]. See paragraphs 7.32 to 7.34 for further detail on these companies and our reasoning for our view that they are not credible alternatives to the Grid.

Grid would mean that the Grid would likely remain the preferred choice of customers.

8.29 Liberator [✄] noted challenges in competing against the Grid as:

(a) Many users had used the Grid for a long time and there was inertia to switching as users were generally happy with the Grid (which, among other things, users may have adapted for their own specific vocabulary).

(b) Users would be required to invest significant time and effort in learning a new software.

(c) The NHS was typically reluctant to invest time and resources into incorporating new software solutions into their range and it would take time to train assessors.

8.30 Liberator told us that, while there were low barriers to the creation of certain types of software (for example, new apps that can be purchased through app stores such as iTunes or Google Play), providing a 'full-service solution' requires investment in consultant and technical support as well as ongoing customer service. Liberator told us that the costs of providing such a service are significant and represent a different proposition from simply creating software and making it available for purchase.

8.31 More generally, Liberator told us that the main barriers faced by new providers or firms seeking to expand in the supply of AAC solutions were:

(a) building awareness of products, demonstrating efficacy to the market and establishing a support infrastructure;

(b) building relationships with 'gatekeepers' to the market (for example, assessors and therapists who prescribe solutions to users). Liberator told us that, as a result of resource and funding constraints among 'gatekeepers', it is becoming more difficult for providers to gain the access required to introduce them to new products and new solutions.

8.32 Liberator told us that its plan to introduce new products was part of its ongoing product strategy rather than a response to the Merger. In implementing its new product plans, Liberator told us that it would face challenges in:

(a) purchasers being 'locked-in' to particular systems already (eg as a result of users' familiarity with particular devices/software).

(b) competing on price as NHS funding cuts lead prescribers to focus more on the cost of solutions.

(c) a lack of marketing strength and economies of scale in comparison to, especially, Tobii Dynavox and also to Smartbox.

8.33 [✂]

Jabbla/Techcess

8.34 Techcess told us that:

(a) A new entrant would require significant financial resources to build a presence in the UK AAC market and may be discouraged from entry by the small size of the market.

(b) Any new entrant would require expertise 'on the ground', either by establishing its own presence or by operating through a locally-based partner.

(c) The focus from the UK Government and the NHS on cost-effective solutions meant that there is pressure to drive down prices in the UK. Techcess told us that lower prices in the UK, as compared with other markets (eg in the Netherlands), may discourage expansion from international providers.

(d) Suppliers were required to invest heavily in marketing their products to AAC prescribers and other customers in order to be successful.

8.35 Techcess told us that, due to the small size of the market for AAC solutions in the UK, any new entry would likely only take place from neighbouring product markets (for example, Microsoft's Surface tablets being enhanced with accessibility features). Techcess said that it did not consider it likely that a new entrant would be a strong competitor to the Parties and that Tobii was able to use its history, experience and financial resources to expand in the market.

8.36 [✂]

Abilia

8.37 Abilia supplies a specific type of mid-tech dedicated AAC solution, including hardware and software that transforms text into oral speech. Therefore, this product is targeted at literate users who are unable to speak but are able to type into a keyboard directly or alternatively switch scan to a keyboard. Abilia told us that it is not in the eye control market and has no plans to expand its product range to introduce eye-tracking technology.

Inclusive Technology

8.38 Inclusive Technology told us that it did not develop its own hardware products or access devices and developed software solutions that compete with content products such as Smartbox's 'Look to Learn'. However, it told us that it did not develop software which could be considered an alternative to Smartbox's Grid or Tobii's Communicator and [✄].

8.39 [✄]

Suppliers of dedicated AAC solutions outside the UK

8.40 In addition to the Parties' main competitors in the UK, we also contacted some suppliers of dedicated AAC solutions outside the UK which were mentioned by the Parties as potential new entrants in the UK market. We received responses as follows:

(a) **Forbes Rehab Services**, a manufacturer of dedicated AAC hardware which operates mostly in the US, stated that it competed more closely with Tobii than Smartbox in the market for dedicated AAC solutions worldwide, particularly because Smartbox was not very established in the US. However, it stated that it was unlikely to enter the UK market in the next two years, since its primary objective was to grow in the US. It also noted that it would likely be very difficult as Smartbox and Tobii have an established stronghold in the market place in the UK.

(b) **Reha Vista**, a reseller of AAC products in Germany, indicated that it did not compete with the Parties and that it did not have any plans to enter the UK market due to its lack of an export infrastructure.

(c) **Lingraphica**, a US provider of AAC solutions focused on the aphasia segment of the market, told us that, while it would like to explore the option, it did not have specific plans for entering the UK market. Lingraphica told us that it did not have a detailed understanding of the UK market and how it works.

(d) **LC Technologies**, a US supplier of AAC devices, AAC software and eye gaze cameras, told us that it was highly interested in developing a strong presence in the 'UK AAC market' and that it had recently met with ACE Centre, a charity providing support to people with complex communication needs in the UK, and Microlink, a UK-based reseller of AAC products.[268]

[268] We estimate that Microlink has [0-5%] of the UK market for dedicated AAC solutions. See Table 6-2 Estimated market shares in the supply of dedicated AAC solutions in the UK based on supplier responses, 2016-18, by revenue and volume.

LC Technologies told us that it had recently signed a reseller agreement with Microlink. However, LC Technologies also told us that:

(i) It was not in contact with any other organisations in the UK that it might build relationships with and had not identified any such organisations.

(ii) It did not have estimates for the timing or cost of entering the UK market and that its future plans would depend on the market response as it develops new business relationships in the UK.

(iii) While it is interested in the prospect of expanding in the 'AAC market' in the UK and has begun to explore possible routes to market, it has not at this point undertaken any formal evaluations of the UK market, developed any formal plans or strategies for UK marketing, or made any financial projections for the UK market.

8.41 We also made attempts to contact Talk To Me Technologies, Ablenet and Humanelektronik but did not receive responses from these companies.[269]

Other third parties

8.42 As discussed earlier, see Chapter 5 (Market definition) we also sent questionnaires to three technology companies highlighted by Tobii as potential expansion candidates: Google, Apple and Microsoft. Responses can be summarised as follows:

(a) **Google** told us that it did not see itself as competing with suppliers of dedicated AAC hardware and software such as Tobii or Smartbox. Google told us that it did not have any partnerships with companies that use Android tablets to meet AAC needs, and it did not currently have any specific plans to expand in the market for AAC hardware and software.

(b) **Apple** told us that, while it was always improving its products to make them accessible to as many consumers as possible, including those with special needs, [✂].

(c) **Microsoft** told us that it was invested in meeting the needs of customers who require AAC hardware and software, and it remained open to establishing new partnerships in this area. Microsoft told us that it will

[269] Tobii also mentioned EyeFree as a supplier that could readily enter the UK market from overseas. However, we consider that EyeFree supplies a different type of proposition to the Parties as it offers a head-mounted infrared camera and screen-less technology specifically designed for 'locked-in' patients. See EyeFree website for further information.

consider partnering when there are opportunities of mutual interest. However, Microsoft clarified that it did not have specific expansion or partnership plans for the AAC sector, but that customer and partner feedback helped shape its general investment in technologies that assistive technology providers can take advantage of.[270]

Our assessment

8.43 In this section, we set out our assessment of the evidence and our conclusions on recent entry and expansion, barriers to entry and expansion, and finally whether any entry or expansion would be timely, likely and sufficient to prevent an SLC from arising.

Recent entry and expansion

8.44 Our review of the recent history of entry and expansion in the supply of dedicated AAC solutions and AAC software (in particular, alternative software to the Grid) shows that there have been very limited instances of meaningful entry or expansion. This indicates that entry is difficult or that there are other more profitable opportunities elsewhere for larger well-resourced companies, or both.

8.45 As set out in Chapter 6 (Horizontal unilateral effects), a limited number of customers contacted by the CMA mentioned Logan Technologies, Therapy Box or Dad in a Shed as alternative suppliers to the Parties. The responses that we received indicated that these suppliers provide lower tech and/or niche solutions. We note that each of the main providers of dedicated AAC solutions (Tobii, Smartbox, PRC and Jabbla) has been active in the supply of assistive technology for communication for over ten years and that it has taken them time to refine their products to compete effectively.[271]

8.46 We note Tobii's submissions with regard to mainstream consumer tablets, such as those provided by Apple or Microsoft. As discussed in Chapter 5 (Market definition), in our view the evidence indicates that the competitive constraint exerted by mainstream devices (with peripherals) on suppliers of dedicated AAC solutions is limited and much weaker than that exerted by suppliers of dedicated AAC solutions on each other.

[270] Such as platform APIs and standard drivers in the Windows platform that allow for plug and play use of peripheral devices.
[271] Tobii entered the assistive technology market in 2005, Sensory Software International (which developed AAC software and became Smartbox) was incorporated in 1998, Liberator was established in 1991 and Techcess Communication Limited was established in 2007, with Techcess Limited formed in 1997.

8.47 With regard to AAC software providers, we recognise that the phrase 'AAC software' encompasses a range of differentiated products with different features and functionalities. However, as set out in paragraphs 7.31 to 7.34, we consider that there are significant functionality differences between the AAC software offered by suppliers of dedicated AAC solutions[272] and software/apps such as Proloquo2Go, Avaz and the software of Therapy Box, each of which offer more limited features (for example touch-based software, software focusing only on text or symbol communication or apps only available on mainstream devices). [✂][273] with a very different positioning from that of AssistiveWare's Proloquo2Go, CoughDrop and Tobii Dynavox's own Snap + Core First. The Tobii Dynavox website also outlines the major differences and similarities between Snap + Core First and Communicator.

8.48 We consider that, while entry may occur more easily in one niche of the AAC software market, for example in the provision of certain AAC content apps through online app stores, such products are unlikely to be close alternatives to, and as such compete strongly with, the AAC software provided by Tobii, Smartbox, PRC and Jabbla on their dedicated AAC solutions.[274]

8.49 The lack of history of successful entry or expansion over recent years, and the lack of evidence that the Parties have considered the threat of entry or expansion by other providers to be a material constraint suggests that potential entry and expansion post-Merger will not be timely, likely or sufficient to prevent any SLC from arising.

Barriers to entry and expansion

8.50 As the provision of dedicated AAC solutions requires a combination of dedicated AAC hardware and AAC software, our assessment of barriers to entry and expansion in the supply of dedicated AAC solutions is set out with reference to these individual components.

8.51 In relation to AAC software, we assess potential barriers to entry and expansion in the supply of AAC software that would act as a credible alternative to Smartbox's Grid. As described in paragraph 8.3, this is relevant

[272] Such as Tobii, Smartbox, PRC and Jabbla.
[273] [✂].
[274] We note that, in 2013, there was a change in the funding system for AAC solutions in the UK, with NHS England becoming responsible for the commissioning of services for those with the most complex needs, with the aim of improving access to AAC across England. Before this point, AAC services were commissioned by a variety of commissioners, including health, social care, education, voluntary sector, and private individuals. See NHS England Guidance for commissioning AAC services and equipment, page 6. This change in funding does not appear to have led to increased entry or expansion.

for our assessment of both input foreclosure of Smartbox's Grid software and customer foreclosure of eye gaze camera competitors.

Dedicated AAC hardware

8.52 We consider that the challenges in developing hardware cannot easily be overcome without gaining experience and specific expertise in producing dedicated AAC devices. For example, an internal document provided by Smartbox outlines the history of the Grid Pad and notes how the product has developed iteratively since 2015.[275]

8.53 The expertise and experience required to design and develop successful hardware is also reflected in Tobii's marketing brochures for its own devices which describe Tobii products as 'the innovative result of a highly-experienced team from Tobii Dynavox made up of educators, clinicians, engineers, and professionals'.[276]

8.54 In addition, Tobii submitted that entry is not profitable at pre-Merger prices (see paragraph 8.10). Our Guidelines state that, in assessing the likelihood of post-merger entry or expansion, we will consider whether entry or expansion is likely to take place if the entrant expects post-entry prices to be at pre-merger levels. This is because, if prices were to rise post-merger, only an entrant (or an incumbent) who would find it profitable to operate (or add capacity) in the market at pre-merger prices is likely to enter (or expand) and return prices to pre-merger levels.[277] We therefore consider that Tobii's analysis suggests strong disincentives which significantly reduce the likelihood of post-Merger entry in the supply of dedicated AAC hardware and, consequently, the supply of dedicated AAC solutions in the UK.

AAC software

8.55 Internal documents provided by Tobii indicate that it would be difficult for new and existing competitors to replicate the software offerings of the merged entity, in particular Smartbox's Grid software.

8.56 As discussed in Chapter 6 (Horizontal unilateral effects), [✂]. Further, Tobii told us that [✂]. This is consistent with the submissions that we received from Liberator regarding the cost and time that would be required for it to develop a rival to the Grid. This demonstrates that, for existing competitors

[275] [✂] We also note that Smartbox was adapting tablets before the Grid Pad brand was created in 2015 (previous brand names include SB10 and Powerbox).
[276] Tobii EM-12 marketing brochure and Tobii I-100 marketing brochure.
[277] *Merger Assessment Guidelines*, paragraph 5.8.9.

and even for Tobii to upgrade Communicator, which Smartbox told us it considered to be the closest rival to the Grid, it would take substantial investment and development time to create an alternative software to rival the Grid.

8.57 We also note that, even with the experience and expertise that Smartbox had gained from adapting tablet computers and developing previous iterations of the Grid, it took five years for it to develop Grid 3.

8.58 We consider that this demonstrates the significant challenges in developing AAC software to rival that of the merged entity (in particular its Grid software), even for an experienced provider, and that significant financial resources and a relatively long period of development would be required to compete effectively with the merged entity.

Our conclusions on barriers to entry and expansion

8.59 Based on our review of the available evidence, we consider that barriers to entry and/or expansion in the supply of dedicated AAC solutions are significant, noting in particular:

(a) the upfront development cost and time required to develop dedicated AAC hardware and AAC software represents a significant barrier to new entry;

(b) specific expertise is required to develop successful hardware and software, which each of the main suppliers have acquired over many years;

(c) Tobii's submission that entry in the supply of dedicated AAC hardware is not profitable at prevailing pre-Merger prices;

(d) the need to provide a comprehensive support operation to meet the needs of users of dedicated AAC solutions, requiring specialist knowledge as well as technical support and ongoing customer service;

(e) current low awareness of AAC globally and the specialised nature of the market may act as discouragements to entry or expansion; and

(f) we have been informed by some international providers of dedicated AAC hardware, AAC software and dedicated AAC solutions that it would be difficult for them to expand into the UK markets.

8.60 In relation to the supply of AAC software, we note in particular the submissions from the Parties' main competitors which stated that there are significant differences in the provision of 'fully featured' AAC software or a 'full-service solution' to rival that of the merged entity (in particular, the Grid) and the provision of AAC apps and other software which offer more limited functionality (eg by focusing only on text or symbol communication). Submissions from the Parties' competitors as well as the Parties' own internal documents indicate that the development of the former requires significant upfront development costs (with no guarantee of returns), requires specialist expertise and takes many years to develop.

8.61 We consider that existing competitors such as PRC and Jabbla are likely to face similar challenges in developing AAC software that offers a credible alternative to the Grid. [✂], substantial further development, in terms of development time as well as financial investment, would be required for it to offer a rival to Smartbox's Grid. In addition, we consider that, as described in paragraph 7.28(e), user familiarity with existing software also represents a significant barrier to any new entry or expansion in the supply of AAC software.

8.62 Therefore, our view is that barriers to entry and expansion in the supply of AAC software to rival that of the merged entity are significant.

Timeliness, likelihood and sufficiency of entry and expansion

Timeliness

8.63 As stated earlier (see paragraph 8.2(a)), our Guidelines state that new entry (or expansion) must be sufficiently timely and sustained to constrain the merged entity. The CMA's practice usually considers two years to be timely.[278]

8.64 Given the evidence that we received on the level of investment and time required to develop dedicated AAC hardware and AAC software, we consider it unlikely that a new entrant would be able to develop reliable products with proven efficacy within a two-year period. This could be different for an established international provider of dedicated AAC solutions or for a provider that sought to enter by integrating products of third parties. However, of the 11 competitors and other third parties from which we received responses,[279] almost all (ten companies) told us that they had no plans to enter the UK market for dedicated AAC solutions.

[278] *Merger Assessment Guidelines,* paragraph 5.8.11.
[279] PRC/Liberator, Jabbla/Techcess, Abilia, Inclusive Technology, Forbes Rehab Services, Reha Vista, Lingraphica, LC Technologies, Google, Apple and Microsoft.

8.65 One company (LC Technologies) mentioned possible expansion plans from the US to the UK. Tobii told us, in its response to our provisional findings, that it was clear that LC Technologies had already made plans to enter the UK market through a reseller, Microlink PC (an established reseller of assistive technology). Tobii told us that entry through resellers was a credible market entry strategy used by both Tobii Dynavox, Smartbox and their competitors in most countries worldwide.[280]

8.66 However, based on the information LC submitted and the lack of specific entry/expansion plans or forecasts,[281] we consider it unlikely that any expansion would occur over the next two years.[282] We have therefore not seen evidence of any firm plans to enter or expand to supply the market for dedicated AAC solutions in the UK within the next two years.

8.67 With regard to the supply of AAC software, PRC and Jabbla told us that they were each improving their software offerings. However, [✄] told us that they expected to face challenges [✄]. [✄]. We therefore consider that AAC software development by [✄], such as to offer a credible alternative to the Grid, is not likely within the next two years.

8.68 None of the other companies that we contacted as part of our investigation expressed intentions to develop their own AAC software to rival that of the merged entity in the coming years. We therefore do not consider entry or expansion in the supply of AAC software to be likely within the next two years.

Likelihood

8.69 As set out above, we have not seen evidence of any firm plans to enter or expand to supply the market for dedicated AAC solutions in the UK within the next two years, to satisfy us that such an entry or expansion could be considered likely. We have also seen little evidence that the Parties perceived the threat of new entry or expansion and, where such threat was discussed in internal documents, it was perceived to be 'low',

8.70 We also note the leading position of the Parties and the existence of various barriers to entry outlined above, which suggest that there is limited incentive for providers to embark on a programme of sizeable entry or expansion. This is particularly the case in view of the high upfront research and development cost and the small size of the market for dedicated AAC solutions in the UK

[280] Tobii response to provisional findings, paragraph 81
[281] LC told us it had produced no internal documents regarding expansion plans in relation to the UK AAC market since January 2017.
[282] See paragraph 8.40(d).

(and low penetration globally). We therefore consider that entry or expansion in the supply of dedicated AAC solutions in the UK on a significant scale is unlikely.

8.71 In terms of entry or expansion in the supply of AAC software, we are aware of the plans of [✂] and [✂] to develop their software in the coming years. We consider that some degree of expansion from [✂] and [✂], in terms of product improvements, is likely following the Merger.

Sufficiency

8.72 Our review of the recent history of entry into the relevant markets indicates that there have been few recent examples of successful entry.

8.73 We consider that, to be deemed sufficient to offset the SLC that has been identified in the supply of dedicated AAC solutions, any new entrant or expansion candidate would need to:

(a) Produce a similar quality of dedicated AAC hardware, AAC software and dedicated AAC solution as the Parties;

(b) Establish a reliable support operation, in terms of distribution and repair as well as providing technical expertise and understanding the needs of users of dedicated AAC solutions; and

(c) Develop relationships with the major customers of AAC products (dedicated AAC hardware, AAC software and/or dedicated AAC solutions) sufficient to make entry or expansion sustainable. We note that the networks of existing resellers can potentially be leveraged to access this channel to market.

8.74 While we are aware of one existing international player (LC Technologies) that might be interested in entering or expanding into the supply of dedicated AAC solutions in the UK, we have not seen any evidence of firm plans for entry or expansion on a sufficient scale to prevent the SLC that has been identified in the supply of dedicated AAC solutions in the UK. Additionally, we note that LC Technologies estimated that [✂]% of sales of its EyeGaze Edge product in 2018 incorporated the Grid.[283] We consider that our SLC finding relating to input foreclosure of Smartbox's Grid software further reduces the likelihood of sufficient expansion by LC Technologies.

---

[283] See paragraph 7.95(c).

8.75 With regard to the supply of AAC software, we note the plans of [✂], although we consider that the likely challenges highlighted by [✂] indicate that expansion on a sufficient scale is unlikely. In particular we consider that significant financial investment and development time would be required for these companies to upgrade their software sufficiently to rival the Grid.[284] [✂][285] and supported by our review of internal Tobii documents [✂].[286] In addition, [✂][287], high levels of user and prescriber familiarity with the Grid can make it difficult to establish alternatives. We consider that this acts as a significant barrier to expansion and reduces the likelihood of sufficient expansion from [✂].

Conclusion on entry or expansion

8.76 We have not seen evidence of recent successful entry and/or expansion in the supply of dedicated AAC solutions in the UK or in the supply of AAC software that would be a credible alternative to the Grid. We have also seen little evidence that the Parties perceived the threat of new entry or expansion and, where any such threat was discussed in internal documents, it was considered to be 'low'. Based on the evidence we have received, we consider that the barriers to entry or expansion in the supply of dedicated AAC solutions and in the supply of AAC software to rival the Grid are significant.

8.77 For these reasons, we conclude that entry or expansion is unlikely to be timely, likely and sufficient such as to prevent an SLC from arising.

Buyer power

Tobii's views

8.78 Tobii submitted that the NHS has countervailing buyer power since it is a preponderant purchaser of AAC solutions in the UK and, as such, it can exercise buyer power in various ways, for example by switching to another supplier, sponsoring entry, or using public procurement procedures.[288] Tobii has also told us that the Department of Health is encouraging and incentivising NHS hubs, Trusts and Clinical Commissioning Groups to use the EAT Framework Agreement (through its use of fixed monthly fees for using NHS Supply Chain).

[284] See paragraph 8.20.
[285] See paragraph 8.28.
[286] See paragraph 8.56.
[287] See paragraphs 8.28, 8.29 and 8.36.
[288] Tobii response to issues statement, paragraph 61.

8.79 Tobii has also argued that the NHS framework agreement acts like a price cap that would protect the NHS against the effects of any SLC. Under this framework, if a supplier wishes to increase its prices (above the agreed contract price), it must provide justification for this to NHS Supply Chain, the NHS organization that administers the framework, which has an absolute discretion as to whether to agree to the increase.

Our assessment

8.80 Our view is that buyer power is unlikely to prevent an SLC through horizontal unilateral effects in the supply of dedicated AAC solutions in the UK, for the following reasons.

8.81 First, as a general proposition, buyer power of particular market participants can only be considered as effective in contexts where they actually bargain over the terms and conditions of transactions. The concept has no obvious relevance in contexts where customers purchase the products at list prices and with standard conditions. The available evidence indicates that in the market for dedicated AAC solutions bilateral negotiations between customers and suppliers only play a minor role, and most purchases are based on list prices. Some suppliers (including the Parties) offer volume-based discounts, but these are generally available to any customer meeting the volume requirements. Indeed, Tobii told us that the bulk of NHS purchases were based on list prices: [✂].

8.82 Second, while NHS organisations are the predominant purchasers of dedicated AAC solutions in the UK, these organisations do not procure dedicated AAC solutions collectively. The NHS has a framework agreement in place for the purchase of electronic assistive technology (EAT), but there are no financial incentives associated with purchasing through the framework,[289] and in practice many NHS organisations continue to make purchases outside the framework agreement (the NHS Supply Chain estimates that purchases made outside the framework account for [✂]% of all purchases). As explained above, some suppliers offer volume-based discounts, but we have not come across any instances of NHS organisations pooling their purchases to benefit from such discounts. For these reasons, it is not clear that there is any basis for considering the NHS as a single, unitary customer capable of acting strategically to exercise buyer power. The NHS Supply chain told us that they were not aware of any plans to change the procurement process for AAC.

[289] [✂].

8.83 Third, even in a scenario where NHS organizations did attempt to procure AAC products collectively and bargain over the terms, it is not clear that the market context would afford them a large degree of buyer power. AAC products are evidently not a homogeneous product that the NHS can easily purchase from any alternative supplier. They are heavily differentiated products with many complex features. This limits the NHS's ability to quickly switch purchases between different suppliers (existing suppliers or potential suppliers whose entry could be sponsored). One factor that is commonly recognised to affect the relative bargaining power between a buyer and a seller is the nature of their mutual dependency, and notably their relative ability to delay a transaction. It is clear that the ability of a NHS customer to delay a transaction is severely limited as this would involve providing a user with a sub-optimal solution (or indeed, no solution at all).

8.84 Fourth, any bargaining power held by the NHS in negotiations with Tobii or Smartbox would be contingent on the availability of good 'outside options'. The Merger essentially removes one of the most significant outside options available to the NHS when negotiating with each party, and therefore it significantly decreases any bargaining power that the NHS could have.

8.85 Finally, even in a scenario where the NHS could exert a degree of buyer power (which seems unlikely given the considerations above), it is not clear that this would protect other customers from the effects of an SLC. In such a scenario, the Parties could potentially offer discounts or service guarantees to NHS buyers and not to other customers. Other customers would still be exposed to the effects of an SLC. In addition, and perhaps more importantly, in such a scenario it is not clear that the effects of an SLC in terms of R&D and innovation would be averted.

8.86 We considered whether the NHS framework acted as a price cap. We considered, for the reasons above, it was a relatively weak constraint. Moreover, such a protection, if it were effective, would only be temporary as the framework agreement is only valid until September 2020 (with an option to extend for a further two years). Furthermore, this clause would not protect the NHS against the non-price effects of an SLC (eg any deterioration in quality, range or service levels), nor protect other customers against the effects of an SLC.

Conclusion on buyer power

8.87 For the reasons above, we conclude that buyer power is unlikely to prevent the SLC through horizontal unilateral effects which has been identified in the supply of dedicated AAC solutions in the UK.

Efficiencies

8.88 The CMA's guidelines recognise that, while mergers can harm competition, they can also give rise to efficiencies. The guidelines make a distinction between 'rivalry-enhancing efficiencies', which might prevent an SLC from happening, and 'relevant customer benefits' (RCBs), which might not necessarily prevent an SLC from happening but might otherwise generate benefits to customers that could offset the negative impact of an SLC.[290] In both cases, efficiencies must be timely, likely, and merger-specific to be taken into account. In the case of rivalry-enhancing efficiencies, they must also be sufficient to prevent an SLC from arising. In the case of RCBs, the CMA considers both quantitative and qualitative evidence of their likelihood and probability in deciding whether they outweigh the adverse effects of the SLC. In both cases, the guidelines are clear that the parties should provide detailed and verifiable evidence that the claimed efficiencies meet the relevant criteria.[291]

8.89 Our Guidance states that whether an efficiency is considered as part of the assessment of the SLC or as an RCB will depend on the facts of the case.[292] As Tobii has made similar claims on rivalry-enhancing efficiencies and RCBs, we considered the evidence submitted in relation to both[293] in our assessment of rivalry-enhancing efficiencies (which might prevent the SLC from arising), as well as RCBs.

8.90 Our assessment in this section focuses on rivalry-enhancing efficiencies. We have considered RCBs as defined under the Act in paragraphs 10.292 to 10.341 of Chapter 10 (Remedies).

Tobii's views

8.91 Tobii submitted that the Merger would generate significant efficiencies, notably in terms of: new R&D that neither party was able to undertake before the Merger due to a lack of resources ([✂]); improved integration between hardware and software; and development of enhanced versions of existing software products. Tobii also stated that the Merger would [✂].[294]

[290] *Merger Assessment Guidelines,* paragraph 5.7.2 and *Merger Remedies Guidelines*, paragraphs 3.15-3.24. The most common type of efficiency that is considered as potentially rivalry-enhancing is a reduction in the marginal cost of production.
[291] *Merger Assessment Guidelines*, paragraph 5.7.5, and *Mergers: Exceptions to the duty to refer,* paragraph 77.
[292] *Merger Assessment Guidelines*, paragraph 5.7.6.
[293] See paragraphs 10.302 to 10.305 and paragraph 10.309 of Chapter 10 (Remedies) for Tobii's detailed submissions on RCBs.
[294] Tobii response to phase 1 decision, paragraphs 103 to 110, and Tobii response to issues statement, paragraphs 62 to 66.

