

**Tobii AB and Smartbox Assistive Technologies Ltd and Sensory
Software International Ltd
Appendices and Glossary**

Appendices

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Glossary

Appendix A: Terms of reference and conduct of the inquiry

Terms of reference

1. In exercise of its duty under [section 22\(1\)](#) of the Enterprise Act 2002 (the Act) the Competition and Markets Authority (CMA) believes that it is or may be the case that:
 - (a) a relevant merger situation has been created, in that:
 - (i) enterprises carried on by Tobii AB have ceased to be distinct from enterprises carried on by Smartbox Assistive Technology Limited and Sensory Software International Limited; and
 - (ii) the condition specified in [section 23\(2\)\(b\)](#) of the Act is satisfied; and
 - (b) the creation of that situation has resulted, or may be expected to result, in a substantial lessening of competition within a market or markets in the United Kingdom for goods or services, including for the (upstream) supply of dedicated AAC hardware, the (upstream) supply of AAC software, the (downstream) supply of dedicated AAC solutions and for the (upstream) supply of eye gaze cameras.
2. Therefore, in exercise of its duty under [section 22\(1\)](#) of the Act, the CMA hereby makes a reference to its chair for the constitution of a group under [Schedule 4](#) to the Enterprise and Regulatory Reform Act 2013 in order that the group may investigate and report, within a period ending on 25 July 2019, 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 within any market or markets in the United Kingdom for goods or services.

Mike Walker
Chief Economist
Competition and Markets Authority
8 February 2019

Conduct of the inquiry

3. Following the reference to phase 2, we published the biographies of the members of the inquiry group conducting the inquiry on the inquiry [webpage](#) on 8 February 2019 and the administrative timetable for the inquiry was published on the inquiry [webpage](#) on 13 February 2019.
4. In order to prevent actions that may impede any remedial action taken or required by the CMA following its phase 2 inquiry, on 18 February 2019, we imposed an interim order under [section 81\(3\)](#) of the Act on Tobii AB and Smartbox in relation to the acquisition of Smartbox Assistive Technology Limited and Sensory Software International Limited (Smartbox). This replaced the initial enforcement order (IEO) imposed by the CMA on 28 September 2018 during the initial stage (phase 1) of the CMA inquiry. The interim order also issued directions for the continued appointment of the monitoring trustee under the IEO, to ensure compliance with the interim order. The inquiry group considered and agreed a number of derogation requests from the Parties. The interim order and the notices of derogation are published on the inquiry [webpage](#).
5. On 14 December 2018, the phase 1 team directed Tobii AB to appoint a monitoring trustee. The directions to appoint a monitoring trustee were published on the inquiry [webpage](#) on 19 December 2018. In conjunction with the interim order, we re-appointed the monitoring trustee on 28 February 2019, which was published on the inquiry [webpage](#) on 28 February 2019.
6. In addition to the interim order, on 28 February we imposed an unwinding order under [section 81\(2\)](#) of the Act on Tobii AB and Smartbox to unwind the reseller agreement entered into on 15 August 2018, require reinstatement of the certain development projects and resupply of certain discontinued products. The CMA considered that the entering of the reseller agreement, the shelving of the development projects and the discontinuation of certain products constituted pre-emptive action under the Act – which is action that might prejudice the reference concerned or may impede any remedial action taken or required by the CMA following its phase 2 inquiry.
7. We invited a wide range of interested parties to comment on the merger. These included customers, interest groups, competitors and resellers of augmentative and assistive communication (AAC) hardware and software. We issued questionnaires to 69 customers of Tobii AB and Smartbox and to 17 interest groups for which we received 38 responses. We also obtained evidence through telephone conversations and written requests with 23 competitors and seven resellers. We also used evidence from the CMA's phase 1 inquiry into the merger.

8. We received written evidence from the Parties in the form of submissions and responses to information requests (a non-confidential version of their response to the phase 1 decision and the issues statement are published on the inquiry [webpage](#)). We also held separate hearings with the Parties on 29 April 2019 and 1 May 2019.
9. We received written evidence from the third parties in the form of submissions (a non-confidential version of their responses to the phase 1 decision and the issues statement are published on the inquiry [webpage](#)).
10. On 26 February 2019, we published an issues statement on the inquiry [webpage](#) setting out the areas of concern on which the inquiry would focus, inviting comments.
11. On 5 March 2019, members of the inquiry group, accompanied by CMA staff, visited Smartbox's facility at Malvern, UK. On 18 March 2019, members of the inquiry group, accompanied by CMA staff, visited Tobii AB's Headquarters in Stockholm, Sweden.
12. During our inquiry, we sent the Parties a number of working papers for comment. We also provided Parties and third parties with extracts from our working papers for comments on accuracy and confidentiality. The Parties were also sent a copy of the annotated issues statement, which outlined our thinking to date prior to the main party hearings.
13. A non-confidential version of the provisional findings report has been published on the inquiry [webpage](#).
14. We would like to thank all those who have assisted us in our inquiry so far.

Appendix B: Third parties

This appendix lists the third parties mentioned in the provisional findings, and provides brief descriptions of the company or organisation.