8.92 Tobii told us that the most important efficiencies are dynamic in nature, which will arise over time as a result of combining the largely complementary R&D capabilities of Tobii Dynavox (in hardware and eye-tracking) and Smartbox (in software) to enable the merged entity to eliminate duplicative R&D and to focus their resources (financial, human or technical) on developing new products that neither could have developed individually. Tobii told us that both Tobii Dynavox and Smartbox [✂]. Tobii told us that, by combining the Parties' R&D resources [✂], the merged entity can deploy resources much more effectively, leading to R&D projects being pursued that neither Party could have otherwise pursued, whether at all or in a timely manner. Tobii told us that the Merger will therefore both accelerate some R&D projects and allow others to be pursued that would not otherwise have been.[295]

8.93 In Tobii's view, combining the two companies would provide the scale, resources and expertise to enable the business to compete with companies such as Apple who it considers to be the main risk to the existence of the Tobii and Smartbox businesses.[296]

8.94 Tobii told us that the scale of the merged entity would enable it to lower prices and go for volume, to broaden customer service and to innovate in areas which are not currently served by AAC products. Overall, it told us that the Merger would 'give more people a voice'.

Our assessment

8.95 We have seen insufficient evidence that the efficiencies submitted by Tobii could not be achieved absent the Merger, or that any such efficiencies would be sufficient to prevent the SLC from arising.

8.96 We note that the efficiencies claimed by Tobii do not feature in the company's internal documents outlining the transaction rationale. [✂]:

- [✂];
- [✂];
- [✂]; and
- [✂].

[295] Tobii response to provisional findings , paragraph 83.
[296] [✂]

8.97 [✄]

8.98 In a subsequent submission, [✄].[297]

8.99 We note that there is nothing in the documents put forward by Tobii that indicates that the increase in R&D spend over time would not have happened in the counterfactual scenario. Furthermore, the increase in R&D spend predicted by that document is modest in size [✄]. [✄].[298] [✄].[299]

8.100 Tobii describes expected efficiencies in very general terms, and does not provide any details or supporting evidence on the timing of these projects, the likelihood of their success, the significance of the benefits to be expected, the extent to which they are Merger-specific and/or whether they are rivalry-enhancing and would prevent the SLC from arising. As such, it is not possible for us to conclude that these efficiencies meet the strict criteria set out in our guidelines. It is particularly difficult to comment on their timeliness, likelihood, and sufficiency as we can formulate only high-level comments, mainly related to the question of Merger-specificity.

8.101 First, it is not clear why we should consider that Tobii would be more likely to undertake any the projects listed in its submission in the Merger scenario, compared to the counterfactual scenario. Tobii emphasises that it has significantly greater human and financial resources for R&D than does Smartbox: it states that Tobii's R&D function has over [✄] developers and a budget of £[✄], while Smartbox's R&D function has [✄].[300] Tobii does not explain why access to Smartbox's smaller resources is essential to the feasibility of all the projects listed. Unless there is something non-replicable about Smartbox's resources, and the projects highlighted by Tobii require the combination of these resources with Tobii's, then in principle Tobii should be able to expand or otherwise re-organise its own resources to deliver these projects. The type of projects described by Tobii – 'the development of enhanced versions of existing software products', 'the improved integration between hardware and software', 'the development of eye-tracking software' or 'new innovative solutions' – are not uncommon in the industry.

8.102 [✄]. As such, it is far from clear that the Merger would encourage a greater R&D effort.

[297] Tobii response to phase 1 decision, paragraph 108.
[298] [✄]
[299] [✄]
[300] Tobii response to phase 1 decision, paragraph 108.

Figure 8-1: [✂]

[✂]

8.103 Second, it is not clear why the Merger is necessary for Tobii to improve its customer support or strengthen training resources. Smartbox manages to deliver a level of customer support and training that is praised by most customers while operating at a similar scale to Tobii in the UK.

8.104 Third, as part of our assessment of the timeliness and likelihood of efficiencies, we must pay attention not just to the ability of the merged entity to deliver efficiencies but also to its incentives to do so. Our competitive assessment indicates the Merger would remove a significant competitive constraint on Tobii, and this is likely to impact the incentives of the merged entity to spend on R&D and innovate. This link is made clear in some of Tobii's internal documents: for example, [✂]. We also note that there will be limited incentives to pass on cost savings to customers if there is a significant diminution of horizontal competition.

Conclusion on efficiencies

8.105 For the reasons above, we conclude that the efficiencies claimed by Tobii could not prevent an SLC from arising in the relevant markets.

9. Findings on SLC

9.1 As a result of our assessment, we find that the Merger has resulted in the creation of a relevant merger situation.

9.2 We also find that the creation of that situation has resulted, or may be expected to result, in a substantial lessening of competition (SLC) due to the following:

(a) Horizontal competition concerns in the supply of dedicated AAC solutions in the UK. We find that this situation has resulted, or may be expected to result, in adverse effects, for example in the form of higher prices, lower quality, reduced product range and/or reduced innovation compared to what would otherwise have been the case absent the Merger. We cannot identify any foreseeable development that would make us conclude that this SLC was time-limited.

(b) Vertical competition concerns with regard to input foreclosure by the merged entity of Smartbox's Grid software to the Parties' rivals in the downstream supply of dedicated AAC solutions in the UK.

(c) Vertical competition concerns with regard to customer foreclosure by the merged entity of Tobii's upstream competitors in the worldwide supply of eye gaze cameras to providers of dedicated AAC solutions, including providers serving customers in the UK.

9.3 We find that there is no SLC caused by vertical competition concerns with regard to input foreclosure by the merged entity of Tobii's eye gaze cameras to the Parties' rivals in the downstream supply of dedicated AAC solutions in the UK.

10. Remedies

Introduction

10.1 Where the CMA concludes that a relevant merger situation has resulted, or may be expected to result, in an SLC, it is required to decide whether action should be taken to remedy, mitigate or prevent the SLC or any resulting adverse effect. The CMA is also required to decide whether such action should be taken by the CMA itself or recommended to others. In either case, the CMA must state in its final report the action to be taken and what it is designed to address.[301]

10.2 When considering possible remedial actions, the Act requires that the CMA shall 'in particular, have regard to the need to achieve as comprehensive a solution as is reasonable and practicable' to the SLC and any resulting adverse effects.[302] To fulfil this requirement, the CMA will first seek remedies that are effective in addressing the SLC and its resulting adverse effects, before selecting the least costly and intrusive remedy that it considers to be effective. The CMA will also seek to ensure that no remedy is disproportionate to the SLC and its adverse effects. In accordance with the Act, the CMA may also have regard to any relevant customer benefits (RCBs) arising from the Merger.[303]

10.3 Accordingly, this chapter sets out:

(a) a summary of our SLC findings (see paragraphs 10.7 to 10.8);

(b) an overview of the remedy options we considered (see paragraphs 10.9 to 10.13);

[301] Section 35(3) of the Act, and *Merger remedies guidelines*, CMA87 (13 December 2018) (the Guidance), paragraph 3.2.
[302] The Act, sections 35(4) and 36(3).
[303] *Merger remedies guidelines*, CMA87, paragraph 3.4.

(c) our general approach to assessing remedy effectiveness (see paragraphs 10.14 to 10.15);

(d) our assessment of the effectiveness of a remedy requiring the full divestiture of Smartbox (the full divestiture remedy or full divestiture) (see paragraphs 10.16 to 10.98 and Appendix D);

(e) our assessment of the effectiveness of two remedy options proposed by Tobii as alternatives to a full divestiture remedy (see paragraphs 10.99 to 10.227 and Appendix E for Tobii's original remedy proposal and paragraphs 10.228 to 10.290 and Appendices F and G for its modified proposal);

(f) our conclusions on the effectiveness of the remedy options we considered (see paragraph 10.291);

(g) our assessment of any RCBs (see paragraphs 10.292 to 10.341);

(h) our assessment of the proportionality of our preferred remedy (see 10.342 to 10.372); and

(i) our final decision on remedies (see paragraphs 10.373 to 10.375).

10.4 In reaching our final decision on the appropriate remedy, we have considered the written responses to our public consultation on our notice of possible remedies (Remedies Notice)[304] and the evidence from our separate response hearings with Tobii, Smartbox and various third parties.[305]

10.5 Following the Parties' response hearings, we sent the Parties our Remedies Working Paper (RWP) which set out our provisional decision that a full divestiture of Smartbox would be the only effective and proportionate remedy and invited their comments on our assessment and provisional decision. In response to our RWP, we received substantive comments from Tobii.[306] In reaching our final decision on remedies, we have taken into consideration

[304] Remedies Notice, 30 May 2019.
[305] We received written responses to our Remedies Notice from Tobii and from the following third parties: *(a)* ZYTEQ pty Limited (Zyteq), an Australian-based reseller of Smartbox; *(b)* Barnsley Hospital NHS Foundation Trust Assistive Technology Team; *(c)* Communication and Learning Enterprises Limited (CandLE), a not-for-profit educational training organisation for AAC users; and *(d)* SCandLE Limited (SCandLE). We held response hearings with Tobii (24 June 2019) and Smartbox (25 June 2019) and with the following third parties: [✂].
[306] In response to our RWP, we received short representations and questions from Smartbox which were largely procedural in nature and did not raise new substantive issues.

Tobii's response to our RWP, together with its various submissions on alternative remedy proposals.[307]

10.6 In its response to our RWP, Tobii told us that the CMA had given substantial weight to, and the provisional conclusions it had reached in the RWP were highly dependent on, evidence given by the Smartbox management team, although, in its view, little of this evidence had been disclosed to Tobii or its advisers. Tobii told us that the CMA should [✂]. We disagree with Tobii about this characterisation of our assessment. In reaching our provisional conclusions on remedies in the RWP and our final conclusions set out in this report, we have carefully evaluated the weight that it is appropriate to place on the different evidence we have received, not only from Smartbox, but also from Tobii and third parties. In many instances, Smartbox made particular representations on detailed considerations of Tobii's Remedy Proposal, and we note that Tobii had the opportunity to comment on, or address, such representations to explain in each case why it considered that they were without foundation or merited limited or no weight (other than commenting on the possibility of [✂]). As in any investigation, we have had due regard to a range of factors including the incentives of the party giving that evidence; the extent to which the party had knowledge that was relevant to the statutory questions we are required to answer; and the extent to which the evidence was consistent with other evidence available to us.

Our SLC findings

10.7 We found that the Merger has resulted, or may be expected to result, in an SLC due to:[308]

(a) horizontal competition concerns in the supply of dedicated AAC solutions in the UK (the Horizontal SLC component);

(b) vertical competition concerns with regard to input foreclosure by the merged entity of Smartbox's Grid software to the Parties' rivals in the downstream supply of dedicated AAC solutions in the UK (the Grid Foreclosure SLC component); and

(c) vertical competition concerns with regard to customer foreclosure by the merged entity of Tobii's upstream competitors in the worldwide supply of eye gaze cameras to providers of dedicated AAC solutions including

[307] Tobii made further submissions to the CMA on its original remedy proposal on 1 July 2019 (Tobii submission on remedies) and 3 July 2019 (Clarification of Tobii's Remedy Proposal) and provided its response to our RWP on 12 July 2019. Following its response to our RWP, Tobii provided a further submission (dated 22 July 2019) in response to our request for clarification in relation to Tobii's modified remedy proposal.
[308] See paragraph 9.2.

providers serving customers in the UK (the Customer Foreclosure SLC component).

10.8 We found that this situation has resulted, or may be expected to result, in adverse effects, for example in the form of higher prices, lower quality, reduced product range and/or reduced innovation compared to what would otherwise have been the case absent the Merger. We could not identify any foreseeable development that would make us conclude that this SLC was time-limited.[309]

Overview of remedy options considered

10.9 In our Remedies Notice, which we published at the same time as our provisional findings report, we indicated our initial view that a full divestiture of Smartbox by Tobii appeared likely to be the only effective remedy and that we had not been able to identify a smaller and hence potentially more proportionate divestiture package that could form the basis of an effective structural remedy.[310] We also indicated our initial view that any behavioural remedy was very unlikely to be effective.[311]

10.10 However, we invited views on whether there were any other practicable remedy options we should be considering that could be effective in addressing the SLC and/or any resulting adverse effects.[312]

10.11 In its response to our Remedies Notice, Tobii proposed a package of remedies as an alternative to full divestiture, comprising both a structural and behavioural element (Tobii's Remedy Proposal).[313] Tobii supplemented this remedy proposal in its response to our RWP (Tobii's Modified Proposal[314]). Tobii's Modified Proposal was a variant of its original remedy proposal with modifications which Tobii told us were tailored to address the CMA's specific provisional concerns set out in the RWP in relation to Tobii's Remedy Proposal. Tobii considered each of Tobii's Remedy Proposal and Tobii's Modified Proposal to represent an effective and proportionate remedy.

---

309 See paragraph 9.2.
310 Remedies are conventionally classified as either structural or behavioural: *(a)* structural remedies, such as a divestiture, are generally one-off measures that seek to restore or maintain the competitive structure of the market through a direct change in market structure; while *(b)* behavioural remedies are designed to regulate or constrain the behaviour of merging parties, with the aim of restoring the level of competition absent the relevant merger situation.
311 Remedies Notice, paragraphs 13 and 14.
312 Remedies Notice, paragraph 15.
313 Tobii response to the Remedies Notice, paragraphs 22 to 34.
314 Tobii called this proposal 'Tailored remedy solution' in its submissions.

10.12 No other party, to whom we spoke or who responded to our Remedies Notice, suggested that we should consider alternative remedies to those we consulted on in our Remedies Notice.[315]

10.13 This chapter sets out our consideration of a full divestiture of Smartbox, Tobii's Remedy Proposal and Tobii's Modified Proposal.

General approach to assessing remedy effectiveness

10.14 Our Guidance states that assessing remedy effectiveness will involve several distinct dimensions, which can be summarised as follows:[316]

(a) **Impact on the SLC and its resulting adverse effects:** the CMA will normally seek to restore competitive rivalry through remedies that re-establish the structure of the market expected in the absence of the merger.

(b) **Appropriate duration and timing:** the CMA prefers a remedy that quickly addresses the competition concerns, with the effect of the remedy sustained for the likely duration of the SLC, rather than a remedy that is expected to have an effect only in the long-term or where the timing of its effect is uncertain.

(c) **Practicality:** a practical remedy should be capable of effective implementation, monitoring and enforcement.

(d) **Acceptable risk profile:** the CMA will seek remedies that have a high degree of certainty.

10.15 These considerations have shaped our assessment of the effectiveness of the potential remedies in the current case. We first consider the effectiveness of a full divestiture remedy before considering the effectiveness of Tobii's remedy proposals.

Full divestiture remedy: assessment of remedy effectiveness

10.16 In this section, we set out: *(a)* a brief description of the full divestiture remedy; *(b)* the views of the Parties and third parties on its overall effectiveness; *(c)* our assessment of the remedy's effectiveness (including whether a differently

[315] See footnote 305.
[316] *Merger remedies guidelines*, CMA87, paragraph 3.5.

configured divestiture package (eg a partial divestiture of Smartbox) could also be considered to be an effective remedy); and *(d)* our conclusions.

Remedy description

10.17 A full divestiture remedy would require Tobii to sell Smartbox to a suitable purchaser within a timeframe specified by the CMA.

Parties' and third parties' views on overall effectiveness

10.18 In our Remedies Notice, we invited views on whether a full divestiture of Smartbox would represent an effective remedy.[317]

10.19 While we note that Tobii disagreed with our provisional SLC finding, Tobii told us that a full divestiture of Smartbox would 'self-evidently' remove the entire horizontal overlap between Tobii Dynavox and Smartbox and also resolve any vertical foreclosure concerns that the CMA might have.[318] It added that full divestiture (through a sale of shares to a suitable purchaser) would resolve entirely any SLC that the CMA might identify and that this was the inevitable consequence of a remedy that required the Merger to be unwound in its entirety.

10.20 Smartbox told us that a full divestiture remedy would address the CMA's competition concerns and (in contrast to a possible alternative remedy involving less than full divestiture) would also ensure that Smartbox remained viable and continued to operate independently in the relevant markets in the future. All but one of the third parties we spoke to or who responded to our Remedies Notice[319] told us that a full divestiture of Smartbox to a suitable purchaser would be an effective remedy, with one third party silent on the question of whether a full divestiture remedy would be effective.[320]

10.21 Following Tobii's response to the Remedies Notice, Tobii wrote to 65 organisations outlining non-confidential aspects of its proposed commitments to the CMA and its strategy and future plans. We received some responses from third parties relevant to our consideration of the availability of a suitable purchaser and the potential benefits of the Merger. We consider these submissions later in this chapter when we assess the suitability and availability of potential purchasers under a full divestiture remedy (see paragraphs 10.35 to 10.53) and RCBs (see paragraphs 10.292 to 10.341).

---

[317] Remedies Notice, paragraph 21*(a)*.
[318] Tobii response to the Remedies Notice, paragraph 20.
[319] See footnote 305.
[320] Barnsley Hospital NHS Foundation Trust Assistive Technology Team response to the Remedies Notice.

Our assessment of the effectiveness of a full divestiture remedy

10.22 We would expect that a full divestiture of Smartbox by Tobii, if designed to address the practical risks normally associated with any divestiture remedy (see paragraphs 10.24 and 10.25 below), would re-establish the structure of the market and thereby restore the dynamic process of competition that existed between the Parties prior to the Merger. It would address all of our concerns at source by reversing the Merger which has given rise to the SLC and would therefore represent a comprehensive solution to all aspects of our SLC.

10.23 The remainder of this section focuses on the design of a full divestiture remedy, which is integral to our assessment of its effectiveness. We end this section with our conclusions on the effectiveness of a full divestiture remedy.

Full divestiture remedy: design considerations

10.24 There are three categories of risk that could impair the effectiveness of any divestiture remedy: composition risk, purchaser risk and asset risk:[321]

(a) composition risk arises if the scope of the divestiture package is too narrowly constrained or not appropriately configured to attract a suitable purchaser, or does not allow a purchaser to operate as an effective competitor;

(b) purchaser risk arises if a divestiture is made to a weak or otherwise inappropriate purchaser or if a suitable purchaser is not available; and

(c) asset risk arises if the competitive capability of the divestiture package deteriorates before completion of the divestiture.

10.25 An effective divestiture remedy should give us confidence that these practical risks can be properly addressed in its design. We therefore consider the following:

(a) the appropriate scope of the divestiture package;

(b) the identification and availability of suitable purchasers; and

(c) ensuring an effective divestiture process.

[321] *Merger remedies guidelines*, CMA87, paragraph 5.3.

(A) Scope of the divestiture package

10.26 As a result of the hold-separate requirements under our interim measures since completion of the Merger, limited integration between Tobii and Smartbox has taken place (see also paragraph 10.58 below). We therefore consider that it would be a relatively quick and simple exercise to specify the scope of the divestiture package under a full divestiture remedy without the need for a complex and drawn-out separation process, by requiring Tobii to sell all its shares in Smartbox and transfer all of Smartbox's assets and staff to a suitable purchaser. This would ensure that this remedy would effectively unwind the Merger transaction and mitigates the risk of omitting (or Tobii retaining) any key assets from the divestiture package.

Our assessment of the appropriate scope of the divestiture package

10.27 In considering the appropriate scope of the divestiture package, we aim to ensure that it: *(a)* addresses the SLC and its resulting adverse effects; *(b)* is attractive to potential purchasers; and *(c)* enables the eventual purchaser to operate the divested business as an effective competitor. The evidence we received from the Parties and third parties in relation to the appropriate scope of the divestiture package is set out in paragraphs D.2 to D.9 of Appendix D.

10.28 We set out in paragraph 10.22 above why we considered a full divestiture remedy was likely to be effective. In our Remedies Notice, we invited views on whether a differently configured divestiture package could also be considered as effective as a full divestiture remedy.[322]

10.29 There was a broad consensus from third parties that under a divestiture remedy, Smartbox should be divested in its entirety rather than broken up. While we have explored different partial divestiture structures with third parties during their response hearings (eg a partial divestiture involving the sale of Smartbox's UK business or a sale of its hardware or software business), no third party advocated that a partial divestiture remedy would be effective (see the evidence set out in paragraphs D.2 to D.3 of Appendix D). Several third parties indicated that there was a risk of undermining Smartbox's ability to compete effectively in the market if it was broken up in any way (see paragraphs D.3 of Appendix D).

10.30 We also noted the submissions from some of the third parties which indicated the importance of the continued involvement of Smartbox management and development team to ensure Smartbox's continued success in the relevant

[322] Remedies Notice, paragraphs 21*(b)* and 21*(c)*.

markets following a full divestiture remedy (see paragraphs D.3(a), D.3(d), D.3(e), D.3(f) and D.3(g) of Appendix D).

10.31 We noted the views of Smartbox that a partial divestiture remedy should be avoided to enable it to compete effectively, and that there were important benefits in terms of its competitive capability arising from Smartbox operating as a whole business, eg in relation to its ability to innovate and provide customer service (see paragraphs D.5 to D.9 of Appendix D).

10.32 In our view, narrowing the scope of a divestiture package from full divestiture to a partial divestiture would substantially increase the risk that a divestiture remedy would not be an effective solution to any component of our SLC. There are a number of reasons for this:

(a) A partial divestiture of Smartbox involving a sale of either Smartbox's hardware or software business would not address the horizontal competition concerns we have found in the supply of dedicated AAC solutions and would not fully restore the competitive constraint which Smartbox had imposed on Tobii and which would be lost under the Merger. This is because competition between the Parties took place across the four components of dedicated AAC solutions (namely, dedicated AAC hardware, AAC software, access means and customer support) and was not limited to either AAC hardware or AAC software. For example, based on our competitive assessment, we found that prior to the Merger, the Parties were close competitors in the supply of dedicated AAC solutions in the UK and that their competitive interaction may have intensified as Smartbox had plans to further improve its hardware while Tobii was working to improve its software.[323] At the same time, Tobii was conscious of a competitive gap between its software offering and that of Smartbox and, [✂].[324]

(b) A partial divestiture remedy which resulted in Tobii retaining the Grid would also not address our vertical concerns, with Tobii retaining the ability and incentives to foreclose its rivals from access to the Grid as an input (input foreclosure of dedicated AAC solutions competitors) and/or as a route to market (customer foreclosure of eye gaze camera competitors).

(c) A partial divestiture of either Smartbox's hardware or software business would be likely to:

[323] See paragraph 6.62.
[324] See paragraphs 6.61*(h)*.

(i) result in the divested business losing key elements of Smartbox's pre-Merger competitive capabilities in dedicated AAC solutions, as well as important revenue streams, which risks resulting in a significantly weakened and diminished Smartbox business with reduced financial capacity to maintain its ongoing investment into product development and customer support, such that the dynamic process of competition that existed between the Parties prior to the Merger would not be restored; and

(ii) increase the risk of undermining Smartbox's future competitive capabilities and weakening its core competences by destroying synergies between the different operations of a highly integrated, flexible and dynamic small company. This is a fundamental problem in terms of the impact of a partial divestiture remedy on the SLC we have found, and also increases the risk of not finding a purchaser that would be able to restore the rivalry between the Parties that would be lost under the Merger.

(d) We considered that a partial divestiture remedy could ultimately result in a more complex and drawn-out separation and divestiture process, creating further uncertainty in the market (which caters to the needs of vulnerable users),[325] and taking longer to establish what would essentially be a new competitive entity.

(e) We considered that a partial divestiture increased the risk of omitting key assets from the divestiture package. An option permitting Tobii to retain what might appear at first to be 'less critical' components of Smartbox could nonetheless have unintended consequences and undermine Smartbox's competitive capabilities. For example:

(i) **Software products:** we noted the evidence that indicated that Smartbox's software products were closely integrated and that its 'Look to Learn' software helped some users transition to the Grid. [✂] told us that 'Look to Learn' was an integral part of Smartbox's software suite (see paragraph D.3(a) of Appendix D) and similarly, [✂] told us that 'Look to Learn' should not be regarded as separate from the Grid, but rather the two should be regarded as a 'process' with 'Look to Learn' helping users learn how to use eye tracking devices from a young age before eventually using the Grid (see

[325] See paragraph 2.5.

paragraph D.3(c) of Appendix D). [✂] (see paragraph D.6 of Appendix D).

(ii) **Hardware products:** Smartbox told us that in order to meet the complex and varying needs of end-users, it would require the full range of its hardware devices (with their different product features) (see paragraph D.6 of Appendix D). In this regard, based on our competitive assessment, we found that prior to the Merger, Smartbox had been improving its hardware offering and developing a range of purpose-built hardware devices to complement its software offering,[326] and that Smartbox would have continued its efforts to improve its hardware under the counterfactual scenario.[327] We considered that the exclusion of any hardware device from the divestiture package would increase the risk of limiting Smartbox's ability to offer customers greater choice.

(iii) **Legal entities:** we considered that the omission of certain of Smartbox's legal entities other than SATL (eg SSIL and Smartbox Inc.) could result in unintended consequences and ultimately risk undermining Smartbox's future competitive capability and viability. For example, while we note that SSIL no longer carries out meaningful business activities,[328] SSIL should form part of any divestiture package as it holds Smartbox's intellectual property rights to the Grid, which are necessary for Smartbox to own the Grid and thereby enable it to develop and license it. In relation to Smartbox Inc., we noted that Smartbox's sales in the US and Canada represented [✂] for Smartbox (see Figure 2-1: Smartbox global and UK revenues 2017), the loss of which could have a [✂] adverse impact on Smartbox's viability and financial capacity (see (iv) below).

(iv) **Revenue streams:** when discussing Smartbox's software range at the response hearing, [✂](see paragraph D.6 of Appendix D). With respect to hardware, [✂] told us that there were synergies between Smartbox's hardware and software businesses, and that the hardware business was needed for its revenue stream which could then be used for the development of software, education and training (see paragraph D.3(e) of Appendix D). Smartbox told us that excluding Smartbox Inc. from the sale would [✂](see paragraph D.6 of Appendix D). We considered that exclusion of software or hardware products, or Smartbox Inc. from the divestiture package

[326] See paragraph 2.47.
[327] See paragraph 6.62.
[328] See paragraph 2.45.

would risk removing an important source of revenues, which could reduce Smartbox's financial capacity to invest into its future development.

10.33 For the reasons set out in paragraph 10.32 above, we consider the risk profile of a differently configured divestiture package other than the whole of Smartbox to be unacceptably high.

Conclusions on the appropriate scope of the divestiture package

10.34 Based on the above, we conclude that a divestiture package should comprise the whole of the Smartbox business, including, for the avoidance of doubt, Smartbox's management and development team, and that anything less than full divestiture would substantially increase the risk of a divestiture remedy being ineffective and undermine the ability of the divested Smartbox business to operate as an effective competitor.

Identification and availability of a suitable purchaser

10.35 We consider below the risks that Smartbox may be sold to a weak or otherwise inappropriate purchaser or that a suitable purchaser may not be available. We would normally mitigate these risks by satisfying ourselves that a potential purchaser:[329]

(a) is independent of Tobii;

(b) has the necessary capability to compete;

(c) is committed to competing in the relevant markets; and

(d) will not create further competition concerns.

10.36 In our Remedies Notice, we invited views on whether there were any specific factors to which the CMA should pay particular regard in assessing purchaser suitability, and whether there was a risk that a suitable purchaser was not available.[330] We set out the evidence we received from the Parties and third parties in relation to the suitability and availability of potential purchasers in paragraphs D.10 to D.18 of Appendix D.

[329] *Merger remedies guidelines*, CMA87, paragraph 5.21.
[330] Remedies Notice, paragraphs 23(a) and 23(b).

Our assessment of purchaser suitability and availability

10.37 We considered that the application of our usual criteria for purchaser suitability (see paragraph 10.35 above) within the specific context of this market would enable us to address all aspects of the key concerns raised by the Parties and third parties.

10.38 We noted the concerns of Smartbox and, particularly, third parties in relation to the significantly negative impact a divestiture to an unsuitable purchaser could have on end-users (see paragraphs D.10 to D.11 of Appendix D). We therefore considered that in this case, when assessing a potential purchaser's suitability, we should place particular emphasis on its capability and commitment to the relevant markets and supporting UK end-users of dedicated AAC solutions. In this regard, in its response to our RWP, Tobii agreed with us on the importance of a purchaser's capability and commitment to the relevant markets and users and added that it did not envisage these criteria to be particularly difficult to satisfy, as it had already received several approaches from businesses that would meet these criteria.

10.39 [✄]

10.40 [✄]

10.41 [✄]

10.42 [✄],[331] and noted the views from a number of third parties, who considered the existing Smartbox management team to be a suitable purchaser of Smartbox (see paragraph D.13 of Appendix D). Therefore, we see no basis to rule out Smartbox's management as a potential purchaser, either alone or in combination with others.

10.43 In relation to other potential purchasers, we noted that the evidence on the suitability of different types of potential purchasers was mixed (see paragraphs D.15 to D.17 of Appendix D). We consider that a potential purchaser's suitability to acquire Smartbox would depend on its particular circumstances and plans for the Smartbox business. Therefore, we do not consider it appropriate to rule out at this stage any type of purchaser and consider that we will assess the suitability of a potential purchaser on its own merits on a case-by-case basis.

[331] For example, while Tobii considered that [✄], we note that [✄] the sale of Smartbox to Tobii was the preferred option (compared to an MBO option which was considered at the time) because the majority shareholders were keen to retire from the business and wanted to realise the full value of their shares. See paragraph 4.7.

10.44 In relation to the availability of a suitable purchaser, we provisionally concluded in our RWP that the risk of not finding a suitable purchaser was low. In its response to our RWP, Tobii told us that it agreed with us that there was likely to be considerable interest in any divested business (see paragraph D.18(a) of Appendix D).

10.45 We noted that the feedback from the Parties and third parties was mixed, in that some parties (including Tobii) considered it likely that a suitable purchaser could be found, whereas others were more sceptical (see paragraph D.18 of Appendix D). However, we noted that Smartbox was a profitable[332] standalone business capable of operating autonomously, with commercially successful products in the relevant markets (including its flagship AAC software, the Grid) and a strong track record of innovation and customer support. We considered that these factors would be attractive to potential purchasers.

10.46 Smartbox's attractiveness as a potential acquisition package appears to be corroborated on the basis that Tobii and Smartbox have each already received some unsolicited approaches from third parties interested in exploring a possible acquisition of Smartbox. [✂].

10.47 We also noted that a number of third parties considered the existing Smartbox management team to be a suitable purchaser of Smartbox, eg through an MBO of the Smartbox business (see paragraph D.13 of Appendix D). In this regard, we noted that Smartbox management [✂],and had in the past already explored the possibility of an MBO of Smartbox as an alternative to a sale to Tobii.[333] In its response to our RWP, [✂]. We consider [✂].

10.48 Taking the evidence above in paragraphs 10.44 to 10.47 in the round, we consider that the risk of no suitable purchaser coming forward for a full divestiture of Smartbox is low given: the nature of the divestiture package; the balance of views (including those from Tobii) on the apparent level of interest from potential purchasers; the unsolicited approaches which we understand have already been made to Tobii and Smartbox (albeit the details of these approaches have not yet been disclosed to us); [✂].[334]

---

[332] See paragraphs 4.24 to 4.32.
[333] See paragraphs 4.6 to 4.9.
[334] We note that in any case, our Guidance states that in 'relation to whether divestiture is feasible, substantial uncertainty as to whether a suitable purchaser will emerge will generally not be sufficient for the CMA to conclude that any form of divestiture remedy is not feasible', and that the 'CMA has found that it is normally possible to implement divestiture remedies, despite such uncertainties, given flexibility in the disposal price'. Source: *Merger remedies guidelines*, CMA87, paragraph 3.51.

Conclusions on purchaser suitability and availability

10.49 We conclude that our standard purchaser suitability criteria (as described in paragraph 10.35 above) would need to apply in this case. The CMA would wish to satisfy itself that a potential purchaser meets the following criteria (Purchaser Suitability Criteria):

(a) **Independence:**

(i) The potential purchaser must have no significant connection to Tobii or conflicts of interest that may compromise its incentives to compete effectively with Tobii (eg an equity interest, common significant shareholders, shared directors). The CMA will consider the nature and materiality of any existing structural or financial links between the potential purchaser and Tobii, including any form of collaboration (eg in product development or product sales and marketing) and trading relationship.

(ii) The CMA will also pay close attention to any ongoing links between Tobii and the purchaser that would likely arise as a result of a full divestiture remedy. The CMA may require, if necessary, that such links be severed or otherwise addressed as a condition for any approval.[335]

(b) **Capability:**

(i) The potential purchaser must have access to appropriate financial resources, expertise (including managerial, operational and technical capability) and assets to enable the Smartbox business to be an effective competitor in the market. This access should be sufficient to enable Smartbox to continue to develop as an effective competitor.

(ii) The CMA will also consider the ability of the potential purchaser to complete the transaction in a timely manner and within the agreed divestiture process timetable.

(c) **Commitment:** the CMA will wish to satisfy itself that the potential purchaser has an appropriate business plan (eg the continuation and/or further development of Smartbox's pre-Merger strategy) and objectives for competing in the relevant markets, and that the potential purchaser has the incentive and long-term commitment to maintain and operate the Smartbox business as part of a viable and active business in competition

[335] *Merger remedies guidelines*, CMA87, paragraph 5.24.

with Tobii and other competitors in the relevant markets and to support end-users who use dedicated AAC solutions.

(d) **Absence of competition concerns:** the CMA must be confident that the potential purchaser does not itself create a realistic prospect of an SLC within any market or markets in the UK, and that it would not expect to investigate an acquisition of Smartbox by this purchaser regardless of whether or not the transaction constitutes a relevant merger situation under the Act.[336]

10.50 We conclude that given the potentially significant negative impact a divestiture to an unsuitable purchaser could have on end-users (see paragraph 10.38 above), when assessing a potential purchaser's suitability, the CMA will place particular emphasis on its capability and long-term commitment to the relevant markets and to supporting end-users who use AAC services.

10.51 We conclude that it would not be appropriate at this stage to rule out any purchasers, including for the avoidance of doubt, PRC (Liberator) or Jabbla (Techcess), a financial buyer, the existing Smartbox management team or a Tobii reseller. The CMA will assess the suitability of any potential purchaser on its individual merits and against our Purchaser Suitability Criteria.

10.52 We also conclude that the risk of no suitable purchaser coming forward for a full divestiture of Smartbox is low.

10.53 Under a full divestiture remedy, the eventual purchaser and final transaction documents would be subject to CMA approval.

(C) Ensuring an effective divestiture process

10.54 An effective divestiture process will safeguard the competitive potential of the divestiture package before disposal and will enable a suitable purchaser to be secured in an acceptable timescale, as well as allowing prospective purchasers to make an appropriately informed acquisition decision.[337]

10.55 The circumstances of this case raise the following issues for consideration in relation to the divestiture process:

[336] *Merger remedies guidelines*, CMA87, paragraph 5.27.
[337] *Merger remedies guidelines*, CMA87, paragraph 5.33.

(a) the need for our existing interim measures to continue, and the need for additional interim measures during the divestiture process;

(b) the treatment of an existing distributor agreement between Tobii and Smartbox, ie the DA,[338] as part of the divestiture process;

(c) the appropriate timescale for divestiture to take place; and

(d) whether, and under what circumstances, there is a need to appoint an external and independent trustee to complete a divestiture (Divestiture Trustee) to mitigate the risk that the divestiture does not complete within the agreed timescales.

10.56 We consider these in turn below.

Interim measures

10.57 In our Remedies Notice, we indicated that we would expect the existing Monitoring Trustee's appointment to continue throughout any divestiture process and invited views on whether any additional risks might arise during the divestiture process and whether the Monitoring Trustee's functions should be amended to oversee the divestiture.[339] We set out the evidence we received from the Parties and third parties in relation to interim measures in paragraphs D.19 to D.26 of Appendix D.

Our assessment of interim measures

10.58 We put in place a number of interim measures following completion of the Merger on 1 October 2018, for the purpose of preserving the whole of the Smartbox business as a potential divestiture package by maintaining it as an independent business and preventing any further integration between the Parties. A Monitoring Trustee was appointed to monitor the Parties' compliance with these interim measures.[340]

10.59 Both Tobii and Smartbox identified risks that may arise during a divestiture process. For example, Tobii pointed to [✂], and Smartbox raised concerns about Tobii's access to commercially sensitive information and the need for

[338] See paragraph 4.36*(b)*.
[339] Remedies Notice, paragraph 26.
[340] Our interim measures comprised an Initial Enforcement Order (which was served on 27 September 2018 and came into force on 1 October 2018 upon completion of the Merger) during the CMA's phase 1 investigation, which was subsequently replaced by an Interim Order (which came into force on 18 February 2019) at the outset of the phase 2 investigation. During our phase 2 investigation, we issued an Unwinding Order on 28 February 2019 to reverse certain of the Parties' pre-emptive actions. A Monitoring Trustee was appointed during the CMA's phase 1 investigation to monitor the Parties' compliance with their obligations under our interim measures. The Monitoring Trustee's appointment continued during the phase 2 investigation.

Smartbox to continue to operate as an independent competitor throughout the divestiture process (see paragraphs D.19 to D.25 of Appendix D). No third parties commented on interim measures (see paragraph D.26 of Appendix D).

10.60 We consider that under a full divestiture remedy, there would be a continuing need to preserve the independence and competitive capability of the Smartbox business. As our Guidance acknowledges, although 'merger parties will normally have an incentive to maximise the disposal proceeds of a divestiture, they will also have incentives to limit the future competitive impact of a divestiture on themselves'.[341]

10.61 We therefore consider that our existing interim measures should continue to remain in force during the implementation of this remedy until completion of the full divestiture remedy, and that the existing Monitoring Trustee's appointment should continue to monitor the Parties' compliance with them.

10.62 We consider that the Monitoring Trustee should also be involved in certain aspects of the divestiture process (as appropriate), consistent with our Guidance,[342] in order to monitor the Parties' compliance with any final order or undertakings in relation to a full divestiture remedy and to ensure an efficient divestiture process. The Monitoring Trustee's role would include (but not be limited to): monitoring Tobii's progress in relation to the divestiture process; monitoring both Tobii's and Smartbox's conduct during the divestiture process [✂]; and overseeing the operation of any data room and clean teams to ensure that robust controls and safeguards are put in place (and complied with) to ensure Smartbox's proprietary, confidential and commercially sensitive information is appropriately protected during any due diligence process (see also paragraph D.25 of Appendix D). We would adjust the Monitoring Trustee's mandate to reflect these new functions as part of any final order or undertakings.

10.63 As noted above, we consider that part of the Monitoring Trustee's mandate should involve monitoring the conduct of [✂].

10.64 Separately, we considered whether there was a need to appoint an independent interim manager with executive powers to manage the Smartbox business during the divestiture process (Hold Separate Manager).

10.65 On the basis of our current understanding that the existing Smartbox management team will remain in place during any divestiture process, we

[341] *Merger remedies guidelines*, CMA87, paragraph 5.4.
[342] *Merger remedies guidelines*, CMA87, paragraphs 4.43 and 5.38.

consider that it would not be necessary at this stage to appoint a Hold Separate Manager to maintain the independent running of the Smartbox business during the divestiture process. However, the CMA would revisit this if the current circumstances were to change materially.

10.66 In its response to our RWP, Tobii agreed with our provisional view that no 'additional' interim measures were required at this stage, and that it was not necessary to appoint a Hold Separate Manager. Tobii also accepted that a Monitoring Trustee would be required during the divestiture period but requested that the CMA should ensure that the work undertaken by the Monitoring Trustee was reasonable and proportionate (see paragraph D.20 of Appendix D).

Conclusions on interim measures

10.67 Based on the above, we conclude that the Parties' current obligations under our existing interim measures, namely the Interim Order and the Unwinding Order, should continue to apply until completion of the full divestiture remedy, and that the Monitoring Trustee's appointment should continue in order to monitor the Parties' compliance with these interim measures under any final order or undertakings.

10.68 We also conclude that the scope of the Monitoring Trustee's engagement should be expanded to include:[343]

(a) the monitoring of, and periodical reporting to the CMA on, Tobii's progress in relation to the divestiture process;

(b) monitoring both Tobii's and Smartbox's conduct during the divestiture process to ensure an effective and efficient divestiture process, including overseeing the operation of any data room and clean teams to ensure that robust controls and safeguards are put in place to ensure Smartbox's proprietary, confidential and commercially sensitive information is appropriately protected. This extension of the Monitoring Trustee's role would also provide an additional safeguard against [✂];

(c) reviewing the divestiture process marketing materials prepared by Tobii (or its external advisers) to ensure their consistency with the requirements of a full divestiture remedy; and

(d) assisting the CMA (as appropriate) to ensure an effective divestiture.

[343] See also *Merger remedies guidelines*, CMA87, paragraphs 4.43 and 5.38.

10.69 While we have decided not to impose a Hold Separate Manager, we conclude the CMA should reserve its right (in any final order or undertakings) to appoint a Hold Separate Manager if Smartbox's current circumstances were materially to change.

Treatment of the distributor agreement between Tobii and Smartbox

10.70 In our Remedies Notice, we invited views on how a divestiture remedy should treat an existing distributor agreement (which was entered into by the Parties in August 2018), whereby Tobii Dynavox agreed to act as a distributor of Smartbox's products worldwide (ie the DA).[344] We also invited views on whether the new owner of Smartbox should be given the option to terminate, renegotiate, or continue to implement the DA.[345] We set out the evidence we received from the Parties and third parties in relation to the treatment of the DA in paragraphs D.27 to D.29 of Appendix D.

Our assessment of the treatment of the distributor agreement

10.71 Neither the Parties nor any third parties suggested that the CMA should require the DA to be terminated (see paragraphs D.27 to D.29 of Appendix D). In considering the treatment of the DA under a full divestiture remedy, we have assessed whether amending or terminating this agreement is necessary to ensure the effectiveness of a full divestiture remedy.

10.72 We consider that the implementation of a full divestiture remedy and the separation of ownership of Tobii and Smartbox would lead to the restoration of the Parties' respective independent incentives.

10.73 Given that the DA is non-exclusive, we consider that under a full divestiture remedy the continuation of the DA would not undermine the future independence of Smartbox nor the aims of this remedy to restore competition between Tobii and Smartbox.

Conclusions on the treatment of the distributor agreement

10.74 We conclude that it would not be necessary to require the termination of the DA in its current form. The CMA would expect to review any potential amendments to the DA which a potential purchaser may seek (if applicable) and any other agreements entered into between Tobii and the purchaser at the time of divestiture in line with our normal practice. Following divestiture, it would be a matter for Tobii and the purchaser of the divested business to

[344] See paragraph 4.36(b).
[345] Remedies Notice, paragraph 21*(c)*.

determine what, if any, ongoing commercial relationship they wished to pursue, subject to the normal application of competition law.

Timescale to complete a full divestiture

10.75 In our Remedies Notice, we invited views on the appropriate timescale for achieving a divestiture.[346] We set out the evidence we received from the Parties and third parties in relation to the appropriate timescale for completing a full divestiture in paragraphs D.30 to D.37 of Appendix D.

Our assessment of the timescale to complete a divestiture

10.76 We considered what might be an appropriate timescale in which Tobii should implement a full divestiture remedy (the Initial Divestiture Period), which would normally run from the making of a final order or acceptance of final undertakings (for which the statute provides a period of up to 12 weeks after the final report)[347] until legal completion of an effective divestiture (ie a sale to a purchaser approved by the CMA).

10.77 In considering an appropriate Initial Divestiture Period, our Guidance states that we will seek to balance factors which favour a shorter duration, such as minimising asset risk and giving rapid effect to the remedy, with factors that favour a longer duration, such as canvassing a sufficient selection of potential suitable purchasers and facilitating adequate due diligence. Our Guidance also states that the Initial Divestiture Period will normally not exceed six months.[348]

10.78 [✂]. We noted Tobii's view that there may be more due diligence requirements (for both Tobii and potential purchasers) for a full divestiture of Smartbox than a partial divestiture (see paragraphs D.31 and D.32 of Appendix D).

10.79 In our RWP, we set out our provisional view that [✂] would be an appropriate Initial Divestiture Period. In its response to our RWP, Tobii accepted that an Initial Divestiture Period of [✂] would be appropriate for a full divestiture remedy, subject to it having the right to request an extension if it was not possible to complete a divestiture within this period for reasons that were outside of its reasonable control, [✂].

[346] Remedies Notice, paragraph 24.
[347] This period may be extended once by up to six weeks (section 41A(2) of the Act) if the CMA considers there are special reasons for doing so, see also *Merger remedies guidelines*, CMA87, paragraph 4.68.
[348] *Merger remedies guidelines*, CMA87, paragraph 5.41.

10.80 In response to Tobii's submission above (in paragraph 10.79), the CMA will consider whether any request made by Tobii for an extension to the Initial Divestiture Period is reasonable based on the circumstances and facts available to the CMA and whether Tobii could have reasonably anticipated and/or avoided such delays. [✂].

10.81 We thought it possible that divestiture could take place in a shorter time period than [✂] given: *(a)* our view that the risk of not finding a suitable purchaser was low (see paragraphs 10.48 and 10.52 above); and *(b)* the fact that Smartbox has only recently undergone a sale process (which completed in October 2018) and therefore it should not take long to update any data room information and provide any supplemental information which a potential purchaser may need to assess the potential transaction (we note that Smartbox confirmed it could easily refresh previous sales materials should it need to provide this information in a data room, see paragraph D.36 of Appendix D). We also noted those submissions from third parties that advocated a shorter period than [✂] (see paragraph D.37 of Appendix D).

10.82 However, on balance, we consider [✂] to be an appropriate Initial Divestiture Period provided Smartbox is able to continue to operate independently, including progressing R&D, and to minimise the risk of material deterioration in its business during the divestiture process. If this is the case, the asset risks associated with allowing up to [✂] for the Initial Divestiture Period would be acceptable.

Conclusions on the timescale to complete a divestiture

10.83 We conclude that the Initial Divestiture Period should be [✂] and that Tobii should be required to submit a draft timetable for the CMA's approval. We consider that this should be sufficient time for Tobii to achieve fair market value. The CMA and the Monitoring Trustee will monitor Tobii's progress against an approved timetable (see also paragraph 10.68 above).

Divestiture Trustee

10.84 We consider below whether there is a need for a Divestiture Trustee, either to be appointed at the outset of the divestiture process or (more conventionally) to be appointed during the Initial Divestiture Period if the CMA is concerned that Tobii will not achieve an effective disposal within the Initial Divestiture Period.

10.85 In our Remedies Notice, we invited views on whether the circumstances of this Merger necessitated the appointment of a Divestiture Trustee at the outset of the divestiture process.[349] We set out the evidence we received from the Parties and third parties in relation to the possible appointment of a Divestiture Trustee in paragraphs D.38 to D.40 of Appendix D.

Our assessment of whether to appoint a Divestiture Trustee

10.86 The ability to appoint a Divestiture Trustee enables the CMA to manage risks that the merger parties take an unacceptably long period of time to achieve a sale. Our Guidance states that if appointed, a Divestiture Trustee should be tasked with completing the divestiture of Smartbox to a potential purchaser approved by the CMA and that the divestiture will be at the 'best available price in the circumstances'.[350] The CMA's published report evaluating past merger remedies also notes that evaluations of 'prolonged or otherwise unsatisfactory divestiture processes have highlighted the importance of including provision for sale of the divestiture package by divestiture trustees at no minimum price'.[351]

10.87 Our purchaser approval process would mitigate the risk of an unsuitable purchaser acquiring Smartbox. However, it would not mitigate the risk that an effective divestiture may not be achieved in a timely manner. For example, if the CMA were to reject all of the potential purchasers shortlisted by Tobii during a divestiture process, this could have significant implications on the timely completion of this remedy.

10.88 We consider that the possibility of CMA intervention by way of a Divestiture Trustee appointment would ensure that Tobii considers carefully the CMA's Purchaser Suitability Criteria when shortlisting potential purchasers for the CMA's approval. We consider that this would provide Tobii with stronger incentives to run an efficient process and reduce its incentives to target potential purchasers whom it perceives to be weaker competitors.

10.89 However, currently, we do not see a need to require a Divestiture Trustee from the outset of the divestiture process, provided that Tobii engages constructively with the process, for example in relation to its proposed timetable for divestiture (see paragraph 10.83 above). We note that neither Tobii nor Smartbox considered a Divestiture Trustee to be necessary at the outset (see paragraphs D.38 and D.39 of Appendix D) and that most third parties who commented on this issue considered that Tobii should first be

[349] Remedies Notice, paragraphs 27 and 28.
[350] *Merger remedies guidelines*, CMA87, paragraph 5.43.
[351] *Merger remedy evaluations – Report on case study research*, CMA109 (18 June 2019), paragraph 1.5*(a)*(iii).

given an opportunity to carry out the divestiture without a Divestiture Trustee (see paragraph D.40 of Appendix D).

Conclusions on whether to appoint a Divestiture Trustee

10.90 Based on the above, to ensure a timely completion of this remedy, we conclude that under a full divestiture remedy the CMA should reserve its right (in any final order or undertakings) to appoint a Divestiture Trustee.

10.91 We conclude that the CMA should exercise the power to appoint a Divestiture Trustee if:

(a) [✂];

(b) [✂];

(c) [✂]; and/or

(d) [✂].

10.92 We also conclude that, in line with the CMA's normal practice (see paragraph 10.86 above), if appointed, a Divestiture Trustee should be tasked with completing the divestiture of Smartbox to a potential purchaser approved by the CMA [✂].

Conclusions on the effectiveness of a full divestiture remedy

10.93 Based on our assessment above, and considering the principles set out in our Guidance (described in paragraph 10.14 above) for assessing remedy effectiveness, we conclude that a full divestiture remedy would address our competition concerns at source and therefore prevent any component of the SLC and consequently any resulting adverse effects we have identified arising from the Merger. It therefore represents a comprehensive solution to every aspect of the SLC we have found.

10.94 We would expect a remedy designed according to our specifications detailed above, requiring a full divestiture of Smartbox to a suitable purchaser, to restore on its completion the market structure and dynamic rivalry expected in the absence of the Merger[352] and, therefore, to have an immediate and comprehensive effect in addressing our SLC and its resulting adverse effects. The implementation of a full divestiture remedy can be expected to quickly

[352] *Merger remedies guidelines*, CMA87, paragraph 3.5(a).

address the competition concerns that we have identified and would address our SLC and its resulting adverse effects throughout its expected duration.[353]

10.95 In relation to the practicality of implementing a full divestiture remedy, we would be able to specify the scope of the divestiture package (in particular given the limited integration to date) and obviate the need to go through a potentially complex and drawn-out separation process required for a partial divestiture. In this regard, we would also expect a remedy requiring the full divestiture of Smartbox to involve little risk of omitting any key assets that may be necessary to ensure Smartbox's standalone viability and competitive capability and therefore ensure Smartbox's ongoing ability to exert an effective competitive constraint on Tobii.

10.96 We also considered the practical issues relating to the potential composition, purchaser and asset risks normally associated with a divestiture remedy and conclude that the design of a full divestiture remedy as we have specified above fully addresses these risks. We have set out above our conclusions on the criteria for a suitable purchaser and the procedural safeguards which should be put in place to ensure an effective divestiture process. We considered the likelihood of achieving a successful divestiture and concluded that the risk of not finding a suitable purchaser was low. Therefore, we conclude that the divestiture remedy would be capable of effective implementation and require minimal ongoing monitoring and enforcement after its full implementation.[354]

10.97 In relation to the risk profile of a full divestiture remedy, given that a full divestiture of Smartbox would address the SLC and resulting adverse effects at source, we conclude that there is a high degree of certainty that this remedy would achieve its intended effect.[355] We therefore conclude that the risks in terms of the effectiveness of a full divestiture remedy are low.

10.98 In summary, we conclude that a full divestiture of Smartbox to a suitable purchaser would be effective in addressing the SLC we have found. We would expect a full divestiture remedy to be a timely and low risk solution to the SLC we have identified, with minimal future monitoring required by the CMA or others.

[353] *Merger remedies guidelines*, CMA87, paragraph 3.5(b).
[354] *Merger remedies guidelines*, CMA87, paragraph 3.5(c).
[355] *Merger remedies guidelines*, CMA87, paragraph 3.5(d).

Tobii's Remedy Proposal: assessment of remedy effectiveness

10.99 In its response to our Remedies Notice, Tobii told us that a full divestiture remedy would be disproportionate and (without prejudice to its disagreement with our provisional SLC finding) proposed an alternative remedy, ie Tobii's Remedy Proposal, which had a structural element which Tobii considered would address our horizontal concerns and a behavioural element to address any remaining vertical foreclosure concerns.[356]

10.100 Below, we set out: *(a)* a brief description of Tobii's Remedy Proposal; *(b)* the views of Tobii on the remedy's overall effectiveness; *(c)* our own assessment of the remedy's effectiveness; and *(d)* our conclusions.

Remedy description

10.101 Tobii proposed the following package of remedies to address the SLC and its resulting adverse effects:[357]

(a) to address the Horizontal SLC component, Tobii proposed to divest Smartbox's global AAC hardware business to a purchaser approved by the CMA, with Tobii granting the divested Smartbox hardware business a perpetual worldwide licence for the Grid (and all other Smartbox software) on fair, reasonable and non-discriminatory (FRAND) terms and providing the divested Smartbox hardware business with an agreement permitting it to resell Tobii Dynavox eye gaze cameras (the Hardware Divestiture element);

(b) to address the Grid Foreclosure SLC component, Tobii proposed the following commitments for five years (subject to a CMA review after three years to assess the ongoing need for these commitments to remain in place):

(ii) a commitment to continue licensing the Grid to competing suppliers of dedicated AAC solutions on FRAND terms (Grid FRAND access); and

(iii) a cap on the Grid licence fee (the Grid price cap) based on a discount to the current retail price (subject to indexation for inflation) (items *(b)*(i) and *(b)*(ii) together, the Grid Licensing element); and

(c) to address the Customer Foreclosure SLC component, Tobii proposed the following commitments for five years:

[356] Tobii response to the Remedies Notice, paragraph 20.
[357] Tobii response to the Remedies Notice, paragraphs 6 and 33.

(iv) a commitment for the Smartbox software business (which Tobii would retain) to fulfil any existing R&D partnerships (collaboration agreements) with other suppliers of eye gaze cameras for AAC applications (namely, Alea, EyeTech, Irisbond and LC Technologies);

(v) making the Grid available to competing suppliers of eye gaze cameras on FRAND terms to enable them to design their products to work with the Grid; and

(vi) [✂] (items *(c)*(i), *(c)*(ii) and *(c)*(iii) together, the Eye Gaze FRAND element).

Tobii's views on overall effectiveness of Tobii's Remedy Proposal

10.102 Tobii told us that, while it remained of the view that the Merger would not result in an SLC in any relevant market, it had identified comprehensive remedies that would restore effective competition in all the relevant markets and thereby resolve the SLC that the CMA had identified. It told us that the remedies it had identified were proportionate and effective, unlike the 'sole remedy' identified by the CMA (ie a full divestiture of Smartbox), which in Tobii's view would be 'manifestly disproportionate'.[358]

10.103 Tobii told us [✂].[359]

Our assessment of effectiveness of Tobii's Remedy Proposal

10.104 We now consider whether Tobii's Remedy Proposal would be an effective remedy.

10.105 We described the risk framework used by the CMA in evaluating structural remedies in paragraph 10.24 above. This applies to the Hardware Divestiture element.

10.106 To assess the behavioural elements of Tobii's Remedy Proposal, ie the Grid Licensing element and the Eye Gaze FRAND element, we considered our Guidance, which states that to enable behavioural remedies to be as effective as possible, their design should seek to avoid four risks:[360]

[358] Tobii response to the Remedies Notice, paragraph 35.
[359] We have taken this into account in our assessment of RCBs.
[360] *Merger remedies guidelines*, CMA87, paragraph 7.4.

(a) **Specification risks:** these risks arise if the form of conduct required to address the SLC or its adverse effects cannot be specified with sufficient clarity to provide an effective basis for monitoring and compliance.

(b) **Circumvention risk:** as behavioural remedies generally do not deal with the source of an SLC, it is possible that other adverse forms of behaviour may arise if particular forms of behaviour are restricted. Therefore, to avoid or reduce these risks, behavioural measures need to deal with all the likely substantial forms in which enhanced market power may be applied.

(c) **Distortion risks:** these are risks that behavioural remedies may create market distortions that reduce the effectiveness of these measures and/or increase their effective costs. Distortion risks may result from remedies overriding market signals or encouraging circumvention behaviour.

(d) **Monitoring and enforcement risks:** even clearly specified remedies may be subject to significant risks of ineffective monitoring and enforcement. This may be due to a variety of causes, such as the volume and complexity of information required to monitor compliance; limitations in monitoring resources; asymmetry of information between the monitoring agency and the business concerned; and the long timescale of enforcement relative to a rapidly moving market.

10.107 As part of our assessment, we considered the views of Tobii and Smartbox. We also considered the relevant views of third parties on partial divestiture and the effectiveness of behavioural remedies in the relevant markets, expressed in their respective response hearings (which were held prior to Tobii making its remedy proposals to us). Smartbox was provided with a confidential redacted version of Tobii's response to our Remedies Notice which contained the details of Tobii's Remedy Proposal, where, among other redactions, all references to the Hardware Divestiture element and the [✀] were redacted in their entirety. A separate non-confidential version of Tobii's response to our Remedies Notice was published.[361]

10.108 While we note that Tobii had proposed its remedy as a package of remedy measures, rather than as three separate and standalone remedies, we have approached our assessment of the effectiveness of Tobii's Remedy Proposal by first considering the effectiveness of each element on a standalone basis (namely the Hardware Divestiture element, the Grid Licensing element and the Eye Gaze FRAND element). We then considered the overall

[361] The published, redacted version of Tobii's response to the Remedies Notice can be found here.

effectiveness of these three elements taken together as a package of remedy measures (as Tobii originally intended), by considering whether bringing these elements together would mutually reinforce each of them and address any individual element's deficiencies.

Assessment of 'standalone' effectiveness of the Hardware Divestiture element

10.109 We first set out Tobii's views on the effectiveness of the Hardware Divestiture element, before setting out our own assessment.

10.110 As noted above, our third-party response hearings were held following publication of our Remedies Notice and before Tobii had submitted any remedy proposals. Once submitted, parts of Tobii's Remedy Proposal were identified as confidential. Nonetheless, we discussed different hypothetical remedy options with Smartbox and third parties, including a partial divestiture remedy, and in doing so were able to obtain views from third parties and Smartbox relevant to the assessment of Tobii's Remedy Proposal (their views relevant to partial divestiture are set out in paragraphs D.2 to D.9 of Appendix D).

Tobii's views on effectiveness of the Hardware Divestiture element

10.111 Tobii told us that the CMA's horizontal unilateral effects concerns were based on Smartbox's supply of a single 'high-end' device, the Grid Pad 12, as this was the only Smartbox hardware that might have had a competitive overlap with the devices sold by Tobii Dynavox. It added that Smartbox did not have an equivalent device to Tobii Dynavox's Indi device and Tobii Dynavox did not sell 'wrapped tablets'.[362]

10.112 Tobii told us that to remove the horizontal overlap identified by the CMA in the supply of dedicated AAC solutions, it proposed to divest Smartbox's entire AAC hardware business on a global basis and added that this would include all of Smartbox's hardware-related staff, including the relevant R&D and product development staff, as well as the necessary product specification and support staff in the UK.[363] Tobii told us that this remedy would leave Tobii owning only Smartbox's software business.[364]

10.113 Tobii provided a more detailed scope for its proposed partial divestiture package, which we provide in Appendix E. Tobii told us that its proposed scope of the divestiture package was high-level at that stage and was based

[362] Tobii response to the Remedies Notice, paragraph 22.
[363] Tobii response to the Remedies Notice, paragraph 23.
[364] Tobii response to the Remedies Notice, paragraph 24.

on standardised text, but added that it was prepared to be flexible on the scope of the divestiture package. It added that the final scope of the final divestiture package would depend on the eventual purchaser's requirements. For example, Tobii told us that:

(a) if the purchaser had its own electronics expertise, it might not need similar staff from Smartbox. It also told us that what would happen to Smartbox management under this remedy element would be a matter for Smartbox management and depend on the purchaser; and

(b) while it was not aware of how many of Smartbox's contracts with resellers would need to transfer to the purchaser, this would also depend on the purchaser's requirements and the revenue stream it needed. It also considered that Smartbox's relationships with its global resellers and distributors would be attractive to a purchaser as those relationships would take time and effort for a purchaser to replicate.

10.114 Tobii told us that its proposed commitments to provide the divested Smartbox hardware business with a perpetual worldwide licence to Smartbox's software (including the Grid) and an agreement permitting it to resell Tobii eye gaze cameras would ensure that the divested Smartbox hardware business would be an effective competitor.[365] It added that a purchaser would be able to negotiate the terms of the perpetual worldwide Grid licence with Tobii.

10.115 Tobii told us that its proposed divestiture package would: *(a)* address the competitive overlap and restore the status quo ante by ensuring that when sold to a suitable purchaser, Smartbox would be able to continue selling all existing AAC solutions that were presently sold by it (on a worldwide basis); and *(b)* provide Smartbox with the necessary resources both to remain an effective competitor and to continue developing new AAC devices.[366] It added that the purchaser of Smartbox's hardware business would provide assurances on the level of customer service it would provide.

10.116 In relation to whether the Hardware Divestiture element would address any loss in innovation expected under the relevant merger situation:

(a) With regard to compatibility between third-party AAC hardware devices and the Grid, Tobii told us that there would be no loss in innovation under its proposal as it would want to ensure that the needs of its customers (ie dedicated AAC solutions providers) were met. It added that if the

[365] Tobii response to the Remedies Notice, paragraph 25.
[366] Tobii response to the Remedies Notice, paragraph 26.

dedicated AAC solutions provider was dissatisfied with Tobii's innovation, then it could develop its own AAC software instead of using the Grid.

(b) Tobii told us that in relation to AAC software innovation specifically, this was difficult to answer as it depended on the purchaser, eg if the purchaser of Smartbox's hardware business had its own software capabilities, then Tobii would be in competition with the purchaser of Smartbox.

10.117 However, Tobii told us that since the CMA did not find a horizontal overlap in AAC software in its provisional findings, innovation in the Grid software was not a problem it needed to address.

10.118 Tobii told us that it believed that there would be 'considerable interest' in acquiring a divestiture business 'of this nature', and that it had already (in view of the CMA's inquiry) [✄]. It added that this divestiture could be implemented quickly and within [✄].[367]

Our assessment of 'standalone' effectiveness of the Hardware Divestiture element

10.119 While Tobii told us that the Hardware Divestiture element would comprehensively address our horizontal concerns, we considered that Tobii had based this submission on a different and much narrower characterisation of our Horizontal SLC component (see paragraphs 10.111 and 10.112 above concerning only dedicated AAC hardware) than we had articulated in our provisional findings.

10.120 In its response to our RWP, Tobii maintained its view as to its characterisation of the SLC we had provisionally found. It told us that the provisional findings had found no SLC in relation to its 'Indi' device and therefore, in the absence of any analysis by the CMA, the only Tobii Dynavox devices that could in principle contribute to an SLC were its 'high-end' (or 'medical grade') devices, ie the I-Series devices, [✄]. It told us that its partial divestiture remedy included the divestiture of all of Smartbox hardware devices, irrespective of whether the Smartbox device might compete with a Tobii Dynavox device.

10.121 However, as set out in our assessment of market definition, there are four components to dedicated AAC solutions: *(a)* dedicated AAC hardware; *(b)*

[367] Tobii response to the Remedies Notice, paragraph 27.

AAC software; *(c)* access means; and *(d)* customer support. We stated that the Parties overlap primarily in the supply of dedicated AAC solutions.[368]

10.122 Based on our competitive assessment, we found that prior to the Merger, competition between the Parties in dedicated AAC solutions took place across all of the four components of dedicated AAC solutions. For example, the Parties were close competitors in the supply of dedicated AAC solutions in the UK, and that their competitive interaction may have intensified as Smartbox had plans to improve its hardware while Tobii was working to improve its software.[369] We also found that Tobii considered Smartbox to be a strong competitor, both due to the attractiveness of its wrapped tablets for certain customers and the quality of its software, and there are examples of Tobii expanding its product range and improving its software specifically in response to competition from Smartbox.[370] Under the Merger situation, the rivalry that existed prior to the Merger between the Parties across the full spectrum of the different components of dedicated AAC solutions would be lost.

10.123 Instead of addressing this loss of rivalry, and the full extent of the overlap between the Parties, Tobii proposed that a partial divestiture involving the sale of Smartbox's global AAC hardware business, with Tobii retaining Smartbox's software business (including the Grid), and providing the divested Smartbox hardware business access to the Grid based on a perpetual worldwide licence on FRAND terms, could restore the rivalry which existed between the Parties prior to the Merger.

10.124 We assess below the effectiveness of the Hardware Divestiture element in addressing the horizontal competition concerns we have found in respect of dedicated AAC solutions (as we are required to do), and not the alternative and narrower SLC described in Tobii's submission.

Hardware Divestiture element – impact on Horizontal SLC component

10.125 As noted above, there was a broad consensus from third parties that a partial divestiture of Smartbox, where it no longer owned the Grid, would be likely to have a significant negative impact on Smartbox's ability to compete effectively in dedicated AAC solutions (see paragraph D.3 of Appendix D). We also noted that [✄] told us that if Tobii retained the Grid, it would still have the means to increase pricing and control the market, and [✄] told us that under a scenario where Tobii owned the Grid and licensed it back to a

[368] See paragraph 5.4.
[369] See paragraph 6.62.
[370] See paragraph 6.61.

newly independent Smartbox, then Tobii would still be able to exercise 'close control' over the strategy and running of the divested Smartbox business.

10.126 We also noted the concerns raised by Smartbox during its response hearing in relation to any partial divestiture remedy, including partial divestiture involving its hardware business, when we considered the appropriate scope of the divestiture package under a full divestiture remedy (see paragraphs D.5 to D.9 of Appendix D). In particular, Smartbox submitted that without ownership of the Grid, [✄] (see paragraph D.8 of Appendix D).

10.127 In its response to our RWP, Tobii told us that when commenting on a partial divestiture, third parties appeared to have been under the mistaken impression that the divested Smartbox hardware business would not have had any software to install on its hardware when, under its proposal, the divested Smartbox hardware business would have been sold with a worldwide licence to the Grid. We disagree. While we note that Tobii's proposal to divest Smartbox's hardware business under Tobii's Remedy Proposal had not been made publicly available, the third party views set out in paragraph D.3 of Appendix D highlighted the importance of Smartbox's ownership of the Grid to its business and competitive capability in the market for dedicated AAC solutions and the third parties were not under the impression that Smartbox would be unable to install the Grid or any other AAC software on its devices. We also note that some third parties specifically told us that they would be concerned if Tobii were to retain the Grid under a partial divestiture remedy notwithstanding the scope for licensing of the Grid (see paragraph 10.125 above).

10.128 Tobii also told us in its response to the RWP that what was 'necessary' for a divestiture business to be a viable and effective competitor in the supply of AAC solutions was the ability to install AAC software on its hardware. Tobii added that this was 'precisely' how existing Smartbox resellers (such as Forbes AAC in the US) operated, as did, to some extent, companies such as PRC and Jabbla in the UK, which installed the Grid on some of their hardware sales (and on the basis of which the CMA considered they were able to compete effectively). Tobii therefore considered that a divested Smartbox hardware business would clearly have had a route-to-market on a worldwide basis with all four elements of a dedicated AAC solution, ie hardware, software, access means (which are also obtained from third parties) and customer service.

10.129 We set out in paragraph 10.32 above our views on why we considered a partial divestiture remedy would substantially increase the risk that a divestiture remedy would not be an effective remedy to any component of our SLC. Most fundamentally, the evidence that we considered as part of our assessment of horizontal effects indicates that the ownership of the Grid is an important aspect of what made Smartbox an effective competitive threat to Tobii and was at the core of the rivalry between the two companies. For example, Tobii's internal documents show that while Tobii had some reservations about the quality of Smartbox's hardware, it nevertheless monitored the company particularly due to the quality of its software (see paragraph 6.37). In particular, Tobii told us that the attractiveness of the Grid was the main reason why it rated Smartbox as an increasing competitive threat throughout 2017 in its internal reviews of competitors (see paragraph 6.38). [✄]. Overall, it is clear to us that if Tobii were to retain the Grid, an important driver of the rivalry between the two companies would be lost.

10.130 We would not expect the Hardware Divestiture element to restore the competitive constraint between the Parties lost under the Merger situation, since it attempts to address only a limited part of the overlap that existed between the Parties. Rather than restore the competitive constraint lost under the Merger, we consider the likely effects of the Hardware Divestiture element would be to increase the competitive gap, between the competitive capabilities of the Parties: *(a)* by creating a divested Smartbox hardware business whose competitive capabilities would be significantly harmed by not having ownership of the Grid and its own software business and whose ability to compete in dedicated AAC solutions would be entirely reliant on its competitor, Tobii, eg for ongoing access to the Grid; and *(b)* at the same time, by strengthening Tobii's business and market position in dedicated AAC solutions through Tobii's ownership of the Grid and Smartbox's software business and removing the need for Tobii to compete with the Grid, [✄].[371] We therefore considered that the Hardware Divestiture element would have a very limited impact in addressing our Horizontal SLC component and would not represent an effective or comprehensive solution to the Horizontal SLC component and its resulting adverse effects. With Tobii retaining the Grid, the Hardware Divestiture element would also not address on its own any of our vertical concerns and their resulting adverse effects.

10.131 Under the Hardware Divestiture element, with a diminished and significantly weakened Smartbox hardware business imposing a considerably weaker competitive constraint on Tobii (if at all) across all aspects of dedicated AAC solutions, we would expect the adverse effects arising from the Horizontal SLC component largely to persist in the form of higher prices, lower quality, reduced product ranges and/or reduced innovation in the supply of dedicated AAC solutions. For example, we would expect innovation in dedicated AAC

[371] See paragraph 6.5.

solutions to be lower than would otherwise have been the case had the process of dynamic competition not been reduced as a result of the Merger.

10.132 Tobii did not propose any behavioural measures as an adjunct to the Hardware Divestiture element to address any of the adverse effects resulting from the Horizontal SLC component which we expect would persist under the Hardware Divestiture element (for example, in relation to the loss of innovation under the Merger).

10.133 However, given the clear shortcomings of Tobii's Hardware Divestiture element, we could not identify any supplemental behavioural remedies that would be capable of addressing the adverse effects we have identified. Furthermore, any such supplemental behavioural measures would be likely themselves to entail considerable design risks (given the inherent risks associated with behavioural remedies). We therefore considered that it was not possible to modify this remedy element to make it effective.

10.134 In its response to our RWP, Tobii 'strongly' disagreed with our provisional view in the RWP that a partial divestiture of Smartbox would be an ineffective remedy. It told us that its remedy proposal would be effective as the divested Smartbox hardware business would be fully market-facing, with its own hardware; the ability to install the Grid (and all other existing Smartbox software) on that hardware; and all necessary personnel. It added that to the extent that there might have been 'any minor insufficiencies' in its proposal, eg the omission of software such as 'Look to Learn', these were addressed in Tobii's Modified Proposal.

10.135 We do not consider the 'insufficiencies' of the Hardware Divestiture element to be minor nor would such deficiencies be limited to the inclusion of additional software titles such as 'Look to Learn'. As set out above in paragraphs 10.125 to 10.133, we consider the shortcomings of this remedy element are significant because it would not address the Horizontal SLC component and its resulting adverse effects. We consider the effectiveness of Tobii's Modified Proposal later in this chapter (see paragraph 10.228 to 10.229).

10.136 Our view is that the Hardware Divestiture element would not be an effective remedy and that the scope of the divestiture package would not be sufficient to enable a purchaser to compete effectively such that it restored the rivalry that existed between the Parties prior to the Merger – in other words, the Hardware Divestiture element would give rise to significant composition risk such that we do not consider the Hardware Divestiture element of the remedy could in itself be effective. Therefore, we did not consider it necessary to conduct a further assessment of the purchaser and asset risks associated with the Hardware Divestiture element.

Conclusions on 'standalone' effectiveness of the Hardware Divestiture element

10.137 Based on our assessment, we consider that the Hardware Divestiture element would have only a limited impact (if any at all) in addressing the Horizontal SLC component and its resulting adverse effects, and would not, in particular, address our concerns in relation to the loss of innovation in dedicated AAC solutions as a result of the Merger.[372] We therefore conclude that the Hardware Divestiture element would not, in and of itself, represent an effective remedy.

Assessment of 'standalone' effectiveness of the Grid Licensing element

10.138 We set out Tobii's views on the effectiveness of the Grid Licensing element, before setting out our own assessment and conclusions.

Tobii's views on the effectiveness of the Grid Licensing element

10.139 Tobii told us that in order to remedy the CMA's input foreclosure concerns, it proposed licensing the Grid to competing suppliers of dedicated AAC solutions on FRAND terms that reflected the terms on which Smartbox presently licensed the Grid to third parties such as PRC and Jabbla.[373] Tobii told us that the licence would be available on a worldwide basis,[374] and that the licence fee would be calculated (as at present) as a discount from the applicable retail price for the relevant software in the relevant country or territory subject to the licence fee being no higher than the licence fee presently charged by Smartbox to existing licensees and subject to indexation for inflation.[375]

10.140 In relation to Tobii's Grid FRAND access proposal, Tobii told us at its response hearing that its proposal was designed to ensure that every reseller who currently bought the Grid would continue to be able to do so, and that the intention of this remedy was not to exclude any purchaser of the Grid.[376]

[372] See paragraphs 6.62 and 6.66.
[373] Tobii response to the Remedies Notice, paragraph 28.
[374] Subject to compliance with any applicable legislation prohibiting the sale of software in or to certain territories or companies. Source: Tobii response to the Remedies Notice, paragraph 29.
[375] Tobii response to the Remedies Notice, paragraph 29.
[376] Tobii told us that this remedy commitment was only legally required to: *(a)* meet the CMA's objections in a UK geographic market, as defined by the CMA; and *(b)* be offered to suppliers of dedicated AAC solutions who licensed the Grid for installation in the devices sold by them in the UK. It added that it was not legally required to offer this remedy commitment to a purchaser of the Grid for resale on a standalone basis.

10.141 Tobii provided further clarification on its Grid licensing proposal:

(a) Tobii told us that existing Grid licensees would be entitled to continue with their existing licences for so long as they wished and that Tobii would not be able, for so long as the licensing remedy was in place, to terminate or amend those agreements, other than for cause or with the consent of the licensee. It added that these existing licence agreements had been negotiated by Smartbox on a normal arm's length commercial basis, and clearly enabled the licensees to compete effectively downstream. It told us that these terms were 'clearly FRAND' (because of the process through which they had been negotiated) and also provided an appropriate basis for new licences.

(b) Tobii told us that new licensees would be entitled to license the Grid on the basis of a standard 'reference' licence agreement, which would be based on, and reflect, Smartbox's existing licensing agreements, which, as mentioned in *(a)* above, Tobii considered to be on commercial and FRAND terms, reflecting the competitive nature of the market prior to the Merger. Tobii told us that the terms of the licence would be set at the time the remedy was entered into and would not be amended for the entire duration of the remedy, without the CMA's consent.

(c) Tobii told us that there was no basis on which a licensee could be forced by Tobii Dynavox to move from either their existing agreement or the 'reference' licensing agreement and added that whilst Tobii would remain free to offer commercial terms that were better than those in the 'reference offer', no existing or potential licensee would be obliged to accept such an offer.

10.142 Tobii told us that [✂].

10.143 Tobii told us that while it had not yet reviewed Smartbox's existing Grid licensing agreements to determine whether there was a need to harmonise them for the purpose of the Grid FRAND access commitment, it expected these agreements to have the same terms across agreements, as they should be relatively standard. In relation to whether these FRAND access terms might need to change in the future, Tobii told us that this would depend on the duration of the commitment.

10.144 Tobii told us at its response hearing that if a hardware provider wanted Grid compatibility with its hardware device, even if Tobii refused to collaborate with the hardware provider, Tobii could not prevent the hardware provider from doing so on its own, eg through a third-party developer. In a subsequent submission, Tobii told us that while it was highly unlikely that a situation would arise where the Grid software would have to be adapted by Tobii to be compatible with a third party's hardware device, it offered to commit that it would not unreasonably refuse to provide technical support to a licensee requesting such support on commercially acceptable terms. It added that it would make this commitment provided that Tobii would: *(a)* not be obliged to increase its existing software development resources in order to provide such support; and *(b)* not be required to suspend any of its existing projects.

10.145 In relation to whether the Grid Licensing element would address the loss in innovation expected under the Merger situation, Tobii told us that under this remedy, it would be incentivised to innovate because of the competitive constraint imposed on Tobii by mainstream technology companies, as well as EU regulations requiring companies to factor in accessibility considerations. It also told us that as part of its commitment, it would not degrade the Grid.

10.146 Tobii told us that its commitment to continue licensing the Grid on FRAND terms would last for five years, subject to a CMA review after three years. Tobii told us that if the remedy duration had to be longer, then it would expect there to be a CMA review at the end of that period and added that the CMA did not normally consider an indefinite commitment. It added that a commitment of five years would also give other market participants a chance to develop their own AAC software.

10.147 Tobii told us that this commitment would ensure that competing suppliers of dedicated AAC solutions would continue to be able to install the Grid on their devices, as at present, and on terms that reflected the pre-Merger situation. Tobii told us that it would both be comprehensive and, to a significant extent, 'self-monitoring', given the very limited number of potential licensees, and that this would allow licensees readily to identify any compliance failures and bring them to the attention of the CMA.[377] In relation to monitoring Tobii's compliance under this remedy element:

(a) Tobii told us that there would be a relatively small number of 'remedy-takers' (eg PRC and Jabbla) under its proposal and therefore any infringement would be apparent, as they would be able to detect what Tobii was doing.

(b) Tobii told us that it would introduce a clear complaints and dispute resolution procedure in the FRAND licences, which would involve an internal escalation with Tobii in the first instance, and in the event of an ongoing and unresolved dispute, a potential or actual licensee would have

[377] Tobii response to the Remedies Notice, paragraph 31.

the right to use a fast-track and independent arbitration procedure. Tobii also told us that the role of monitoring and enforcement could be carried out by the CMA.

10.148 In its response to our RWP, Tobii told us that its proposed price cap would not be complex to implement or monitor as it would consist of a single price for the UK, the only market in which the CMA had identified input foreclosure concerns and in respect of which the CMA could require a remedy. It added that this would be established at the time the remedy was entered into, subject only to subsequent indexation for inflation and would not be ‘personalised’ for each licensee. Tobii told us that the proposed inflationary increase represented the maximum price increase and that it would allow prices to fall [✄]. It also told us that the duration of its proposed Grid price cap should be tied to a CMA review period if the duration had to be more than its proposed five years.

10.149 In relation to the Grid price cap, Tobii provided further clarification on its price cap proposal in its response to our RWP:

(a) Tobii told us that the price cap was a secondary protection for both existing and future licensees and should be considered as a ‘backstop’, as the competitive nature of the retail market for AAC software meant that wholesale prices were likely to fall (as retail prices fell) and remain well below the cap.

(b) It told us that the price cap would apply to all licensees, irrespective of whether the licensee was an existing or new licensee and irrespective of the form of licence it had. Tobii added that the price cap would not be the primary mechanism by which licence fees would be determined. Instead, it told us that the primary pricing mechanism would be based on a specified discount to the retail price for the download of the software.

(c) Tobii told us that the retail price would be clearly published and that the ‘software-only download segment’ of the AAC sector was highly competitive, particularly as both professionals and end-users/parents increasingly downloaded a range of software on to mainstream devices, such that this was already the principal means by which AAC solutions were purchased.

(d) It told us that the retail price would therefore be set competitively and that the purpose of the price cap was simply to ensure that should the retail price of the Grid increase, the maximum licence fee was capped by reference to Smartbox’s pre-Merger licence fee, ie at the Grid price cap

level. It told us that no licensee would (taking account of inflation) pay more than it did today.

(e) Tobii told us that if this resulted in Tobii's returns from licensing the Grid falling, then that would be Tobii's 'problem' and that it would still be committed to licensing the Grid.

Our assessment of the 'standalone' effectiveness of the Grid Licensing element

10.150 In our competitive assessment of the vertical effects of the Merger, we identified the following foreclosure mechanisms in relation to our Grid Foreclosure SLC component:[378]

(a) selling the Grid on worse terms, namely price, to downstream rivals; and

(b) reducing the extent to which the Grid supports rival dedicated AAC hardware, thereby affecting the quality of competitors' access to the Grid.

10.151 Using our risk framework for assessing behavioural remedies set out in paragraph 10.106, we first consider the Grid FRAND access component, before turning to the Grid price cap component of this remedy element. We end this sub-section with our conclusion on the effectiveness of the Grid Licensing element based on our assessment of its two components.

Our assessment of the Grid FRAND access proposal

10.152 We note the importance of the role played by Smartbox in ensuring compatibility and integration between the Grid and competitor devices, and the wide range of areas where Smartbox support would be required in relation to this. For example, our competitive assessment indicates that how well the Grid works on a dedicated AAC solution depends on the work undertaken by Smartbox, and the support provided by Smartbox to ensure that the Grid supports the different features of competitor hardware devices. This work can take a wide range of forms, eg Smartbox working to ensure a smooth integration not only with the eye gaze camera, but also (for example) with different buttons or the infrared port.[379]

10.153 [✂].

[378] See paragraph 7.13.
[379] See paragraph 7.19.

Grid FRAND access: specification risks

10.154 In relation to the specification of a FRAND remedy, we considered whether the form of conduct required to address the SLC could be specified with sufficient clarity to provide an effective remedy.

10.155 We consider that there are significant complexities and practical difficulties associated with designing and implementing an effective FRAND remedy. One of these practical issues relates to the need to ensure when specifying FRAND principles and terms that they are comprehensive (in order to cover all relevant eventualities and products both today and in the future) and unambiguous (such that they are clear in their practical application and can be effectively monitored with any customer disputes or complaints clearly and rapidly resolved).

10.156 While Tobii told us that it could use the existing licensing agreements as a basis for its FRAND terms, Smartbox told us that its existing Grid licensing terms would [✂].

10.157 We consider that even if Tobii proposed to draw up a new set of FRAND terms, there are numerous plausible scenarios which could give rise to significant specification risks:

(a) Innovation in this sector could result in new and additional areas where Smartbox would need to provide support or work with other dedicated AAC solutions providers, which we cannot currently anticipate. Given that the components of our SLC are not time-limited, we would expect that over time, the nature of the collaboration between Smartbox and others would also need to change. Such changes over time could render FRAND terms based primarily on the current working relationship obsolete and ineffective. We consider that it would not be possible to codify how the merged entity should work with rival dedicated AAC solutions providers to ensure Grid compatibility with their hardware devices (eg by way of a service level agreement), in particular where it is uncertain how the scope and complexity of any future collaborations might change over time.

(b) We consider that it would be challenging to specify how the merged entity should comply with this remedy element in a scenario where the merged entity may not be incentivised to work with a rival or be required to make further investment in order to meet its rival's needs. In such situations, if the merged entity refused to engage constructively or make the required investment, it would be difficult to ascertain whether the merged entity was acting reasonably, or because it was not incentivised to do so to support its competitor.

(c) We consider that it would be difficult to specify FRAND terms such that it would prevent the merged entity from degrading the quality of the Grid, eg either through a lack of innovation or by the removal of certain features. We consider that it would not be possible to mitigate this risk given the challenges of specifying: (i) what the right level of innovation should be; and (ii) what types of modifications to the Grid should or should not be made by the merged entity in the future given that such decisions may ultimately be highly subjective.

(d) We consider that it would not be possible to make a FRAND commitment sufficiently unambiguous that it would be clear both to the merged entity and other hardware developers. For example, we consider that what might be fair, reasonable, or non-discriminatory could be open to different interpretations, and it would not be possible to regulate on an ongoing basis how the merged entity should interpret its obligations. In any case, where differences of interpretations arise on the merged entity's FRAND commitments, there would still be a need to ensure a robust complaints procedure or dispute resolution process, as well as appropriate penalties for breaches to encourage compliance. This is discussed when we consider monitoring and enforcement risks below (see paragraph 10.164 and following below).

10.158 Given that our SLC is not time-limited, it would also not be appropriate to specify a time limit of five years, or any other duration, over which these FRAND commitments should apply. The indefinite nature of our SLC and the consequent need for any FRAND commitments to remain in place further increases the already substantial specification risks associated with this remedy.

10.159 In relation to the scope of products covered under this remedy, we note that Tobii had proposed to include within the scope of this remedy, all current and future versions of the Grid software. However, we consider that there is a risk that the merged entity could use its acquired Grid knowhow and capabilities (eg through Smartbox's software development team) to develop an alternative to the Grid in the future whose architecture or functionality might be sufficiently different from those of the current version of the Grid. This could give rise to a situation where the merged entity's future AAC software might eventually fall outside the scope of this remedy. While we considered that it would be necessary for all of the merged entity's current and future AAC software to be covered by Tobii's commitments regardless of whether the AAC software was based on the same architecture and functionality as the Grid (as Tobii has proposed), we consider that it would be difficult to specify the products to be covered by this remedy by reference to current technology, given the technology-driven nature of the markets and the products in question combined with our SLC not being time-limited, and where the products in question could evolve significantly over time such that the current description no longer remains relevant.

10.160 In its response to our RWP, Tobii told us that there was no risk of circumvention by creating an alternative to the Grid [✂]. It added that it agreed with our assessment that the costs of maintaining two versions of the Grid would be prohibitive and increase complexity and not be feasible.

10.161 Notwithstanding Tobii's current intentions not to develop an alternative to the Grid, we cannot anticipate how these intentions might change in the future. We also consider it plausible that the costs of maintaining two versions of the Grid could be lowered if Tobii scaled back its support for the AAC software which was covered by the remedy while focusing its resources on the AAC software which fell outside the scope of the remedy. We therefore consider that the Grid Licensing element would still need to cover the merged entity's AAC software comprehensively.

10.162 We also consider that it might be possible for Tobii to circumvent this remedy if it decided to develop an alternative to the Grid using its acquired knowhow through a third party, who would then license the software back to Tobii. We consider that such eventualities would need to be captured in the specification of this remedy to ensure that the definition of AAC software would remain relevant over time. We consider that this issue is even more problematic in a dynamic and technology-driven sector such as this, in which products and services may be expected to evolve over time. We also considered that there would still be a need to monitor the merged entity's compliance under this remedy and verify whether any software developed by Tobii (or through a third party) should be considered as AAC software for the purpose of this remedy.

10.163 Based on the above, we consider the specification risks associated with this remedy to be high and that it would not be possible to design a remedy that would enable us to specify this remedy sufficiently comprehensively and clearly to ensure an effective basis for monitoring and enforcement. We do not consider the instances listed in paragraph 10.157 above to be an exhaustive list of the ways in which a mis-specification of this remedy element might manifest itself. This is because they flow in large part from the inherent dynamism and complexity of the market in question, the centrality of the Grid to Smartbox's operations, and the significant role of innovation in driving better customer outcomes. However, they do highlight the multiple challenges of specifying a FRAND commitment that would be both comprehensive and clear, and therefore easy to monitor in relation to the merged entity's compliance with this commitment.

Grid FRAND access: monitoring and enforcement risks

10.164 Given our view that there would be high specification risks associated with this remedy element, we consider that the commitments under the Grid Licensing element could not be comprehensively specified to enable effective monitoring and enforcement.

10.165 Smartbox considered that compliance under a FRAND-type remedy would be difficult to monitor. [✂].

10.166 We consider that each hardware provider would have different needs of varying scope and complexity, eg depending on the functionality and features of the AAC hardware, which may necessitate the merged entity to work differently with each hardware provider. In such circumstances, we may be concerned about the risks of effectively monitoring the merged entity's compliance with the remedy and distinguishing between what actions might be discriminatory or what might be entirely justified by the scope and complexity of any integration or collaboration.

10.167 We consider that in instances of dynamic competition where certain partial foreclosure mechanisms might be softer manifestations or incremental in nature (which may be difficult to observe), even with FRAND terms and pre-agreed service level agreements, should the merged entity decide to deprioritise or delay its work with a hardware provider, it would be difficult for the customer or an external monitor to establish whether this action might constitute a breach of a FRAND access remedy, or whether there were genuine and reasonable reasons for the merged entity to take such actions. We consider that this issue would be more likely to arise where the work required was more complex.

10.168 We consider that the difficulty of monitoring would be exacerbated by the asymmetry of information between the merged entity and other hardware providers or external monitor. In such instances, we would expect that the merged entity could cite differences in hardware providers' individual circumstances to justify any actions that might constitute partial foreclosure, which would be difficult for the CMA or an external monitor to verify.

10.169 While Tobii did not provide details of what form the appropriate compensation to hardware providers or remedial action that the merged entity might take if it were found to be in breach of its FRAND remedy, we consider that it would be difficult first to calculate and quantify what the appropriate compensation to hardware providers should be, and second, how such harm might be reversed.

Our assessment of the Grid price cap

10.170 We consider the design risks for Tobii's Grid price cap proposal below.

Grid price cap: specification and distortion risks

10.171 We consider that the specification risks we identified in paragraphs 10.159 to 10.162 above for the Grid FRAND access in terms of the products falling within the scope of this remedy would equally apply to the Grid price cap proposal.

10.172 Related to our concerns in relation to the specification risks around the design of the Grid price cap, we consider that the Grid price cap could give rise to significant distortion risks, given that Tobii has proposed to set the Grid price cap at the pre-Merger level without reference to the Grid's future underlying costs and the effects of any competition.

10.173 In its response to our RWP, Tobii told us that the Grid price cap was a form of 'secondary protection' and that it was unlikely that it would ever need to be used. It told us that as the markets for both software downloads and the supply of dedicated AAC solutions were, and would remain, dynamic and competitive, the retail price of the Grid would be determined by the market. It added that since the licence fee would be determined by reference to this price (as a 'retail minus' price at a set discount from the retail price), the wholesale licence fee would also always be competitive, and licensees would remain competitive in the downstream market. It added that for this reason, and because software developers would develop AAC software comparable to the Grid primarily for installation on their own devices or for retail sale (with cross-licensing to other suppliers of AAC solutions being a small additional source of revenue), the licensing remedy was unlikely to deter entry. It told us that the price cap would be set at the prevailing market price, ie by definition the competitive pre-Merger price, so was neither 'too high' nor 'too low': it was a price at which Smartbox was (and Tobii would be) prepared to license the Grid and at which licensees were able to compete effectively.

10.174 Under the relevant merger situation and given our SLC finding, we disagree with Tobii that the dedicated AAC solutions market would remain 'dynamic and competitive' and therefore it cannot be assumed that the retail price for the Grid and therefore its derived wholesale price would both be competitive. While Tobii believed that Grid licensees would be likely to pay below the Grid price cap because of competition and that it would be Tobii's 'problem' if the reference licence fee were to increase significantly above the Grid price cap, we would expect distortion risks to increase as the differential between the reference licence fee and the Grid price cap increased over time.

10.175 During their response hearings, we invited views from third parties on a hypothetical commitment from the merged entity to reduce prices on dedicated AAC solutions. While we note that this commitment is not identical to the Grid price cap, we consider that there are similarities in principle, for example, in particular, by breaking the link between prices and costs and overriding market signals:

(a) [✄] told us that a commitment by the merged entity to lower prices would not be a genuine remedy, as it would be conceding lower prices in return for a 'near-monopoly market position' as the merged entity would have the largest share in the AAC market. It added that a commitment to lower prices could also have the unintended consequence of adversely impacting competition by driving out certain players from the market. It added that it would also have concerns if any behavioural remedies were limited only to Tobii's actions in the UK.

(b) [✄] told us that any behavioural commitment to reduce prices should not be limited to the UK as the market participants were global businesses.

(c) [✄] told us that while there may be some short-term benefits of a commitment from the merged entity to reduce prices, this would need to be carefully monitored.

(d) [✄] told us that a commitment from the merged entity, which had gained significant market share, to lower prices could have the unintended consequence of eliminating market competition and enabling the merged entity to gain significantly more market share.

(e) [✄] told us that a commitment from the merged entity to reduce prices could be regarded as anti-competitive as the merged entity would be using its 'extra (acquired) market power' to 'affect the market'.

10.176 We consider that the unintended consequences arising from distortion risks may manifest themselves in several ways. For example, this could be in the form of deterring new market entry in AAC software if the level of the price cap was too low, or pricing competitors out of the market if the level of the price cap resulted in competitors' licensing costs for the Grid rising significantly over time (and higher than what they might have been absent the Merger). This may have the effect of strengthening the merged entity's market position at the expense of its rivals. Alternatively, the merged entity may revert to the CMA to seek a reset of the Grid price cap. We considered that neither situation would be attractive, and this underlines the general inappropriateness of a price cap in a dynamic and technology-driven sector to address an SLC that is not time-limited.

10.177 We also consider that allowing the price of the Grid to increase up to inflationary levels may not be effective in restoring the pre-Merger price incentives, eg absent the Merger, competition between the Parties may have led to the price of the Grid going down over time (or increasing at less than inflationary levels).

10.178 In summary, we could have no confidence that the Grid price cap would be set at the 'right' level, particularly given the indefinite nature of the SLC we have found – and there would be material distortion risks associated with setting that level either too high or too low. Based on this, we consider that the distortion risks would be significant and would be likely to increase over time.

Grid price cap: circumvention risks

10.179 Given that the scope of the Grid price cap applies to the Grid and only to UK sales of the Grid, we consider that this gives rise to circumvention risk in the following forms:

(a) The Grid price cap would not prevent the merged entity from seeking to increase the prices on its dedicated AAC solutions to mitigate any financial impact of the Grid price cap on its AAC software.

(b) Given that Tobii's proposed Grid price cap applies only to the UK (as Tobii submitted that the CMA had only found its Grid foreclosure SLC in the UK) it would not prevent the merged entity from increasing its rivals' Grid licence fees outside the UK.

10.180 We also consider that a commitment to limit price increases up to inflationary levels would give rise to material circumvention risks where harm arising from the SLC could still materialise, through parameters of competition other than price. For example:

(a) If the merged entity could not increase the licence fee as a foreclosure mechanism (under our Grid Foreclosure SLC component), it would still have the ability and incentive, and possibly a greater incentive, to weaken its rivals by reducing the extent to which the Grid supports, or integrates with, their dedicated AAC devices and all their features. We explained earlier in paragraphs 10.154 to 10.169 why Tobii's Grid FRAND access proposal would not address this concern.

(b) If the merged entity decided to recover any losses or reduced profitability on licensing the Grid (as a result of the Grid price cap) by scaling back its other activities, eg customer service or investment in product

development, this would result in worse market outcomes. In this regard, [✂].

(c) Limiting the merged entity's ability to increase the licence fee may result in a lack of willingness on the part of the merged entity to provide support to its rivals if it required the merged entity making substantial investment (financial and/or of time), in particular, if it could not recover those costs. [✂].

10.181 In its response to our RWP, Tobii told us that the circumvention risks identified by the CMA in the RWP were theoretical, speculative and unsupported by any evidence. Tobii told us that software development was essentially a fixed cost business and investment decisions would be driven by the needs of Tobii Dynavox's global retail supply of AAC solutions and retail sales of software, not the incremental revenue of licensing the Grid to third parties. It added that there was no basis for a reduction in customer service as this was driven by competition in the supply of AAC solutions, which was not cross-subsidised by licensing revenues.

10.182 We do not consider the scenarios described above to be exhaustive nor do we consider them to be implausible. Similar to distortion risks, we consider that these circumvention risks would increase as the differential between the 'reference licence fee' and the Grid price cap increased over time, eg if the Grid price cap increasingly became less profitable for the merged entity. We also consider that it is possible for other adverse forms of behaviour to arise if Tobii is subject to a price cap remedy. We consider that in the above cases, it would not be possible to specify a comprehensive set of preventative provisions to cover all of the eventualities which could arise as a result of these substantial circumvention risks.

10.183 Accordingly, we consider there to be material circumvention risks with this remedy proposal including, but not limited to, the merged entity limiting the support it provides or the extent the Grid integrates with rivals' hardware; scaling back its investment in other activities; or otherwise increasing prices across its AAC solutions.

Grid price cap: monitoring and enforcement risks

10.184 We consider that given the significant specification risks associated with the Grid price cap and the absence of effective preventative provisions to mitigate circumvention risks, this remedy would be difficult to monitor effectively.

Conclusions on 'standalone' effectiveness of the Grid Licensing element

10.185 Based on our assessment of the two components of the Grid Licensing element, namely the Grid FRAND access proposal and the Grid price cap proposal, we consider that there are significant specification, circumvention, distortion and monitoring and enforcement risks to designing an effective and comprehensive behavioural remedy under the Grid Foreclosure SLC component.

10.186 We consider that there are significant complexities and practical difficulties associated with designing and implementing an effective FRAND remedy in this case – one of these practical issues relates to the need to ensure when specifying FRAND principles and terms, that they are comprehensive (in order to cover all relevant eventualities and products both today and in the future) and unambiguous (such that they are clear in their practical application by the merged entity, and can be effectively monitored with any customer disputes or complaints clearly and rapidly resolved). This is particularly difficult in a dynamic technology-driven sector such as this, as it would not be possible to design a FRAND access remedy that could cater for all possible eventualities and future events as the merged entity's products and the scope of its interaction with Grid licensees evolve and change over time, such that any benefits to customers arising from a FRAND access remedy would be likely to erode over time.

10.187 We consider that it would not be possible to design the remedy in such a way as to reduce these design risks to an acceptable level. The reason for this is that many of our concerns relate to the dynamic nature of the market, the complexity of the products and the difficulty of monitoring compliance. As a consequence, we conclude that the Grid Licensing element, on its own, would not be an effective remedy.

10.188 We would expect the persistence of the Grid foreclosure SLC component under this remedy to exacerbate the Horizontal SLC component, given that the competitive constraints exerted on the merged entity by Liberator and Techcess in the downstream supply of dedicated AAC solutions in the UK would be substantially weakened as a result of the merged entity's foreclosure strategies under the Grid foreclosure SLC component.[380]

[380] See paragraphs 7.177 and 7.178.

Assessment of the 'standalone' effectiveness of the Eye Gaze FRAND element

10.189 We set out Tobii's views on the effectiveness of the Eye Gaze FRAND element, before setting out our own assessment.

Tobii's views on the effectiveness of the Eye Gaze FRAND element

10.190 Tobii told us that to remedy the Customer Foreclosure SLC component (to the extent it remained after the divestiture of Smartbox's global hardware business, which it submitted would 'appear to resolve' this concern), Tobii would commit to the following:[381]

(a) Smartbox's software business (which Tobii would retain) continuing any existing collaboration agreements with eye gaze camera providers in accordance with their existing terms (with confidentiality provisions in place to prevent Tobii having access to any confidential information of a competing eye gaze provider received by Smartbox's software business);

(b) making the Grid (including upgrades and new versions) available to competing suppliers of eye gaze cameras on FRAND terms which reflected pre-Merger conditions, to enable them to design their products to work with this software; and

(c) [✂].

10.191 Tobii told us that this commitment would also last for five years and would ensure that competing suppliers of eye gaze cameras would continue to be able to ensure that their hardware was compatible with the Grid, as at present, and also to pursue collaboration projects with other AAC software developers.[382]

10.192 At its response hearing, Tobii told us that its commitment was limited to fulfilling existing collaboration agreements and that it would be difficult to commit to any new collaboration agreement. It told us that it had not considered the possibility of collaboration agreements with new eye gaze providers, as it considered that the CMA's provisional SLC was only limited to 'existing' eye gaze providers. However, Tobii subsequently told us in a supplemental submission that if there was a requirement for a new formal R&D collaboration project between Tobii and a third-party eye gaze provider, it would not unreasonably refuse to provide technical support to a licensee requesting such support on commercially acceptable terms. It added,

[381] Tobii response to the Remedies Notice, paragraph 33.
[382] Tobii response to the Remedies Notice, paragraph 34.

however, that this commitment should not oblige Tobii to increase its existing software development resources in order to provide such support and should not require it to suspend any existing projects.

10.193 Tobii told us that it might have reasonable cause to terminate a collaboration agreement with an eye gaze provider only if there was a 'serious quality flaw', and if the eye gaze provider also did not take mitigating action or if the issue was not handled in the way that it should.

10.194 In relation to the safeguards which would be put in place to ensure the confidentiality of a third-party eye gaze provider's information, Tobii told us that it would expect firewalls to be put in place in these situations and that it would ensure non-disclosure agreements were signed by the relevant staff. It added that a new internal organisational structure could also be set up, eg a new committee independent of Tobii with a budget responsible for fulfilling Smartbox's collaboration agreements with third-party eye gaze providers.

10.195 Tobii told us that this remedy would be both comprehensive and to a significant extent, 'self-monitoring', given the very limited number of competing eye gaze camera providers concerned (Tobii added that we had identified four in our provisional findings). It told us that this would allow the licensees readily to identify any compliance failures and bring them to the attention of the CMA.[383]

10.196 Tobii told us that a collaboration agreement would have 'deliverables', so it was possible to monitor those metrics. It added that if it could demonstrate that it had 'responded' to an eye gaze provider, then it considered that this would have demonstrated its compliance. It also told us that it could put in place a service level agreement, eg with set turnaround times and escalation times.

10.197 In relation to monitoring considerations for its commitment to making the Grid available to eye gaze providers on FRAND terms:

(a) Tobii told us that this remedy would be 'self-monitoring' subject to CMA oversight and added that it had no interest in committing a breach and risking enforcement action. Tobii told us that this commitment would include a clear complaints and dispute resolution procedure, which would involve an internal escalation within Tobii in the first instance, followed by a third-party supplier of eye-gaze cameras for AAC applications having the right to use a fast-track and independent arbitration procedure in the event of an ongoing and unresolved dispute. It added that the

[383] Tobii response to the Remedies Notice, paragraph 34.

determination of any arbitration procedure would be binding on both parties.

(b) Tobii told us that if it was found to be in breach, it might be appropriate to impose a penalty and so it would be necessary to specify what would constitute a breach and have in place a fast-track dispute resolution process. Tobii also told us that eye gaze providers would have an incentive to report non-compliance.

10.198 In relation to Tobii's proposal to making the Grid available to competing suppliers of eye gaze cameras on FRAND terms for five years:

(a) Tobii told us that while it had not considered a possible prioritisation mechanism for working with eye gaze providers to ensure Grid compatibility, a 'first-come, first-served' approach might be appropriate to ensure greater transparency without prejudicing downstream players.

(b) Tobii told us that it would consider a longer remedy duration than five years subject to a CMA review at an agreed interval to assess the continued need for the remedy.

Our assessment of the 'standalone' effectiveness of the Eye Gaze FRAND element

10.199 Our competitive assessment indicates that to compete in the supply of eye gaze cameras in AAC applications, these suppliers' cameras need to be supported by AAC software and, therefore, eye gaze camera suppliers invest in collaborations with suppliers of AAC software (in particular, Smartbox) to develop their cameras for use in AAC applications.[384]

10.200 We also stated that there were a number of ways in which the merged entity could potentially limit the compatibility of the Grid with rival eye gaze cameras:[385]

(a) stopping or reducing its technical support for issues arising with the Grid software when used in conjunction with rival eye gaze cameras;

(b) modifying the current version of the Grid to make its access features incompatible with the current generations of rival eye gaze cameras; and

[384] See paragraph 7.78.
[385] See paragraph 7.85.

(c) stopping Smartbox's collaboration with rival eye gaze cameras in the joint development of future generations of cameras such that the Grid's access features will not be compatible with these new cameras.

10.201 At its response hearing, Smartbox told us that in relation to integration between the Grid and an eye gaze camera, [✂].

10.202 We consider each of the different proposals under Tobii's Eye Gaze FRAND element below, namely the commitment in relation to Smartbox's collaboration agreements; ensuring Grid compatibility with third-party eye gaze providers; and [✂].

Eye Gaze FRAND element: commitments in relation to collaboration agreements – design risks

10.203 In relation to the merged entity's commitment to fulfil any existing collaboration agreements with eye gaze camera providers, we considered that this commitment would also need to specify how Tobii proposes to deal with potential new collaboration agreements with eye gaze camera providers that intend to enter in the supply of eye gaze cameras in AAC applications. As set out in Chapter 8 (Countervailing factors), we stated that there are limited routes to market that do not depend on the Grid, and it would be open to the merged entity to foreclose an important route to market by making non-Tobii eye gaze cameras incompatible with the Grid. This foreclosure mechanism would apply to eye gaze camera providers active in other applications (as well as de novo entrants) in the same way as to existing eye gaze camera providers for AAC applications.[386]

10.204 In this regard, Smartbox told us that it currently had five collaboration agreements with eye gaze providers, but that since 2006, it had worked with nine eye gaze providers. It told us that it would not be appropriate to limit Tobii's commitment just to Smartbox's existing collaboration agreements as there might be new entrants into this market, who would need similar collaboration agreements.

10.205 While we consider that this remedy should also specify how Tobii proposes to deal with potential new collaboration agreements with eye gaze camera providers that intend to enter in the supply of eye gaze cameras in AAC applications, we consider that such commitments would be difficult to specify. For example, if Tobii formed an independent committee within Smartbox's software business to take responsibility over its current and future

[386] See paragraph 8.4.

collaboration projects with third-party eye gaze providers, given that Smartbox's software business would still ultimately be owned by Tobii, we consider it unlikely that this independent committee would have the full autonomy it needed to choose the eye gaze providers it wished to work with, without any influence from Tobii, eg in terms of setting the future direction of Smartbox or determining its budget and staff remuneration. This is also challenging given that the merged entity would have strong incentives that were absent pre-Merger to favour Tobii's eye gaze cameras.

10.206 In its response to our RWP, Tobii told us that this remedy would be an enforceable obligation on Tobii and therefore, if the conditions requiring Tobii to provide technical support to, or to collaborate with, a third party were met, Tobii would have no choice but to do so. It added that if a third party considered that Tobii was not complying with its obligations, it could complain to the CMA or pursue a fast-track arbitration. Tobii told us that it saw 'limited value' in an external monitoring trustee and that it increased costs. It added that the CMA should itself oversee the remedy.

10.207 In relation to whether Tobii could commit to enter into new collaboration agreements with new eye gaze providers, we consider that it would not be possible to specify how Tobii should decide in an objective manner whether or not it should enter into any new collaboration agreements with eye gaze providers, as there may be a wide range of commercial and strategic considerations to take into account, which would not be a set of static considerations and would require subjectivity and judgement.

10.208 In its response to our RWP, Tobii told us that the purpose of this remedy was to prevent foreclosure of existing eye gaze camera manufacturers that had collaboration agreements with Smartbox and that this would ensure effective competition in the market as a whole. It added that it was not reasonable or proportionate for the CMA to require this obligation to be extended to a potentially unlimited number of manufacturers and added that Smartbox was presently under no such obligation and was free to reject any request for collaboration as it saw fit. However, Tobii told us that it would not unreasonably refuse to enter into new collaboration agreements, provided that: *(a)* Tobii had sufficient resources available to it; *(b)* it would generate a commercially reasonable return for it; and *(c)* the third party met objective quality standards.

10.209 In response, we note that the merged entity's incentive to limit the compatibility of the Grid with rival eye gaze cameras in AAC applications arises as a result of the Merger and therefore the fact that Smartbox is currently under no such obligation to enter into collaboration agreements is not relevant. In relation to whether the merged entity's commitment in relation to collaboration agreements should be limited to Smartbox's existing collaboration agreements only, this is addressed in paragraph 10.203 above.

10.210 In any case, short of compelling the merged entity to agree to all requests for collaboration agreements with eye gaze providers, we consider that if the merged entity refused to enter into a new collaboration agreement with a rival eye gaze provider, it would not be possible for the CMA or an external monitor to assess the validity or reasonableness of such a decision. For example, Smartbox told us that it would be difficult to determine whether a decision not to collaborate with an eye gaze provider was reasonable, as the ultimate decision would be subjective in nature, eg if Tobii's decision not to work with one eye gaze provider was based on it considering the eye gaze provider was not of sufficient quality. Tobii did not challenge the suggestion that the decision to enter into, or reject, potential collaboration agreements was subjective in its response to our RWP.

10.211 We also consider that this commitment gives rise to significant specification risks, in relation to specifying the obligations that should be placed on the merged entity to ensure that this commitment was being carried out in good faith for the mutual benefit of the merged entity and the eye gaze provider. In this regard, we consider that the merged entity would have strong incentives that were absent pre-Merger to favour Tobii's eye gaze cameras. [✂]. Other than putting to us that a commitment to provide technical support or to collaborate with a third party would be an enforceable obligation on Tobii, Tobii did not challenge the suggestion that some potential breaches could be difficult to detect.

10.212 Moreover, we consider that it would be difficult to monitor the merged entity's conduct during any collaboration with an eye gaze provider and the outcome of such collaboration to assess whether the merged entity had complied with its commitment. Similarly, we consider that it would be difficult to know what actions taken by the merged entity might constitute a breach of its commitment.

10.213 Tobii has also proposed confidentiality provisions to prevent Tobii Dynavox having access to any confidential information of a competing eye gaze manufacturer received by Smartbox's software business during any collaboration.[387] At its response hearing, Tobii told us that it [✂]. In its response to our RWP, Tobii told us that [✂]. It told us that the same would

[387] Tobii response to the Remedies Notice, paragraph 33.

apply to this remedy and therefore our 'doubts' in this regard set out in the RWP were unfounded.

10.214 At its response hearing, [✄].

10.215 In relation to the effectiveness of such a confidentiality arrangement:

(a) We consider that, in practice, there would be considerable specification risks in designing comprehensive confidentiality provisions that would cover all possible types of confidential information and their various forms of transfer. This is particularly the case given that we would expect ongoing interaction between Smartbox's software business and Tobii under Tobii's Remedy Proposal.

(b) We consider that a breach of such confidentiality provisions could cause considerable commercial harm. For example, in instances where a competing eye gaze provider may have a 'first-mover' advantage or new product innovation, a negligent or inadvertent breach of any confidentiality provision resulting in Tobii obtaining this information could cause considerable harm to the commercial interests of the eye gaze provider.

(c) We consider that short of an external monitor monitoring the day-to-day activities of the merged entity, it would be difficult for an external monitor to monitor compliance. Ultimately, we considered that we would be heavily reliant on self-monitoring by the merged entity and relying on it to ensure that it detected and immediately reported all instances of breaches to the external monitor.

(d) We consider that it would be challenging to specify the extent to which any development staff working on a collaboration project with a third-party eye gaze provider should work on the merged entity's own development projects while ensuring that confidential information gained from a third party is not then shared (either verbally or otherwise) with Tobii or with others working on Tobii's own development projects. These risks also increase the risk that any monitoring and enforcement of Tobii's compliance would be ineffective.

(e) We also note that in addition to these specification risks, these provisions would need to be permanent (and not time-limited) given the indefinite nature of our SLC, with ongoing monitoring and enforcement procedures in place.

10.216 In light of our assessment, we consider that the effectiveness of any monitoring and enforcement procedures would be undermined by its high specification risks.

Eye Gaze FRAND element: Grid compatibility with rival eye gaze cameras – design risks

10.217 In relation to ensuring compatibility between the Grid and competing eye gaze devices, we consider that similar specification risks would arise here to the specification risks we identified for the Grid FRAND access proposal under the Grid Licensing element above. For example, during our response hearings with third parties, in relation to a hypothetical commitment given by the merged entity to ensure compatibility between the Grid and third-party eye gaze cameras:

(a) [✂] told us that in relation to integrating its eye gaze hardware with third-party software, there were many intricacies to such collaborations, eg it would be easy to 'tweak' the API [Application Programming Interface] without detection, and that such collaborations to ensure compatibility may not be prioritised if the counterparty was not its biggest customer. It told us that one feature of the Grid software was that it was fully integrated with various hardware platforms via the hardware supplier's API. It told us that it would be unreasonable to think that Tobii would put as much effort into integrating its competitors' eye trackers into the Grid as it would its own.

(b) [✂] told us that Tobii would have an incentive to prioritise the compatibility of its own eye gaze cameras with the Grid over competitor eye gaze devices and could degrade the quality of the integration between the Grid and third-party eye gaze devices.

(c) [✂] also told us that it would have concerns on how such behavioural remedies would be monitored and suggested that there could be an audit of Tobii's compliance every three to six months, as well as possibly imposing fines on Tobii for non-compliance.

10.218 Given the high specification risks of the Eye Gaze FRAND element, we consider that it would not be apparent to eye gaze providers what conduct constituted compliance and what did not. For example, Smartbox told us that the work involved in ensuring Grid compatibility with eye gaze cameras was not a simple task and therefore it had concerns about how a FRAND-type remedy might work in relation to what might be considered timely and sufficient given the technical requirements, eg it would be difficult to determine whether it was reasonable for a task to be completed within three months or one year.

Eye Gaze FRAND element: [✄]

10.219 [✄]

10.220 [✄]

10.221 [✄]

Conclusions on the 'standalone' effectiveness of the Eye Gaze FRAND element

10.222 Based on our assessment, we conclude that the Eye Gaze FRAND element would not address the Customer Foreclosure SLC component and therefore not represent an effective solution on the basis that:

(a) Tobii's commitments in relation to existing and future collaboration agreements with third-party eye gaze providers and to ensure compatibility and integration between eye gaze devices and the Grid on FRAND terms would give rise to significant design risks which would undermine the effectiveness of these commitments, eg given the high specification risks we have identified, we considered that there would also be significant monitoring and enforcement risks; and

(b) [✄]

Conclusions on the effectiveness of Tobii's Remedy Proposal

10.223 We have considered above the effectiveness of Tobii's Remedy Proposal by considering the effectiveness of each of its elements on a standalone basis:

(a) **Hardware Divestiture element:** we conclude that the Hardware Divestiture element would have only a limited impact (if any at all) in addressing the Horizontal SLC component and its resulting adverse effects, and therefore would not represent an effective or comprehensive remedy. We would not expect the Hardware Divestiture element to restore the competitive constraint between the Parties lost under the Merger situation, since it addresses only a limited part of the overlap that existed between the Parties. We also consider that with Tobii retaining the Grid and, therefore, the ability and incentive to engage in input and customer foreclosure, the Hardware Divestiture element would not on its own address any of our vertical concerns and their resulting adverse effects.

(b) **Grid Licensing element:** we conclude that there are significant complexities and practical difficulties associated with designing and implementing an effective FRAND remedy in this case, with this remedy being particularly difficult in a such a dynamic and technology-driven

sector. In particular, it would not be possible to design a FRAND access remedy that could cater for all possible eventualities and future events as the merged entity's products and the scope of its interaction with Grid licensees evolve and change over time. It is likely therefore that any benefits to customers arising from a FRAND access remedy would erode over time. We concluded that it would not be possible to design the remedy in such a way as to reduce these design risks to an acceptable level given the dynamic nature of the market, the complexity of the products and the difficulty of monitoring compliance. As a consequence, we conclude that the Grid Licensing element, on its own, would not be an effective remedy. As mentioned in paragraph 10.188 above, we would expect the persistence of the Grid foreclosure SLC component under this remedy to exacerbate the Horizontal SLC component.

(c) **Eye Gaze FRAND element:** we conclude that a commitment by Tobii to fulfil Smartbox's existing collaboration agreements would be difficult to specify and monitor and that this would also apply to designing a further commitment in relation to future collaboration agreements. We also conclude that a commitment in relation to ensuring Grid compatibility and integration with rival eye gaze cameras on FRAND terms would give rise to significant risks in its design. We conclude that the effectiveness of the monitoring and enforcement of such a commitment would be undermined by high specification risks. [✂]. We therefore conclude that the Eye Gaze FRAND element would not on its own address the Customer Foreclosure SLC component.

10.224 We considered whether certain modifications of some of these remedy elements could enhance their effectiveness to address comprehensively the SLC we have found. We conclude that this would not be possible, in particular for the following reasons:

(a) even if the Hardware Divestiture element were supplemented with extensive and wide-ranging behavioural remedies to compensate for the limited impact of the Hardware Divestiture element on the Horizontal SLC component, we consider that any such behavioural measures would be likely themselves to entail considerable design risks; and

(b) we consider that the Grid FRAND element and the Eye Gaze FRAND element could not be specified or modified to mitigate the substantial design risks we have identified.

10.225 In relation to whether these remedy elements would be mutually reinforcing and address each other's deficiencies to deliver an effective remedy as an overall package of remedies, we consider that:

(a) the Hardware Divestiture element does not address the design risks associated with the Grid Licensing element and the Eye Gaze FRAND element;

(b) neither the Grid Licensing element nor the Eye Gaze FRAND element targets or addresses the adverse effects (eg the loss of innovation in dedicated AAC solutions) which would persist as a result of the ineffectiveness of the Hardware Divestiture element in addressing the Horizontal SLC component; and

(c) the Grid Licensing element does not address the significant design risks associated with the Eye Gaze FRAND element and vice versa.

10.226 Accordingly, we conclude that the combination of three inadequate and ineffective remedies to the individual components of our SLC does not represent an effective or comprehensive solution to the problems we have identified.

10.227 We therefore conclude that the remedy elements contained within Tobii's Remedy Proposal, taken separately or together as a package of remedies, would not be an effective remedy to the SLC we have found and its resulting adverse effects.

Tobii's Modified Proposal: assessment of remedy effectiveness

10.228 In its response to our RWP, Tobii submitted a further remedy proposal that it told us had been 'tailored' to address the CMA's stated concerns (with which Tobii disagreed) in the RWP in relation to Tobii's Remedy Proposal. We refer to this further proposal as Tobii's Modified Proposal.[388]

10.229 Tobii's Modified Proposal included the same elements as the initial Tobii Remedy Proposal considered above. However, Tobii supplemented this proposal with some additional elements, including an option for the remedy-taker to own an instance of the Grid source code. We sought further clarifications from Tobii in relation to Tobii's Modified Proposal and also tested our understanding of the proposal with [✂], to consider whether the amendments to Tobii's Remedy Proposal could be capable of addressing the concerns outlined in the RWP.

10.230 Below, we set out:

[388] In its response to the RWP, Tobii refers to this proposal as the 'Tailored Remedy Solution'.

(a) a summary of Tobii's Modified Proposal (paragraphs 10.232 to 10.241);

(b) the views of Tobii on the remedy's effectiveness (paragraphs 10.242 to 10.247);

(c) a summary of third party views (paragraphs 10.248 to 10.249);

(d) our assessment of the remedy's effectiveness (paragraphs 10.250 to 10.289); and

(e) our conclusions on its effectiveness (paragraph 10.290).

10.231 For the purpose of this assessment, we refer to any acquirer of the Smartbox hardware business and the rights to access the Grid source code under Tobii's Modified Proposal as the Acquirer, as distinct from the purchaser of Smartbox's hardware business without the rights to the Grid source code under Tobii's Remedy Proposal.

Remedy description

10.232 At its core, Tobii's Modified Proposal is a variant of Tobii's Remedy Proposal – and specifically the Hardware Divestiture element. In essence, it involves a partial divestiture of Smartbox involving Smartbox's global AAC hardware business to a suitable purchaser, with similar supporting behavioural elements in the form of Tobii providing the purchaser with a worldwide licence to Smartbox's software, including the Grid.

10.233 The key modifications to Tobii's Remedy Proposal are that under Tobii's Modified Proposal, the purchaser of the divested business would be granted:

(a) the right to modify, adapt and customise the Grid software for its own use; and

(b) 'full rights' to the Grid source code (which Tobii would ultimately own) which would enable the purchaser to develop a 'forked' version of the software, to be sold under a different brand name.

10.234 Tobii told us that [✂].

10.235 The [✂], submitted by Tobii alongside Tobii's Modified Proposal, provided further details on how these proposals might work in practice in relation to the Acquirer's rights to the Grid, Tobii's obligations to the Acquirer and the Acquirer's ability to develop its own AAC software using the Grid source code. In particular [✂]:

(a) **Licensing the Grid from Tobii:** the Acquirer would enter into a software agreement with Tobii, whereby the Acquirer could license the Grid on FRAND terms with Tobii committing to provide the Acquirer with development services on agreed terms for the development of new and/or customised features,[389] at the Acquirer's request; and

(b) **Option to develop the Acquirer's own AAC software:** the Acquirer would have an option to take an 'instance' of the Grid source code in order to 'independently from Tobii' further develop, sell and service any products realised using that source code. If the Acquirer exercised this option, the Acquirer's newly developed software would become 'separate software' and would need to be branded differently.

10.236 Following a clarification request from the CMA with regard to Tobii's Modified Proposal, Tobii provided [✂] included the following clarifications:

(a) **Licensing the Grid from Tobii:** Tobii would grant to the Acquirer a non-exclusive, royalty-bearing licence to distribute and resell the version of the Grid owned by Tobii. All new versions of the version of the Grid owned by Tobii would be included in this arrangement. The arrangement would last for five years with automatic yearly renewal, unless terminated by either party with at least 12 months' notice. Tobii would also commit to providing development services to develop 'reasonable' new and/or customised software features as might be requested by the Acquirer. Tobii would commit to providing up to three full-time developers to perform such services, subject to six months' notice.

(b) **Development of the Acquirer's own AAC software:** if it chose to exercise the source code option, the Acquirer would obtain a 'full copy' of the source code of the Grid and would own its respective version of the source code (and the rights to develop, sell, distribute and sub-license any products derived from its version of the source code). Tobii would also grant the Acquirer the right to obtain a copy of the most recent version of Tobii's source code of the Grid. The Acquirer would then have the same rights to develop, sell, distribute and sub-license any products based on such versions of the source code. The Acquirer might exercise its right to obtain such a copy of Tobii's version of the source code at any point in time, and any number of times, during a period of five years (which might be extended by mutual agreement) and at no additional cost. Tobii would commit to providing training, a transfer of 'knowhow' and assistance which was 'reasonably requested' by the Acquirer to allow it to

[389] [✂].

use and develop the source code. This commitment would last for the same period as the Acquirer's option to take a copy of the source code and for a period of twelve months thereafter. The Acquirer would be able to develop its own software products using the Grid source code and, in parallel, license and sell Tobii's version of the Grid.

10.237 The [✂] also detailed the Acquirer's upfront and ongoing payments to Tobii: *(a)* an upfront consideration for the transaction; *(b)* a Grid licence fee (to be capped) for every 'copy' sold of the Grid and any Acquirer software which was 'largely' based on the Grid source code; *(c)* third-line technical support (on an hourly basis); and *(d)* a fee for custom development under the software agreement based on [✂].[390]

10.238 Following the CMA's clarification request, the proposed terms covering the payments payable to Tobii as set out in paragraph 10.237 above were amended as follows:

(a) the Grid licence fee would apply to any software product developed by the Acquirer which makes use of any source code that originates from the Grid; and

(b) the custom development fee was replaced by an 'Hourly Development Fee', [✂].

10.239 While we note that [✂] supplement Tobii's submission by providing useful information in relation to the thinking behind Tobii's Modified Proposal and how Tobii considers it might operate in practice. Tobii provided a description of the scope of the partial divestiture package under Tobii's Modified Proposal, which we provide in Appendix F.

10.240 While, in our view, Tobii's Modified Proposal represents a variant of Tobii's Remedy Proposal, rather than a fundamentally different remedy, we consider its effectiveness separately in this section to avoid any confusion between our assessment of this modified proposal and our assessment of Tobii's original proposal.

10.241 Tobii told us that the behavioural remedy elements under Tobii's Remedy Proposal (namely the Grid Licensing element and the Eye Gaze FRAND element) would not be necessary under Tobii's Modified Proposal but added that they could also form part of Tobii's Modified Proposal if the CMA still had

[390] [✂] between Tobii and [✂] in relation to Tobii's Modified Proposal.

any ‘residual’ vertical concerns in relation to the core partial divestiture element of Tobii’s Modified Proposal.

Tobii’s views on the effectiveness of Tobii’s Modified Proposal

10.242 Tobii told us that under Tobii’s Modified Proposal, the Acquirer would be able to operate and develop a viable and competitive AAC business both in the UK and worldwide by acquiring the ‘majority’ of Smartbox’s existing business, ie its entire hardware portfolio; and the full rights to the Grid source code and a worldwide licence to the Grid.

10.243 Tobii told us that by acquiring the full rights to the Grid source code, the Acquirer would be able (independently of Tobii) to develop a ‘forked’ version of the Grid software, which it could sell itself under its own brand name, and additional software (as required) either in-house or by using a third-party developer. Tobii also told us that the Acquirer would have the right to require Tobii as licensor to further develop the Grid software to meet the Acquirer’s specific requirements. Tobii told us that its proposal would ensure that the Acquirer could compete independently and effectively in the AAC solutions market, with software that met the needs of the Acquirer and its customers, and added that its modified proposal would address the CMA’s ‘apparent concern’ in relation to Tobii’s Remedy Proposal that the Grid was a ‘key and essential asset’ and that there might be synergies between Smartbox’s hardware and software businesses.

10.244 Tobii told us that Tobii’s Modified Proposal represented a comprehensive solution and would address in its entirety any horizontal SLC that the CMA might identify in its final report, and restore effective competition:

(a) Tobii told us that Tobii’s Modified Proposal would remove the entire overlap between Tobii and Smartbox in the UK market for dedicated AAC solutions with Tobii’s UK market share remaining at 10-20%,[391] considerably lower than both Smartbox and PRC/Liberator. It added that at this level of market share, Tobii would no longer have the ability or incentive to engage in either input or customer foreclosure, particularly as the divested Smartbox business would have the ability to develop the Grid independently and be a development partner for Grid licensees and suppliers of eye gaze cameras for AAC applications. Tobii therefore considered that under Tobii’s Modified Proposal, no additional behavioural remedies were required to resolve the CMA’s vertical foreclosure concerns but offered to include the further behavioural remedy elements

[391] Tobii told us that the market share percentages referred to here were market shares as calculated by the CMA and not verified or endorsed by Tobii. Tobii put-back response to the CMA dated 6 August 2019.

under Tobii's Remedy Proposal in the event that the CMA had any residual vertical concerns.

(b) Tobii told us that the divested Smartbox business would not be a 'diminished and significantly weakened competitor' (as the CMA had stated in the RWP as regards Tobii's original proposal, ie Tobii's Remedy Proposal) and that the Acquirer would have all the assets and resources required to compete effectively, including: (i) full capability in hardware (including the ability to develop and introduce new products); (ii) a worldwide licence to the Grid and other Smartbox software; and (iii) the right to develop the Grid independently of Tobii through its full rights to the Grid source code.

(c) It told us that the divested business would not be reliant on Tobii for ongoing access to the Grid and that in addition to being able to license all current and future versions of the Grid, it would have the ability and capability to develop its own AAC software based on the Grid source code. Tobii told us that the right to take a copy of the source code of the Grid would act as a highly effective mechanism to ensure that the Acquirer would not become dependent on Tobii. Tobii told us that this was because the right to take a copy of the source code would act as an incentive on Tobii to comply with its obligations to provide development services for new and/or customised software features requested by the Acquirer, and to accede to requests from the Acquirer for upgrades to the underlying source code. Tobii told us that the right to take a copy of the source code would act as a 'very effective insurance/long-term guarantee', since the option to take the source code would 'always enable full control of the software for the Acquirer if so desired at any point'.

(d) It told us that Tobii's Modified Proposal would not have the effect of strengthening Tobii's position in dedicated AAC solutions as: (i) the divested business would be an effective competitor, taking over Smartbox's existing share of the UK market for dedicated AAC solutions (ie as the largest supplier, with 'apparently strong customer loyalty') and a strong platform for future development and growth; and (ii) Tobii would remain a small competitor in the UK (with its UK market share unchanged) and would not retain any UK market share presently attributed to Smartbox. It told us that, accordingly, Tobii's Modified Proposal would restore the status quo ante and would not give Tobii any market power. Tobii submitted that with that market share, it would 'plainly' not have the ability to raise prices, reduce quality, or reduce its product range.

(e) Tobii told us that while its incentives to innovate would continue to come from global competition and not from any competition specifically in the UK (which represented an extremely small proportion of its global business), the divested business would have both the ability and incentive to engage in innovation and ensure competition through innovation.

(f) It told us that Tobii's Modified Proposal would also remove the possibility of customer foreclosure, as the divested business would – due to the Acquirer having full rights to the Grid source code – be a credible alternative development partner for third-party suppliers of eye gaze cameras.

10.245 Tobii told us that [✂].

10.246 Tobii told us that [✂].[392]

10.247 Tobii told us that [✂].

Views of third parties

10.248 Tobii wrote to a number of organisations on a confidential basis, outlining its commitments under Tobii's Modified Proposal [✂]. In response to Tobii's prompt, we received several subsequent responses from third parties.

10.249 We considered that the submissions from third parties were mostly relevant to our consideration of purchaser suitability, noting in particular the views regarding the importance of any purchaser's capability and commitment to the relevant markets and to supporting users of dedicated AAC solutions. As described in paragraph 10.38, we consider that, in this case, we should place particular emphasis on these elements of our purchaser suitability criteria. We further considered the submissions from third parties, to the extent that they were relevant, as part of our assessment of the effectiveness of Tobii's Modified Proposal in paragraphs 10.252 to 10.277.

Our assessment of the effectiveness of Tobii's Modified Proposal

10.250 As mentioned in paragraph 10.14 above, our Guidance states that the assessment of a remedy's effectiveness will involve several distinct dimensions, which can be summarised as follows:[393]

(a) **Impact on the SLC and its resulting adverse effects:** the CMA will normally seek to restore the dynamic process of competitive rivalry

[392] [✂]
[393] *Merger remedies guidelines*, CMA87, paragraph 3.5.

through remedies that re-establish the structure of the market expected in the absence of the merger.

(b) **Appropriate duration and timing:** Remedies need to address the SLC effectively throughout its expected duration. Remedies that act quickly in addressing competitive concerns are preferable to remedies that are expected to have an effect only in the long term or where the timing of the effect is uncertain.

(c) **Practicality:** a practical remedy should be capable of effective implementation, monitoring and enforcement.

(d) **Acceptable risk profile:** the CMA will seek remedies that have a high degree of certainty in achieving their intended effect.

10.251 We have assessed Tobii's Modified Proposal by considering each element of the framework outlined above. As noted in paragraph 10.232 above, we consider that Tobii's Modified Proposal is a variant of Tobii's Remedy Proposal. Rather than repeat our analysis of the common elements between the two proposals in this sub-section (eg divestiture of the Smartbox hardware business), we focus here on the impact of the modifications as identified in paragraph 10.233 above.

Impact on the SLC and its resulting adverse effects

10.252 As set out in Chapter 6, and mentioned in paragraph 10.129 above, the evidence that we considered as part of our assessment of horizontal effects indicated that the ownership of the Grid was an important aspect of the competitive constraint that Smartbox imposed on Tobii and was at the core of the rivalry between the two companies. [✂].

10.253 To be effective in remedying the SLC and resulting adverse effects, Tobii's Modified Proposal would need to restore the dynamic process of rivalry that existed between Tobii and Smartbox prior to the Merger.[394] In this context, as with Tobii's Remedy Proposal, we note that the Acquirer would be in a substantially different competitive position compared with the Smartbox business pre-Merger. With respect to Tobii's Modified Remedy Proposal in particular, this would occur in a number of important ways:

(a) It would not own the rights to the Grid outright; rather it would license the Grid from Tobii and have a version of the source code.

[394] *Merger remedies guidelines*, CMA87, paragraph 3.5(a).

(b) Unless the Smartbox software development team was included as part of the divestiture package, the Acquirer would not have the same detailed understanding of the Grid, nor would it have the same software development expertise, which formed an important part of Smartbox's competitive constraint on Tobii.

(c) While the Acquirer could exercise its right to obtain a copy of Tobii's version of the source code at any point in time during the five-year period to develop a 'forked' version of the Grid, the Acquirer would have a number of disincentives to undertake its own development work, which did not apply to Smartbox pre-Merger.

10.254 We considered the implications of each of these points - which are all likely to weaken the competitive position of the Acquirer relative to Smartbox pre-Merger - in our assessment below.

10.255 In framing this assessment, we noted that, under Tobii's Modified Proposal, it would be for the Acquirer to decide whether or not to take up the option to develop its own 'forked' version of the Grid software. This contrasts with the pre-Merger situation, where Smartbox had sole ownership of the Grid software, which formed the basis of its competitive strategy. In our assessment below, we considered the impact of the remedy on the SLC and resulting adverse effects, under the two possible scenarios that might result from Tobii's Modified Proposal:

(a) Where the Acquirer chose not to develop its own version of the Grid based on the source code of the Grid; and

(b) Where the Acquirer chose to develop its own version of the Grid, at some stage, by exercising its right to obtain a copy of Tobii's version of the source code within a period of five years from signing the final agreement between Tobii and the Acquirer, under the terms set out in Tobii's submissions to the CMA ([✂]).

Would Tobii's Modified Proposal remedy the SLC and its adverse effects if the Acquirer chose not to develop its own 'forked' version of the Grid software?

10.256 In a scenario where the Acquirer did not actively develop its own 'forked' version of the Grid, it would still be able to license the version of the Grid owned by Tobii. Under the terms [✂], all new versions, updates and upgrades to Tobii's version of the Grid would be included and available for licensing by the Acquirer. The Acquirer would also have the ability to request that Tobii carries out development work for features reasonably required by the Acquirer.

10.257 Under this scenario, any modifications carried out by Tobii on behalf of the Acquirer would be based on Tobii's own version of the Grid. As a consequence, there is likely to be only limited scope for competition between Tobii and the Acquirer in terms of software differentiation and/or innovation in this scenario (particularly given the importance of Smartbox's software to its pre-Merger competitive offering, as noted in paragraph 10.252 above), thereby reducing consumer choice over time. We therefore consider that, under such a scenario, the Acquirer would be unlikely to restore the significant degree of competitive rivalry that existed between Tobii and Smartbox pre-Merger where each company maintained and sought to improve its own separate and differentiated software.

10.258 Further, in a scenario where the Acquirer did not develop its own 'forked' software, it would be reliant on Tobii for access to the Grid and to develop software features for the Acquirer. This represents a significant commercial risk for the Acquirer[395] and we note that, when asked about a hypothetical scenario where the roles of Tobii and the Acquirer were reversed, Tobii told us that it would see a risk in becoming dependent on a competitor who would help Tobii to 'build the market' for Tobii's software.[396] [✄] told us that there were risks in relying on a competitor for access to the Grid. Given the time-limited nature of Tobii's proposed commitment to license its version of the Grid and offer development services to the Acquirer,[397] as well as the limitation on Tobii's commitment to provide such development services only for new and/or customised software features that Tobii considers to be 'reasonable', there is no guarantee that Tobii would accommodate future development requests from the Acquirer under Tobii's Modified Proposal. This would be likely to represent a source of concern for the Acquirer and adversely impact its ability to compete effectively in the market for dedicated AAC solutions given the dynamic and technology-driven nature of the market.

10.259 The Acquirer's continued reliance on Tobii to ensure compatibility between the Grid and the Acquirer's hardware devices would also present a risk for the Acquirer. As described in paragraphs 10.152 and 10.153 above, we note the important role that Smartbox played in ensuring device compatibility with its software and consider that Tobii would not have the same incentives to ensure compatibility with rival devices under Tobii's Modified Proposal. This

[395] As also described in paragraph 10.130 during our assessment of the effectiveness of the Hardware Divestiture element of Tobii's Remedy Proposal.
[396] Tobii told us that, to alleviate this risk, the right to take a copy of the source code and develop its own 'forked' software would act as 'good insurance' and that this right would ensure that the Acquirer would not become dependent on Tobii. See paragraph 10.244. In this section however, we are considering the likely impact on our SLC finding of a scenario whereby the Acquirer does not develop its own software based on the source code of the Grid.
[397] The [✄] states that the licensing arrangement would have an initial term of five years, with automatic yearly renewal unless terminated by either party giving at least 12 months' notice.

would be likely to become an increasing source of concern for the Acquirer over time, given the time-limited nature of Tobii's proposed licensing commitment.

10.260 In addition, if the Acquirer did not develop its own AAC software based on the Grid source code, Tobii would retain the ability and incentive to foreclose its rivals in the market for dedicated AAC solutions by: *(a)* reducing the extent to which the Grid supports rival dedicated AAC hardware; and/or *(b)* increasing the wholesale price of the Grid charged to rivals.[398] Tobii would also still have the ability and incentive to foreclose its rival providers of eye gaze cameras for AAC applications by limiting the compatibility of the Grid with rival eye gaze cameras.[399] Consequently, in a scenario where the Acquirer chose not to develop its own version of the Grid based on the source code of the Grid, Tobii's Modified Proposal would not address our vertical competition concerns as described in Chapter 7.

10.261 Overall, we concluded that should the Acquirer choose not to develop its own 'forked' software, then it would in effect become a licensee of the Grid and the competitive rivalry that existed pre-Merger would not be re-established. As a consequence, under this scenario, Tobii's Modified Proposal would not comprehensively address any component of our SLC finding and its resulting adverse effects.

Would Tobii's Modified Proposal address our SLC and its adverse effects if the Acquirer chose to develop its own 'forked' version of the Grid software?

10.262 We next considered the alternative scenario in which the Acquirer chose to obtain a copy of the source code of the Grid at some stage within a period of five years (from signing the final agreement between Tobii and the Acquirer) and to develop its own 'forked' version of the Grid software. We understand the key terms of this proposal, as set out in the [✂], [400] to be as follows:

(a) The Acquirer would own its respective version of the Grid source code and have the perpetual rights to further develop, sell, distribute and sub-license any products realised as a result.

(b) The Acquirer would have the right to obtain a copy of Tobii's version of the Grid source code at any time, and any number of times, during a period of five years (this period may be extended by mutual agreement).

[398] See paragraph 7.75.
[399] See paragraph 7.142.
[400] [✂] provided to the CMA on 22 July 2019.

(c) Tobii would provide training, a transfer of ‘knowhow’ and assistance which is ‘reasonably required’ by the Acquirer to use and develop the source code. The Acquirer would pay to Tobii an amount equal to Tobii’s incurred cost plus 30% for such work.

(d) The Acquirer would pay a royalty to Tobii per copy of any software product developed by the acquirer which made use of any source code that originates from the Grid.

10.263 This scenario would potentially allow for greater product differentiation and innovation as compared with a scenario in which the Acquirer did not develop its own AAC software based on the source code of the Grid,[401] and we note that some third parties told us that Tobii’s Modified Proposal could maintain and promote competition in both hardware and software.[402] However, to be effective in addressing the impact of the SLC and its resulting adverse effects, this proposal would need to restore the significant degree of competitive rivalry expected in the absence of the Merger (ie the pre-Merger conditions of competition as described in Chapter 4[403]).

10.264 In evaluating this scenario, we noted that Tobii’s Modified Proposal would result in the Acquirer being in a very different, and weaker, position compared with that of Smartbox in the pre-Merger situation. There are a number of aspects to this.

10.265 First, we considered the incentives for the Acquirer to develop its own software based on the Grid source code, and hence the likelihood that an Acquirer would choose to take up this option.

10.266 We consider that the incentives for the Acquirer to choose to develop its own software would be substantially lower than those for Smartbox pre-Merger for the following reasons:

(a) There are potentially substantial additional costs (with upfront and/or ongoing elements) associated with the Acquirer developing its own software based on the Grid,[404] including:

(i) the cost of investing in hiring and training for its software development team;

[401] As described in paragraphs 10.256 to 10.258.
[402] See for example paragraphs H.2(d), H.2(e) and H.2(g) of Appendix H.
[403] See paragraph 4.61.
[404] See paragraphs 8.28, 8.36 and 8.56 to 8.58 which describe the views of competitors on the difficulties and costs associated with developing AAC software to rival the Grid. We note that [✄] also told us that there would be significant additional costs if it were to carry out its own software development work (as opposed to relying on the licensing arrangement under Tobii’s Modified Proposal).

(ii) the cost associated with the provision of training and a transfer of 'knowhow' (to be able to use the source code) from Tobii in accordance with the terms of the [✂] (which includes a fee amounting to Tobii's incurred costs for such services plus a mark-up of 30%);

(iii) the requirement for the Acquirer to pay a royalty to Tobii per copy of any software product sold which makes use of any source code that originates from the Grid;[405] and

(iv) the costs of promoting and marketing the Acquirer's own-branded 'forked' software and overcoming user inertia in the market over changing software (see also paragraph 10.2671(a) below).

Each of the costs identified would act to reduce the incentive for any Acquirer to undertake development of its own AAC software based on the Grid. In particular, we note the ongoing nature of the requirement for the Acquirer to pay a royalty to Tobii as specified in (iii) above. These costs would reduce the scale of returns in any investment appraisal undertaken by the Acquirer to assess whether to pursue its own development projects based on the Grid source code and, therefore, would reduce the attractiveness of undertaking any such work. The incentive to undertake this type of investment is further reduced by the availability of the option to license the industry leading software from Tobii.[406]

(b) Under Tobii's Modified Proposal, the Acquirer is unlikely to have as powerful a strategic incentive to continue to innovate and develop its own AAC software as would exist for Smartbox in the absence of the Merger, for whom the success of the business was largely built on its sole ownership of its flagship Grid software and its own capabilities to develop that software. In this context, Smartbox management told us told us that the Grid was its 'key value proposition' and that the Grid was included in all aspects of the competitive offering of the pre-Merger business. In our view, Smartbox's pre-Merger competitive capabilities derived principally from its sole ownership of the Grid and its incentive to continue to innovate its software, which would in turn drive sales of Smartbox's own dedicated AAC solutions. These incentives would be weaker for any Acquirer.

10.267 Second, even if the Acquirer were to choose to develop its own 'forked' version of the Grid software, we consider that it would be likely to be in a

[405] The [✂] states that the royalty payable would be capped at a maximum amount per copy.
[406] [✂]

competitively weaker position than Smartbox pre-Merger for the following reasons:

(a) If the Acquirer were to develop its own software based on the source code of the Grid, under the terms of Tobii's Modified Proposal, it would not be permitted to use the Grid brand name. Given user familiarity with the Grid, the strength of the Grid brand, as noted by competitors[407] (for example, we note that Tobii publicly described the Grid as 'the industry leading communication software' in its announcement of the Merger[408]), user inertia over changing software,[409] and customer perceptions that the Grid is the leading communication software,[410] this is likely to present a significant challenge that the Acquirer would need to overcome, or be confident that it can overcome, in being able to effectively compete with its own 'forked' version.[411]

(b) Any potential Acquirer that sought to invest its resources in developing its own software based on the source code of the Grid would be competing against an important rival (Tobii) that owns the source code that underpins the Grid, is likely to benefit from user recognition of the Grid brand name and has hardware that some customers perceive to be superior to its rivals.[412] We consider that the Acquirer would be in a significantly weaker competitive position than that of Smartbox prior to the Merger and would therefore face difficulties in competing effectively with Tobii that were not the case for Smartbox under the counterfactual.

10.268 These factors clearly represent significant differences compared with the position of Smartbox prior to the Merger. These differences would put any Acquirer in a position of significant competitive disadvantage, both relative to Tobii and by comparison with Smartbox pre-Merger.

10.269 In addition, the Acquirer may not benefit from the expertise of Smartbox's software design, development and support staff. As part of Tobii's Modified Proposal, Tobii told us that it was open to discussing the split of former Smartbox staff with any Acquirer although we note that Tobii did not provide a commitment to include all Smartbox staff working on the Grid software in any divestiture package. Without the inclusion of such staff as part of any divestiture, the Acquirer would not have the same detailed understanding of

---

407 See for example paragraphs 8.28 and paragraphs D.3(e) and D.18(d) of Appendix D.
408 See paragraph 3.8.
409 See paragraph 7.28(e).
410 See paragraph 6.15.
411 [✂] also told us that the Grid brand was an important part of Smartbox's success and that the transaction with Tobii would be less attractive without the Acquirer having the ability to use the Grid brand for its products.
412 See paragraph 6.15.

the Grid, nor would it have the same software development expertise which formed an important part of Smartbox's competitive constraint on Tobii. We considered that this would hinder the Acquirer's ability to make effective use of the Grid source code and to establish its own software as a competitor to Tobii's version of the Grid within a reasonable time frame.[413]

10.270 In this regard, and as explained in our consideration of the effectiveness of the full divestiture remedy (see also paragraph 10.32(c) and the evidence set out in paragraph D.7 of Appendix D) and in Chapter 6, we noted the importance of the ongoing interaction between Smartbox's software development and customer support teams, which enabled Smartbox to provide high quality customer support and meet end-user needs.[414] Without the transfer of Smartbox software development and support staff, we considered that the synergies between the different operations of a highly integrated, flexible and dynamic small company would be lost and the Acquirer's ability to compete effectively and impose an adequate competitive constraint on Tobii would be diminished.

10.271 Finally, we considered the impact on Tobii's incentives to innovate and compete post-remedy. In this context, we note that, pre-Merger, the Grid represented a key competitive threat to Tobii (see paragraphs 6.36 and 6.37) and that the Grid spurred innovation [✂] (see paragraphs 6.42 and 6.43). This rivalry between the Parties led to customers having a choice of different software products, with some customers telling us that there were unique features of Tobii's Communicator software which would be lost as a result of the Merger (see paragraph 6.20). [✂]. We note that Tobii's internal documents indicate that before the Merger Tobii was still contemplating a series of options for its software suite ([✂]).[415] As discussed in Chapter 6, we have found that absent the Merger Tobii would have likely continued its efforts to improve its software.[416] Under Tobii's Modified Proposal however, Tobii and the Acquirer would be competing with software offerings derived from the same source code (ie from that of the Grid). We consider that this represents fundamentally different conditions of competition compared with those that existed pre-Merger and that an important element of rivalry and differentiation between the Parties (and therefore customer choice) would be lost. Moreover, the incentives for Tobii to continue to innovate would be reduced as a result of the loss of a significant competitive constraint from a rival with a unique, highly regarded and differentiated software platform.

413 [✂]
414 See paragraph 6.151(b).
415 See paragraph 6.21.
416 See paragraph 6.62.

10.272 Based on the above assessment, we could only have limited confidence that an Acquirer would choose to take up the option contained in Tobii's Modified Proposal to develop its own 'forked' version of the Grid software. Even if it were to do so, the Acquirer would be likely to be in a significantly weaker position competitively both relative to Tobii and in comparison, to Smartbox pre-Merger. We also consider that Tobii's incentives to innovate to improve its position in software would be weaker than absent the Merger. Consequently, even under this relatively 'optimistic' scenario in terms of effectiveness, Tobii's Modified Proposal would not restore sufficiently the conditions of competition lost as a result of the Merger and would not therefore represent a comprehensive solution to the SLC and its adverse effects.

Conclusion on impact on the SLC and resulting adverse effects

10.273 Based on our assessment set out in paragraphs 10.256 to 10.272 above, we consider that, while Tobii's Modified Proposal might maintain the same number of players in the market for dedicated AAC solutions as existed prior to the Merger, the Acquirer would be likely to have weaker incentives and reduced ability to innovate and compete. In addition, Tobii would not have the same spur to innovate as would be expected in the absence of the Merger; Tobii told us that Smartbox's ownership of the Grid was the main reason that it considered Smartbox to be an increasing competitive threat[417] and, in turn, drove Tobii to seek to improve its own software offering.[418]

10.274 In the absence of the Merger, we would expect both Tobii and Smartbox to continue to have strong incentives to innovate and, without the Acquirer taking sole ownership of the Grid, an important driver of the rivalry that existed pre-Merger would be lost. In comparison, Tobii's Modified Proposal would, in our view, result in Tobii having some incentive to innovate although this would be dampened by the loss of a close competitor compared with the pre-Merger situation, and the creation of a rival (the Acquirer) with compromised and significantly weaker incentives to innovate, relative to the pre-Merger Smartbox business. Therefore, even if the Acquirer chose to develop its own 'forked' software using the source code of the Grid – which is itself subject to substantial uncertainty - we consider that this is unlikely to restore the dynamic rivalry that existed between the Parties prior to the Merger.

[417] See paragraph 6.38.
[418] See paragraph 6.42 and 6.44.

10.275 Overall, we consider that, while Tobii's Modified Proposal might mitigate the horizontal component of the SLC we have found to a limited extent, the substantial reduction in competition to innovate and enhance dedicated AAC solutions relative to the pre-Merger situation, associated with Tobii's Modified Proposal, would be material and would result in ongoing significant customer detriment (which would be likely to increase over time).

10.276 We conclude that Tobii's Modified Proposal would not comprehensively address the horizontal component of the SLC we have found. Similarly, we conclude that there is no reason to believe that Tobii's Modified Proposal would comprehensively address the vertical components of the SLC that we have identified.

10.277 The concerns set out in paragraphs 10.273 to 10.276 above represent, in our view, fundamental shortcomings of Tobii's Modified Proposal that would not be capable of being addressed through further modification. There are also several more detailed and practical concerns which we briefly discuss below by reference to the other dimensions of effectiveness.

Appropriate duration and timing

10.278 To be effective in addressing the SLC and its adverse effects, Tobii's Modified Proposal would need to address the SLC effectively throughout its expected duration.

10.279 As noted above, our SLC finding is indefinite in nature.[419] In comparison, the following elements of Tobii's Modified Proposal are time-limited:

(a) The period during which the Acquirer could license the Grid (and Tobii commits to providing development services requested by the Acquirer over the same time period) is limited to five years. While the [✂] stated that the licensing arrangement would renew annually automatically, we note that it also stated that either party could terminate the arrangement by giving twelve months' notice.

(b) The period during which the Acquirer could take a copy of the source code of the Grid is limited to five years and could only be extended by mutual consent of the parties.

[419] See paragraph 9.2.

10.280 It is clear therefore that the key modifications to Tobii's Modified Proposal (ie those elements that differentiate it from Tobii's Remedy Proposal) would not address the SLC throughout its expected duration.

10.281 It is also the case that, under Tobii's Modified Proposal, we cannot be confident whether or when any Acquirer would choose to obtain a copy of the source code and how long it may then take for the Acquirer to develop its own software using that source code, such that it was able to compete effectively with its own 'forked' version. Based on the terms of the [✂], it might be five years before the Acquirer chose to take a copy of the source code of the Grid and it would likely require further time to undertake any planned development work before it could compete effectively with Tobii's version of the Grid. Potentially, the Acquirer might never choose to obtain a copy of the source code of the Grid. In this context, we note that [✂]. The timing of any impact on our SLC and its adverse effects, to the extent that Tobii's Modified Proposal may have an impact at all, is therefore highly uncertain.

10.282 For the reasons outlined above, we consider that Tobii's Modified Proposal would not address our SLC effectively throughout its expected duration, nor would it be likely to quickly address our horizontal and vertical competition concerns. For completeness, we have also noted several concerns with the practicality of implementing such a remedy and its associated risk profile.

Practicality

10.283 In our view, similar specification risks would arise in relation to Tobii's Modified Proposal as those identified in relation to certain aspects of Tobii's Remedy Proposal (eg the Grid FRAND access proposal),[420] particularly in terms of the need to interpret unambiguously the obligations of Tobii under any such proposal and the need to ensure a robust complaints procedure or dispute resolution process. We consider that it would be difficult to specify the operation and implications of the type of agreements that would form part of Tobii's Modified Proposal in such detail as to be sufficiently clear to the parties to any such agreement, the CMA and any other affected parties.[421] We outline some examples of the specification risks associated with Tobii's Modified Proposal in Appendix G.

10.284 In addition to the specification risks identified in Appendix G, we consider that there would likely be difficulty in negotiating and agreeing the terms of any agreement which was intended to cover a lengthy period of time, particularly

[420] See paragraphs 10.1571(d) and 10.167.
[421] See *Merger remedies guidelines*, CMA87, paragraph 3.5(c).

in a technology-driven market such as this. We also note that there were further terms set out in the [✂] which might affect the effective implementation of Tobii's Modified Proposal. For example, the [✂] stated that, as part of its commitment to develop features for the Grid as might be requested by the Acquirer, Tobii would provide 'up to three full-time developers to perform such services, subject to six months' notice'. Given the dynamic nature of a technology-driven market such as this, we consider that any such condition would be likely to reduce the ability of the Acquirer to compete effectively and reduce its ability to quickly develop software features in response to the needs of its users.

10.285 While monitoring and enforcement of any such agreement may to a large degree be dependent on the Acquirer, we consider that there are risks associated with reliance in this way on ongoing contractual arrangements to secure the effectiveness of a remedy. As a consequence, it is not sufficiently clear to us that Tobii's Modified Proposal is capable of effective implementation, monitoring and enforcement.

Acceptable risk profile

10.286 Tobii's Modified Proposal is highly dependent on the Acquirer having the ability, incentive, expertise and drive to develop its own AAC software based on the source code of the Grid.

10.287 Based on our assessment set out in paragraphs 10.256 to 10.272, we consider that, even if the Acquirer were to choose to develop its own software based on the source code of the Grid, the Acquirer would be likely to be in a significantly weaker position competitively both relative to Tobii and to Smartbox pre-Merger. We note in paragraph 10.281 that we cannot be confident whether or when any Acquirer would choose to obtain a copy of the source code of the Grid and that the Acquirer might never choose to obtain such a copy and to develop its own 'forked' software. We would have no control over whether the Acquirer chose to do so, risking the creation of a structurally weaker competitor in the market for dedicated AAC solutions.

10.288 In addition, Tobii's Modified Proposal presents a variety of specification risks (as described in paragraph 10.283 above) which, unless properly addressed, would impact the ability of the Acquirer to compete effectively with Tobii. We also consider that Tobii's Modified Proposal presents circumvention risks. In particular, Tobii may have the ability to restrict the capability of any Acquirer to develop its own software based on the source code of the Grid by transferring the source code in a way that makes it difficult to use and/or by not providing sufficient training and support to the Acquirer (or by doing so on unfavourable terms).

10.289 In summary, Tobii's Modified Proposal does not provide a high degree of certainty of achieving its intended effect[422] and as such it is not sufficiently certain to comprehensively address the SLC or its adverse effects. Under Tobii's Modified Proposal, customers would be likely to bear significant risks that the remedy would not adequately resolve the SLC. Given the nature of the SLC finding and its adverse effects (for example in the form of higher prices, lower quality, reduced product range and/or reduced innovation compared to what would otherwise have been the case absent the Merger), we consider that this presents an unacceptably high level of risk, particularly in a market which caters to the needs of vulnerable users.[423]

Conclusion on the effectiveness of Tobii's Modified Proposal

10.290 We conclude that Tobii's Modified Proposal would not be an effective remedy to the SLC that we have found and its resulting adverse effects. Although some of the risks that we have identified might be capable of mitigation by Tobii developing further iterations of its proposal, our fundamental concerns in relation to this remedy - which ultimately flow from Tobii's ongoing ownership of the Grid and associated intellectual property – are not capable of being addressed through further modifications.

Conclusions on effectiveness of remedy options

10.291 Based on our assessment of the effectiveness of each remedy option we considered (see paragraphs 10.16 to 10.290 above), we conclude that a full divestiture of Smartbox represents the only effective remedy to the SLC and its resulting adverse effects.

Assessment of relevant customer benefits (RCBs)

10.292 When deciding on remedies, we may have regard to the effects of remedial action on any RCBs. In this section, we consider whether there are any RCBs (within the meaning of the Act) that should be taken into account in our remedy assessment.

10.293 An effective remedy to an SLC, such as in this case a full divestiture of Smartbox, can be considered disproportionate if it prevents customers from securing substantial benefits arising from the Merger, where these benefits outweigh the SLC and any resulting adverse effects. Insofar as these benefits

[422] See *Merger remedies guidelines*, CMA87, paragraph 3.5(b).
[423] See paragraph 2.5.

constitute RCBs for the purposes of the Act,[424] the statutory framework allows us to take them into account[425] when we decide whether any remedy is appropriate.

10.294 RCBs that will be foregone due to the implementation of a particular remedy may be considered as costs of that remedy. The CMA may modify a remedy to ensure retention of an RCB or it may change its remedy selection. For instance, it may decide to implement an alternative effective remedy, or it may decide that no remedy is appropriate.[426]

10.295 We first set out the legal framework that we will apply, as set out in the Act, to determine whether the benefits claimed by Tobii can be properly considered as constituting RCBs. We then set out the views of the Parties and third parties, before our assessment and conclusions on RCBs.

Legal framework

10.296 The burden of proof of whether RCBs arise from a merger is on the merging parties. Our Guidance states that the 'merger parties will be expected to provide convincing evidence regarding the nature and scale of RCBs that they claim to result from the merger and to demonstrate that these fall within the Act's definition of such benefits'.[427]

10.297 The Act defines RCBs as a benefit to relevant customers in the form of lower prices, higher quality, or greater choice of goods or services in any market in the UK, or greater innovation in relation to those goods or services.[428] For these purposes, relevant customers are direct and indirect customers (including future customers) of the merger parties at any point in the chain of production and distribution – they are not limited to final consumers.[429]

10.298 In addition, in the case of completed mergers, to be properly considered as an RCB under the statutory definition, the CMA must believe that:[430]

(a) the benefit has accrued as a result of the creation of the relevant merger situation concerned or may be expected to accrue within a reasonable period as a result of the creation of that situation; and

[424] Section 30 of the Act.
[425] Section 35(5) of the Act.
[426] *Merger remedies guidelines*, CMA87, paragraph 3.16.
[427] *Merger remedies guidelines*, CMA87, paragraph 3.20.
[428] Section 30(1) of the Act.
[429] Section 30(4) of the Act. See also *Merger remedies guidelines*, CMA87, paragraph 3.18.
[430] Section 30(2) of the Act.

(b) the benefit was, or is, unlikely to accrue without the creation of that situation or a similar lessening of competition.

10.299 When assessing the merger parties' evidence on *(b)* above, in practice the CMA will consider whether the merger parties' evidence is sufficient to demonstrate that the claimed benefit could not be achieved by plausible less anti-competitive alternatives to the merger.[431]

10.300 In previous cases where RCBs have been accepted by the CMA, the type of evidence accepted included implementation plans, which have been found more persuasive when more detailed and advanced. The merging parties' incentives to implement and pass on the benefits post-merger will also be relevant to the likelihood of RCBs being realised in practice.

Parties' and third parties' views on relevant customer benefits

10.301 In our Remedies Notice, we invited views on the nature of any RCBs and on the scale and likelihood of such benefits and the extent (if any) to which these were affected by different remedy options.[432]

10.302 At its response hearing, and in a subsequent submission, Tobii identified three customer benefits which it considered to be RCBs:

(a) **Economies of scale benefits:** arising from expected cost savings in software (primarily in relation to [✄]), amounting to around £[✄] per annum. Tobii told us that, over five years, this amounted to a discounted present value of up to £[✄] and that these benefits were expected to be passed down to consumers in the form of lower prices. Tobii subsequently submitted that [✄].

(b) **Combined expertise:** arising from combining Smartbox's expertise in software with Tobii's expertise in hardware, [✄]. Tobii told us that, based on the price it had paid for Smartbox, it estimated that a full divestiture of Smartbox would result in foregone customer benefits arising from technical synergies to be in the range of £[✄] to £[✄]. Tobii told us that the merged entity would be able to develop combined solutions with additional product functionality and new innovative solutions, including for end-users with specific communications needs ([✄]) who were poorly served by existing solutions and software. As such, Tobii told us that these synergies would benefit customers through increased innovation and the development of new and better products over time. Tobii told us

[431] *Merger remedies guidelines*, CMA87, paragraph 3.24.
[432] Remedies Notice, paragraph 34.

that this was a unique benefit that could not be generated in any other way, by combining Tobii Dynavox's expertise in device hardware and eye-tracking technology (which Tobii told us Smartbox does not have) with Smartbox's expertise in AAC software and customer service ([✂]). Tobii told us that there was no evidence that equivalent benefits could be achieved through other means (eg through deep collaboration agreements or [✂]; and

(c) **Removal of double marginalisation:** arising from the removal of the need for reseller agreements between the Parties. Tobii told us that, absent the Merger, Smartbox would certainly have continued to resell Tobii eye gaze cameras and Tobii would have resold Smartbox's Grid ([✂]). Tobii told us that the Merger would internalise costs in the supply chain and that there would be an immediate elimination of two double mark-ups (ie on Grid software and Tobii eye gaze cameras). Tobii estimated that the avoided cost to customers on sales of Tobii devices made through Smartbox would be up to £[✂] and a discounted present value of up to £[✂] over five years. Tobii told us that this saving should be viewed in the context of a small market and low sales volumes. Tobi did not provide an estimate of the effect of removing the mark-up on sales of the Grid made through Tobii Dynavox but noted that the third report of the Monitoring Trustee referred to worldwide sales of Smartbox software via Tobii Dynavox worth £[✂], and that Smartbox would earn a margin of £[✂] on these sales. Tobii told us that its strategy [✂]. Tobii told us that the elimination of double margins by way of vertical integration was a well-known efficiency gain and one which would be available to Tobii but would not be available to other potential purchasers, who would be unlikely to have the same [✂] strategy as Tobii.

10.303 In addition, in its response to the CMA's phase 1 decision, Tobii identified a customer benefit in the form of improved customer support. Tobii told us that, as a result of the Merger, it would be able to increase its number of field representatives (from [✂] to [✂] representatives in the UK) and customer support staff (from [✂] to [✂] staff in Europe, with Tobii Dynavox staff in the US providing additional 24/7 cover). Tobii also told us that the Merger would lead to significantly strengthened training resources.[433] Tobii told us that it was widely acknowledged, by competitors, professionals and end-users/support groups, that Smartbox had excellent, and in some ways unique, customer service. Tobii told us that, [✂] it considered that the success of Smartbox may be due to 'cultural reasons'. Tobii told us that [✂]

[433] Tobii response to phase 1 decision, paragraph 106.

and that, accordingly, the benefit of improved customer service was a merger-specific RCB.

10.304 In its response to our RWP, Tobii told us that the Merger would generate significant RCBs and that it was clear from its internal documents, public statements and submissions to the CMA that it intended to combine the ‘uniquely complementary businesses’ of Tobii Dynavox and Smartbox to ‘give more people a voice’. Tobii told us that it was not required to demonstrate RCBs with precision and it considered that it had demonstrated substantial RCBs to the appropriate standard.

10.305 Tobii told us that a full divestiture of Smartbox would prevent any such benefits from being achieved unless a purchaser of Smartbox would also have the capability to achieve them. Tobii told us that this was ‘by no means clear’ and was ‘entirely speculative’. Tobii told us that a ‘very substantial majority’ of its claimed RCBs would be retained in the event of Tobii’s Modified Proposal [✂].[434] [✂].

10.306 On 17 June 2019, Tobii wrote to 65 organisations outlining non-confidential aspects of its proposed commitments to the CMA and its strategy and future plans. We received some subsequent responses from third parties regarding benefits of the Merger that correspond with the RCBs put forward by Tobii. For example, with respect to the benefits of combining the expertise of Tobii and Smartbox:

(a) Anna Reeves, CEO of ACE Centre, told us that she would be concerned about the potential implications of denying the development of any future collaboration between Tobii Dynavox and Smartbox.

(b) A Service Lead at a charity providing support to people with complex communication needs in the UK, told us that they expected that customers would benefit from bringing together Tobii’s hardware and Smartbox’s software, which they considered to be the industry leaders.

(c) [✂]

(d) The parent of an AAC user told us that they believed the Merger would provide ‘many positive solutions to the AAC community’, specifically highlighting potential benefits for users of PODD,[435] a language system which is compatible with both Tobii and Smartbox software, being able to use Tobii hardware while running their preferred language system on a

[434] We note that RCBs must accrue as a result of the creation of the relevant merger situation concerned (see section 30(2) of the Act) and do not include hypothetical additional benefits created by other remedies.
[435] PODD is the abbreviation used for ‘Pragmatic Organisation Dynamic Display’.

more modern platform, Smartbox's Grid. The third party also told us that it would be beneficial to deal with just one company.

10.307 With regards to potential improvements in customer service:

(a) A parent of an AAC user and Trustee for AngelmanUK, a charity supporting those affected by Angelman Syndrome in the UK, told us that Smartbox had an excellent reputation for customer service and that they hoped that the Merger would lead to an improvement in Tobii's customer support operation.

(b) The parent of a user of Smartbox software based in Canada told us that they believed the Merger meant they would be able to access greater support and training, as a result of Tobii's global presence and that they expected that the inter-operability of Tobii hardware and Smartbox software would improve as a result of the Merger.

10.308 Some submissions from third parties also told us that they believed Smartbox's prices would reduce as a result of the Merger. For example, [✂] from a UK charity supporting users of AAC solutions, told us that Smartbox software was more expensive than Tobii software and that they believed that the Merger would result in a fall in Smartbox's prices. The submission noted in paragraph 10.306(d) also stated that it expected that Smartbox prices may decrease as a result of its acquisition by Tobii.

10.309 In a further submission, Tobii told us that it was clear from these third-party submissions that the Merger would have significant RCBs, and that these could not be generated absent the Merger. It added that the loss of these RCBs would have a serious negative impact on users of AAC solutions, both in the UK and around the world.

10.310 At its response hearing, [✂].

10.311 In relation to customer service, Smartbox told us that there may be a benefit for Tobii's UK customers as the acquisition of Smartbox would give them access to a more localised support offering. Smartbox added that Tobii likely saw the Merger as a way of improving its customer support more quickly and that the aspiration was for the merged entity to match Smartbox's level of customer support. [✂].

10.312 One third party ([✂]) told us that it was uncertain what RCBs could arise under the Merger but considered that Tobii could have offered Smartbox a bigger R&D programme given its relatively bigger size and added that this would be a potential loss to customers if the Merger did not go ahead. However, another third party ([✂]) told us that it did not consider that

Smartbox would benefit from Tobii's R&D pool given that Tobii had been trying to improve its Communicator software, but had not made much progress.

10.313 No other third party told us that the Merger would give rise to any RCBs.

Our assessment of relevant customer benefits

10.314 Based on the above, we have identified the following claimed RCBs:

(a) economies of scale benefits;

(b) combined expertise;

(c) removal of double marginalisation; and

(d) improved customer support.

10.315 We assess each of the claimed RCBs in turn.

Economies of scale benefits

10.316 Our Guidance states that a merger may lead to economies of scale, for example, in production or distribution, but if this benefit accrues only to the merged firm it would not constitute an RCB. To qualify as an RCB, the prospective cost reductions must be expected to result in lower prices (or better quality, service, choice or innovation) than if the merger did not take place. In many instances, this may not be the case, as the merged entity may have scope to charge higher prices, or not pass on cost reductions, due to the reduction in competitive pressures resulting from the merger.[436]

10.317 Tobii's submissions indicated that it expected the majority of cost savings to be generated through [✂] savings. Generally, the CMA is more likely to take cost savings into account where marginal (or short-run variable) costs are reduced as these tend to stimulate competition and are more likely to be passed on to customers in the form of lower prices. The CMA will not in general give as much weight to potential savings in fixed costs because they may often represent private gains to firms and are less important in short-run price formation, although reductions in fixed costs may play an important role in longer-term price formation.[437]

[436] *Merger remedies guidelines*, CMA87, paragraph 3.22.
[437] *Merger assessment guidelines* (originally published jointly by the Office of Fair Trading and the Competition Commission and adopted by the CMA Board), paragraph 5.7.9.

10.318 We considered whether there was any evidence that these claimed cost savings ([✂]) would be passed on to UK customers. While we note Tobii's stated strategy is to [✂],[438] we do not consider a high-level statement of strategy, by itself, to be robust evidence that lower prices are a likely outcome of the Merger (particularly given the likely substantial diminution of horizontal competition we found in Chapter 6 where we considered horizontal unilateral effects of the Merger) and we note that [✂]. Further, we consider that while some third parties told us that Tobii's prices had been lower than those of Smartbox prior to the Merger,[439] this is not necessarily indicative of its future pricing strategy, particularly where the conditions of competition are altered by the Merger.

10.319 Our competitive assessment indicates that the Merger would remove a significant competitive constraint that Tobii and Smartbox exert on each other. We consider that this is likely to reduce the incentives of the merged entity to pass-through cost savings to customers in the form of lower prices (or through better quality, choice or innovation). We also note that roughly 60% of Tobii's anticipated [✂] savings comes from [✂] (paragraphs 8.97 and 8.102). This would result in fewer innovations being brought to market, and it would be difficult for us to regard such an outcome as likely to result in an RCB.

10.320 We have seen no clear evidence from Tobii in support of this claimed benefit and how it meets the definition of RCBs for the purposes of the Act. In particular, we have not seen clear evidence that any economies of scale may be expected to accrue within a reasonable period as a result of the Merger, and Tobii has provided no evidence that any claimed savings will be passed through to customers.

10.321 Furthermore, Tobii has not provided any evidence which would enable us to believe that any RCBs achieved through economies of scale meet the second limb set out in paragraph 10.298(b) above, ie that they would be unlikely to arise in the absence of the Merger or a similar lessening of competition. Tobii's submissions on [✂] savings [✂].[440] Similarly, we consider that any benefit that may arise from [✂] could also be achieved under a scenario where Smartbox was acquired by a purchaser other than Tobii.

[438] See for example, Tobii response to Provisional Findings, paragraph 2.
[439] See paragraph 10.308 above.
[440] Tobii added that it expected the scale of these benefits would be lower than under Tobii's proposed remedy package.

10.322 For these reasons, we conclude that any potential benefit arising from economies of scale does not qualify as an RCB for the purposes of the Act, as we do not believe the claimed benefit has accrued or may be expected to accrue within a reasonable period as a result of the Merger, or that any such benefit was, or is, unlikely to accrue without the Merger or a similar lessening of competition.

Combined expertise

10.323 Tobii's submissions regarding the benefits of combining the Parties' expertise (in particular, Tobii's expertise in hardware and Smartbox's expertise in software) were also considered as part of our assessment of potential rivalry-enhancing efficiencies in Chapter 8 (Countervailing factors), as Tobii did not specify whether it considered this effect of the Merger to be rivalry-enhancing or an RCB.

10.324 As set out in Chapter 8 (Countervailing factors), we considered that Tobii had not provided convincing evidence of the nature and scale of this claimed benefit, nor had it demonstrated that any such benefits were specific to the Merger.[441] Tobii described the expected outcomes from the combination of its own expertise with those of Smartbox in general terms only, describing for example 'new innovative solutions' aimed at users [✂] but did not provide details of any such solutions, including the number of projects and the quality and variety of such projects, or how they would be developed. As noted in Chapter 8 (Countervailing factors), it remains unclear why the development of such projects requires the combination of Smartbox's expertise with that of Tobii.

10.325 Further, as discussed in paragraph 8.102, [✂]. We also note that [✂] and the scope for technical synergies is not discussed in any detail in Tobii's contemporaneous internal documents prepared for the purpose of evaluating the Merger. As such, we have not seen a compelling level of supporting evidence that would be required for the claimed RCBs to satisfy the statutory test. In this context, while we note the assertions of third parties in paragraphs 10.306 to 10.308 above, we consider that the potential benefits outlined in these submissions are anecdotal and unsubstantiated. We also consider that the horizontal competition concerns that we have identified could dampen the incentives to innovate. This loss of rivalry to develop and deliver better products could outweigh any beneficial effect for customers that might arise from combining the expertise of the two companies. It is therefore

[441] See paragraphs 8.95 to 8.104.

unclear whether and how the claimed benefit may be expected to accrue, within a reasonable period, as a result of the Merger.

10.326 It is also unclear why the benefits described in paragraph 10.302(b) above would be unlikely to accrue absent the Merger or a similar lessening of competition. Indeed, as with its submissions in relation to economies of scale, Tobii acknowledged that some of these benefits might also arise in a scenario where Smartbox was acquired by a purchaser other than Tobii.[442] We also consider that it would be open to Tobii and/or Smartbox to develop greater expertise over time in software or hardware respectively, as a competitive strategy absent the Merger.

10.327 In our view, these claimed benefits could be achieved through plausible less anti-competitive ways absent the Merger (eg through accelerated hiring and training programmes, through the re-organisation and/or re-prioritisation of resources or, indeed, if Smartbox were acquired by a purchaser other than Tobii). Tobii has not provided compelling evidence to the contrary. In this context, we note that Tobii was investing to improve its software offering prior to the Merger and that Smartbox was improving its hardware offering.

10.328 We conclude that Tobii has not provided compelling evidence that any benefit of combining the expertise of Tobii and Smartbox qualifies as an RCB for the purposes of the Act, as we do not believe that the claimed benefit has accrued or may be expected to accrue within a reasonable period as a result of the Merger, or that any such benefit was, or is, unlikely to accrue without the Merger or a similar lessening of competition.

Removal of double marginalisation

10.329 The issue of double marginalisation arises when, pre-merger, firms with market power supplying the input and producing the final product set their prices independently and both charge a mark-up, resulting in prices to customers for the final product being higher than would suit the joint interests of both firms. A vertical merger may enable, and provide incentives for, the merged firm to internalise this double mark-up resulting in a decrease in the price of the final product.[443]

---

[442] Tobii told us that, depending on the identity of the buyer of Smartbox in the case of a full divestiture, some of these benefits may be preserved under the CMA's full divestiture remedy. Tobii told us that it considered that no other potential buyer was likely to be able to replicate the 'unique innovation opportunities' and preserve the benefits that would arise from the combination of Tobii's expertise in hardware and Smartbox's expertise in software.
[443] *Merger assessment guidelines*, paragraph 5.7.10.

10.330 Tobii submitted that the Parties entered into mutual reseller agreements independent of the Merger,[444] which allowed Smartbox to resell Tobii devices and allowed Tobii to resell Smartbox software. Tobii told us that, following the Merger, each Party would have access to the respective inputs of the other at a lower cost. It therefore told us that a benefit would arise for end-users (and other customers) if this saving was passed on.

10.331 In our counterfactual, we acknowledged that it is conceivable that Tobii and Smartbox may have decided to enter into some form of new trading arrangements in the absence of the Merger but considered that it was unclear what the nature of any such arrangements might have been.[445] We concluded that the Agreements as signed in August 2018 were unlikely to have been successfully concluded absent the Merger.

10.332 As discussed in Chapter 6 (Horizontal Effects), it is likely that in the counterfactual scenario Smartbox would have continued to develop its hardware while Tobii would have continued to develop its software, and therefore it is reasonable to expect that the scope of any reselling and distribution activities between the Parties, and, therefore, the scope for any double marginalisation, would be relatively limited. We further note that when reselling occurs in parallel to direct sales (as would likely be the case under a reseller agreement between the Parties), the risk of double marginalisation is more limited as there is a degree of competition downstream between the supplier and the reseller.

10.333 Based on the above, it is not clear that the Parties would be resellers of each other's products absent the Merger and the scope for double marginalisation is uncertain.

10.334 In addition, in considering the extent to which any hypothetical savings would be likely to be passed on to customers, economic theory indicates that the double marginalisation problem is strongest in a supply chain with two successive monopolies. Where these monopolists face a linear market demand curve and are unable to price discriminate between customers, 50% of double marginalisation savings would be passed through to customers. However, this 'textbook' example does not directly apply as the market structure in this case is not one of successive monopolies – the downstream market for dedicated AAC solutions is concentrated and would become more so as a result of the Merger but there is some competition both within this market and in other stages of the supply chain. In Chapter 7 (Vertical effects), we stated that the Merger itself is likely to adversely affect the extent of

[444] See paragraphs 4.41 and 4.42.
[445] See paragraph 4.57.

competition in the supply of dedicated AAC solutions and the supply of eye gaze cameras for AAC applications, resulting in an SLC. Economic theory does not provide clear predictions for the rate of pass-through when this is the case; however, the extent of the double marginalisation problem is expected to be less. In addition, as noted above, Tobii has not provided any internal documentary evidence to indicate that it will pass through the benefit of any cost savings to customers.

10.335 For these reasons, it is unclear that any benefit arising from the removal of double marginalisation has accrued, or may be expected to accrue, within a reasonable period as a result of the Merger.

10.336 Moreover, even in the event the parties did act as resellers, the double marginalisation 'problem' can be solved in a number of plausible less anti-competitive ways absent the Merger: for example, through the use of contractual arrangements including non-linear pricing arrangements or 'two-part tariffs'. Therefore, on the basis of the evidence provided to us, we do not believe that any hypothetical benefit arising from the removal of double marginalisation is unlikely to accrue without the Merger.

10.337 We have therefore concluded that any potential benefit arising from the removal of double marginalisation does not qualify as an RCB for the purposes of the Act, as we do not believe that the claimed benefit has accrued or may be expected to accrue within a reasonable period as a result of the Merger, or that any such benefit was, or is, unlikely to accrue without the Merger or a similar lessening of competition.

Improved customer support

10.338 Tobii did not provide a detailed assessment of how it intended to improve its customer support operation as a result of the Merger and it is not clear why the improvement of Tobii's customer support is dependent on its acquisition of Smartbox. In addition, we noted Smartbox's comments that there might be practical difficulties in applying its own support model to the merged entity and, on the basis of our horizontal SLC finding, we considered that the Merger would instead reduce the incentives for the merged entity to improve its customer support.

10.339 Further, Tobii did not submit evidence that benefits in the form of improved customer support are unlikely to accrue in the absence of the Merger. While we acknowledge Tobii's submission that it had previously invested in UK customer support but had been unable to replicate Smartbox's performance in this respect, Tobii did not provide any evidence or explanation as to why this was unsuccessful, nor that such benefits could not be achieved, for example, through investment in hiring and training or by establishing a local customer service team in the UK. In our view, improvements to Tobii's support operation could be achieved in plausible alternative ways independent of the Merger.

10.340 We conclude that any potential benefit arising from improved customer support does not qualify as an RCB for the purposes of the Act, as we do not believe that the claimed benefit has accrued or may be expected to accrue within a reasonable period as a result of the Merger, or that such benefits are unlikely to accrue without the Merger or a similar lessening of competition.

Conclusions on relevant customer benefits

10.341 We have considered whether the claimed benefits of the Merger identified by the Parties and third parties constitute RCBs for the purposes of the Act. On the basis of the analysis set out in paragraphs 10.316 to 10.340 above, we conclude that there are no RCBs arising from the Merger.

Assessment of proportionality

10.342 In this section, we set out our assessment of, and conclusions on, the proportionality of our proposed remedy.

Proportionality assessment framework

10.343 In order to be reasonable and proportionate, the CMA will seek to select the least costly remedy, or package of remedies, that it considers will be effective. If the CMA is choosing between two remedies which it considers will be equally effective, it will select the remedy that imposes the least cost or that is least restrictive. In addition, the CMA will seek to ensure that no remedy is more onerous than necessary or disproportionate in relation to the SLC and its adverse effects.[446]

10.344 To fulfil this, we first consider whether there are any relevant costs associated with each effective remedy option. When considering relevant costs, the CMA's considerations may include (but are not limited to):[447]

(a) distortions in market outcomes;

[446] *Merger remedies guidelines*, CMA87, paragraph 3.6.
[447] *Merger remedies guidelines*, CMA87, paragraph 3.10.

(b) compliance and monitoring costs incurred by the Parties, third parties, or the CMA; and

(c) the loss of any RCBs that may arise from the Merger which are foregone as a result of the remedy.

10.345 However, our Guidance states that for completed mergers, the CMA will not normally take account of costs or losses that will be incurred by the merger parties as a result of a divestiture remedy, as it is for the merger parties to assess whether there is a risk that a completed merger would be subject to an SLC finding, and the CMA would expect this risk to be reflected in the agreed acquisition price.[448]

10.346 Having identified the least costly effective remedy, we then consider whether the least costly remedy is more onerous than necessary or would be disproportionate to the SLC and its resulting adverse effects. In doing so, we are required to compare the extent of harm which is likely to arise from the SLC with the relevant costs of the proposed remedy.[449]

Parties' and third parties' views on proportionality and relevant costs

10.347 In our Remedies Notice, we invited views on the costs of implementing different remedy options, in particular, the full divestiture of Smartbox.[450]

10.348 In its response to our Remedies Notice, Tobii told us that a full divestiture of Smartbox (ie of its worldwide business) would be a 'wholly disproportionate remedy' to the SLC, given Tobii Dynavox's limited presence in the UK market for the supply of dedicated AAC solutions.[451]

10.349 Tobii told us that in other cases where a merger involved an international business and the SLC identified by the CMA (or, before it, the Competition Commission) related to a distinct market in the UK, and the UK market represented a small part of the merging parties' global businesses, a total prohibition of the merger had been considered to be disproportionate. Tobii cited two past cases:[452]

(a) Tobii told us that in Imerys/Goonvean, a price cap applicable to the specific products (which was by reference to pre-merger ex works prices) in respect of which an SLC had been identified (which represented less

[448] *Merger remedies guidelines*, CMA87, paragraph 3.9.
[449] *Merger remedies guidelines*, CMA87, paragraph 3.6.
[450] Remedies Notice, paragraph 30.
[451] Tobii response to the Remedies Notice, paragraph 5.
[452] Tobii response to the Remedies Notice, paragraph 18.

than 5% of the parties' total production) was imposed as an alternative to prohibition, notwithstanding that the merging parties were the only producers and suppliers in the UK of the SLC products.

(b) It also told us that similarly, in Reckitt Benckiser/K-Y brand, where an SLC was identified only in respect of sales through grocery retailers and pharmacies in the UK (which was a small part of the K-Y brand's global sales) the CMA adopted a licensing remedy, applicable only in the UK, as an effective remedy.

10.350 Tobii told us that the CMA should take a similar approach in the present case, to ensure that any divestiture remedy was both proportionate and effective and was the least onerous necessary to ensure that the SLC identified by it was remedied effectively.[453]

10.351 Tobii told us that a [✂].

10.352 In its response to our Remedies Notice, Tobii told us that the total consideration paid (or to be paid) by Tobii Dynavox for Smartbox was up to [✂].[454] [✂].

10.353 In its response to our RWP, Tobii told us that a full divestiture remedy would be 'manifestly disproportionate' and infringe Tobii's rights under the European Convention on Human Rights. Tobii told us that while it acknowledged that in quantifying the RCBs associated with Tobii's Remedy Proposal, the absolute size of these was small, this reflected the fact that the relevant market for dedicated AAC solutions itself was 'very small'. It told us that this went to a fundamental point: that in order to properly evaluate remedy options and their proportionality, it was essential to estimate the size of the detriment arising from an SLC that is to be remedied. Tobii told us that a full divestiture remedy would have 'very significant consequences' for [✂] users (since all expected benefits for them as a result of the Merger, ie the RCBs, would be lost) [✂]. It told us that the CMA must therefore approach its assessment of remedies carefully and balance appropriately the benefits arising from addressing any SLC (which accrue only to a small subset of end-users) against the cost of the foregone RCBs (which would affect all end-users). We consider this point in paragraphs 10.367 to 10.370 below.

[453] Tobii response to the Remedies Notice, paragraph 19.
[454] See also paragraphs 3.3 and 3.6.

10.354 Other than those submissions we considered as part of our assessment of RCBs, we received no views from third parties on any other costs of a full divestiture remedy.

Our assessment of proportionality

10.355 Our remedy assessment is concerned with whether a particular remedy (whether structural or behavioural) would be effective in addressing the specific competition concerns we have identified in this particular case, and if so, whether that remedy would be proportionate. Therefore, the appropriate remedy and whether it is effective and proportionate will be determined by having regard to the particular circumstances of the case.

10.356 As mentioned in paragraph 10.343 above, in assessing proportionality in merger investigations, having identified which remedies are effective at remedying the SLC, we first identify the least costly effective remedy and then consider whether the least costly remedy is more onerous than necessary and whether it would be disproportionate to the SLC and its resulting adverse effects.

Selecting the least costly effective remedy and one that is no more onerous than necessary

10.357 In this case, we have identified one effective remedy – the full divestiture remedy. For the reasons set out earlier in this chapter, we consider that this is the only remedy that would be effective in achieving the legitimate aim of comprehensively remedying the SLC and its resulting adverse effects, and there is no choice between equally effective remedies.

10.358 We also consider that the full divestiture remedy, including the timeframes and purchaser suitability criteria that we have adopted in order for full divestiture to be effective (as set out in paragraphs 10.24 to 10.92 above), is no more onerous than is required to achieve that aim.

Proportionality to the SLC and its adverse effects

10.359 We have also considered whether a full divestiture remedy would produce effects that are disproportionate to the aim pursued. To help us address this question, we have considered whether there were any RCBs that would be lost as a result of pursuing a full divestiture remedy, which we would treat as a cost of the remedy. Our conclusion from that assessment was that there would be no RCBs that would be lost as a result of a full divestiture of Smartbox (see paragraphs 10.292 to 10.341 above).

10.360 We considered whether there were any other costs of a full divestiture remedy which we should take into account. In relation to the relevant costs of a remedy, our Guidance states that the costs of a remedy may arise in various forms. For example, remedies may result in costs through distortions in market outcomes (these costs are more likely to arise where behavioural remedies are used); remedies may also result in significant ongoing compliance costs; or if remedies extinguish RCBs, then the benefits foregone may be considered to be a relevant cost of the remedy.[455]

10.361 For completed mergers, the CMA will not normally take account of the costs or losses that will be incurred by the merged parties as a result of a divestiture remedy, such as any capital losses that may be incurred by Tobii as a result of being required to divest Smartbox in its entirety.[456] This is because the acquiring party could generally have avoided these costs by seeking merger control approval prior to acquisition.[457]

10.362 In this particular case, other than Tobii's submissions on RCBs (which we considered in paragraphs 10.292 to 10.341) and [✂] (which we would not normally take into account for a completed merger), Tobii did not submit any evidence in relation to the costs of a full divestiture remedy.

10.363 We have not found any costs to third parties arising as a result of the full divestiture remedy.

10.364 The resulting adverse effects of the SLC we have identified include: higher prices, lower quality, reduced product range and/or reduced innovation compared to what would otherwise have been the case absent the Merger.[458]

10.365 We consider that the harm arising from the SLC (including its cumulative effect over time) is likely to be significant and have a widespread impact on customers and, in turn, end-users, who could be categorised as being vulnerable and heavily dependent on the services under consideration.[459] We did not consider that the SLC was time-limited, and therefore we would expect these adverse effects to persist under the relevant merger situation.

10.366 In relation to the relevant costs of a structural remedy, we have found that no RCBs are to be taken into account in the assessment of the proportionality of

[455] *Merger remedies guidelines*, CMA87, paragraph 3.10.
[456] *Merger remedies guidelines*, CMA87, paragraph 3.9.
[457] We note the Tribunal confirmed this approach in *SRCL Limited v Competition Commission* [2012] CAT 14 at 48 and 49, stating that 'The Guidelines also say that the costs that the acquirer would incur in divesting itself of the business are not normally taken into account… There is nothing in the circumstances of Stericycle's acquisition of Ecowaste that could be regarded as exceptional'.
[458] See paragraphs 6.62 and 6.63; paragraphs 7.71 to 7.74; and paragraphs 7.138 to 7.140.
[459] See paragraph 2.5.

a full divestiture of Smartbox. We also note that Tobii's decision to agree to complete the Merger unconditionally on any competition clearance was taken at its own risk. Therefore, we conclude that the costs to Tobii of running a sale process or any reduction in Smartbox's value that Tobii might suffer as a result of a full divestiture remedy, should not be treated as relevant costs. The full divestiture remedy would not raise costs for third parties and, as such, full divestiture would not produce adverse effects that are disproportionate to the aim of comprehensively remedying the SLC and its resulting adverse effects.

10.367 In its response to our RWP, where we set out our provisional view that a full divestiture remedy represented the only effective and proportionate remedy, Tobii told us that the CMA had failed to estimate the size of the detriment to be remedied, which it considered was 'essential' in order to properly evaluate remedy options and their proportionality. It therefore told us that the CMA's provisional conclusions on the proportionality and effectiveness of the remedy options identified by it and by Tobii were 'unsound'.

10.368 In particular, Tobii made the following points in relation to estimating the size of the 'detriment' for each of the three SLC components:

(a) in relation to our horizontal unilateral effects concerns, Tobii told us that the CMA must evaluate the relevant detriment by quantifying the value of potential price increases for the relevant portion of the market to which the horizontal unilateral effects concern arises (ie the subset of 'high-end' devices);

(b) in relation to our vertical Grid input foreclosure concerns, Tobii told us that the CMA must quantify the extent of the harm resulting from a reduced range of devices that were supported by the Grid to the relevant subset of end-users; and

(c) in relation to our vertical customer foreclosure concerns, Tobii told us that any potential customer harm from such a foreclosure strategy would only affect the small subset of end-users who needed or used dedicated AAC devices with rival eye gaze cameras and that the CMA must evaluate the relevant detriment by quantifying the value of potential price increases for the relevant portion of the end-users for whom the concern arose.

10.369 We described the adverse price and non-price effects – all of which we judged to be material – that we would expect to arise from each of the SLC components we have found in our competitive assessment in Chapters 6 (Horizontal effects) and 7 (Vertical effects):

(a) We described the adverse price and non-price effects we would expect resulting from the Horizontal SLC component in Chapter 6 (Horizontal effects), where we stated that the removal of one party as a competitor could allow the merged entity to increase prices or deteriorate other aspects of its offering that are valued by customers, eg the quality and range of products, or the level of service associated with these products. We also stated that the Merger might also reduce incentives for the merged entity to engage in R&D and innovate. We also noted that at least two of these possible manifestations of the SLC, namely a reduction in the range of products available to customers and a reduction in R&D, had been decided upon prior to completion of the Merger and were about to materialise when the CMA initiated its investigation. We consider these to be concrete manifestations of an SLC caused by the Merger that would directly harm customers.[460]

(b) We also described the adverse effects we would expect resulting from the Grid foreclosure SLC component in Chapter 7 (Vertical effects), where we stated that a reduction in the extent to which the Grid supports competitors' dedicated AAC hardware would significantly deteriorate the quality of competitors' dedicated AAC solutions including the Grid, thereby weakening their offering in the market for dedicated AAC solutions and reducing the range of options that can effectively meet end-user needs. In particular, customers and end-users would be worse off from having a reduced range of hardware that is fully supported by the Grid. We stated that we place significant weight on this given the vulnerability of the user group, specifically the difficulty end-users face in communicating and the importance of having a wide range of effective dedicated AAC solutions to meet the range of AAC needs. We also found that an increase in the wholesale price of the Grid charged to Liberator and Techcess would harm customers through higher prices of the dedicated AAC solutions they sell.[461]

(c) In relation to the Customer foreclosure SLC component, in Chapter 7 (Vertical effects), we stated that less innovation in eye gaze cameras and an increase in their prices were likely to have adverse effects on the supply of dedicated AAC solutions which use eye gaze cameras as an input in terms of their prices and quality. We also state that there would also be direct effects in the downstream market for dedicated AAC solutions arising from the merged entity limiting the compatibility of the Grid with rival eye gaze cameras, which would reduce the range of

[460] See paragraphs 6.62 and 6.63.
[461] See paragraphs 7.71 to 7.74.

dedicated AAC solutions available to meet end-users' needs, with dedicated AAC solutions that use the Grid offering a reduced range of eye gaze camera options compared to the counterfactual absent the Merger. We stated that this would be particularly problematic for those end-users whose needs are best met by the Grid in combination with a non-Tobii camera and that the adverse effects would likely be more acutely felt in the market for dedicated AAC solutions in the UK.[462]

10.370 Based on our assessment of the proportionality of a full divestiture remedy (see paragraphs 10.357 to 10.366 above), we found that a full divestiture remedy represented the only effective remedy and accordingly would represent the least costly effective remedy.[463] We also considered that a full divestiture remedy was not disproportionate to the SLC given the adverse effects we have identified, and summarised above, and having found that there are no relevant costs or RCBs that we should take into account. Given this assessment, it is not necessary to go further and attempt to quantify the adverse effects arising from the SLC.

Conclusions on proportionality

10.371 Having identified a full divestiture of Smartbox as the only effective remedy available, we considered its proportionality to the SLC and its resulting adverse effects we have found.

10.372 We have found that a full divestiture remedy is the only effective action to achieve the legitimate aim of comprehensively remedying the SLC and its resulting adverse effects. We consider that a full divestiture remedy is no more onerous than is required to achieve this legitimate aim and that based on our conclusion that the Merger is likely to lead to significant and sustained adverse effects and that there are no relevant costs which we should take into account, we conclude that a full divestiture remedy would not produce adverse effects which are disproportionate to the aim pursued. We therefore conclude that the full divestiture remedy would be proportionate to the SLC and its resulting adverse effects.

[462] See paragraphs 7.138 to 7.140.
[463] As recognised by the Tribunal in *SRCL Limited v Competition Commission* [2012] CAT 14 at 46, the CMA is not required to balance the costs of an effective remedy against an ineffective remedy. The Tribunal stated that 'The Guidelines make clear that the comparative cost of different remedies only becomes relevant where the CC identifies a number of remedies which would be effective in addressing the SLC'.

Final decision on remedies

10.373 We have concluded that a full divestiture of Smartbox would be an effective and proportionate remedy to address the SLC and its resulting adverse effects we have found.

10.374 The CMA has the choice of implementing any final remedy decision either by making a final order under section 84 of the Act or by accepting final undertakings pursuant to section 82 of the Act if the Parties wish to offer them. Either the final order or the final undertakings must be implemented within 12 weeks of publication of our final report (or extended once by up to 6 weeks under exceptional circumstances),[464] including the period for any formal public consultation on the draft order or undertakings as specified in Schedule 10 of the Act. We propose to implement the full divestiture remedy by seeking suitable undertakings from the Parties. We will issue an order if we are unable to obtain suitable undertakings from the Parties within the statutory timescale.

10.375 In line with our Guidance, once this remedy has been fully implemented, we conclude that Tobii should be prohibited from subsequently acquiring the assets or shares of Smartbox or acquiring any material influence over them (either directly or indirectly). Our Guidance states that the CMA will normally limit this prohibition to a period of 10 years.[465] We find no compelling reason to depart from the Guidance in this case by seeking a shorter or longer prohibition period.

[464] Section 41A(2) of the Act. See also *Merger remedies guidelines*, CMA87, paragraph 4.68 and footnotes 92 and 93.
[465] *Merger remedies guidelines*, CMA87, paragraph 5.10.