Company / Organization	Category	Description/involvement in AAC
1 Voice	Interest group	UK Charity supporting a network of parents and professionals working with people with communication needs. http://www.1voice.info/
Abilia	AAC supplier/ reseller	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. https://www.abilia.com/en
Ability World	AAC supplier/ reseller	UK manufacturer and supplier of assistive products for communication, access & learning support. https://www.ability-world.com/
ACE Centre North	Customer	NHS hub serving England's North West region. https://acecentre.org.uk/
ACE Centre South	Customer	NHS hub serving England's Wessex and Thames Valley region. https://acecentre.org.uk/
Alea	Eye gaze supplier	German company that develops and supplies eye gaze devices to many

		<p>countries, including the UK where Smartbox acts as a reseller of Alea's eye gaze devices.</p> <p>https://www.intelligaze.com/en/</p>
Apple	Technology company	<p>US based developer of the iPad and the IOS software platform, which hosts various AAC apps. Acquired the eye gaze competitor SMI in June 2017.</p>
Assistive Communication Service	Customer	<p>NHS hub serving England's London region.</p> <p>https://clch.nhs.uk/services/assistive-communication-service</p>
AssistiveWare	AAC supplier/reseller	<p>Netherlands-based supplier of AAC products, focusing on developing AAC software for iOS.</p> <p>https://www.assistiveware.com/</p>
Barnsley Hospital	Customer	<p>NHS hub serving England's Yorkshire and Humber region.</p> <p>https://www.barnsleyhospital.nhs.uk/assistive-technology/</p>
Beaumont College	Customer	<p>Independent specialist college for learners with complex impairments, including those with AAC needs.</p> <p>https://www.beaumontcollege.ac.uk/</p>
Birmingham Community Healthcare	Customer	<p>NHS hub serving England's West Midlands region.</p> <p>http://www.bhamcommunity.nhs.uk/patients-public/rehabilitation/act/</p>
Bristol Communication Aid Centre	Customer	<p>NHS hub serving England's South West region.</p> <p>https://www.nbt.nhs.uk/bristol-centre-enablement/services-at-centre/bristol-communication-aid-service</p>

CALL Scotland	Customer	<p>Communication, Access, Literacy and Learning (CALL) Scotland is a support service primarily funded by the Scottish Government to help children and young people overcome disability and barriers to learning.</p> <p>https://www.callscotland.org.uk/Home/</p>
Cambridge CASEE	Customer	<p>Cambridge Communication Aids Service East of England (Cambridge CASEE) is a NHS hub serving the East of England region.</p> <p>https://www.cuh.nhs.uk/addenbrookes-hospital/services/communication-aids-service-east-england-casee</p>
Communication Matters	Interest group	<p>UK based charitable organisation that promotes the rights of AAC users.</p> <p>https://www.communicationmatters.org.uk/</p>
Dad in a Shed	AAC supplier/ reseller	<p>UK-based developer and reseller of equipment and software for AAC and special educational needs.</p> <p>http://www.dadinashed.com/</p>
DH2 Solutions	AAC supplier/ reseller	<p>UK-based supplier of assistive technology, focussed on the provision of environmental control and home automation solutions.</p> <p>https://dh2solutions.co.uk/</p>
EyeTech	Eye gaze supplier	<p>US company that develops eye gaze algorithms, hardware and software for eye gaze technology.</p> <p>https://www.eyetechds.com/</p>
Forbes AAC (Forbes)	AAC supplier/ reseller	<p>Manufacturer of dedicated AAC hardware which operates mostly in the US.</p> <p>https://www.forbesaac.com/</p>

Google	Technology company	US based developer of the Android software platform, which hosts various AAC apps.
Great Ormond Street Hospital (GOSH)	Customer	NHS hub serving England's London region. https://www.gosh.nhs.uk/medical-information/clinical-specialties/neurodisability-information-parents-and-visitors/clinics-and-services/augmentative-communication-service
Inclusive Technology	AAC supplier/reseller	Inclusive Technology acts as a reseller of dedicated AAC solutions and 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. http://www.inclusive.co.uk/
Irisbond	Eye gaze supplier	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. https://www.irisbond.com/en
Jabbla	AAC supplier/reseller	Belgium-based provider of AAC solutions. Parent company of Techcess. http://www.jabbla.com/
LC Technologies	Eye gaze supplier	US company that manufactures and sells eye gaze equipment worldwide. LC Technologies is also a reseller of Smartbox's Grid software. https://eyegaze.com/

Leeds Community Health Care NHS Trust	Customer	NHS-funded institution (not categorised as a hub) providing specialised and non-specialised AAC services in the Leeds area. https://www.leedscommunityhealthcare.nhs.uk/
Liberator	AAC supplier/reseller	Subsidiary of PRC which distributes AAC solutions in the UK. https://www.liberator.co.uk/
Lincolnshire EATS	Customer	Lincolnshire Electronic Assistive Technology Service (EATS) is a NHS hub serving England's East Midlands region. http://lincolnatservice.nhs.uk/
Lingraphica	AAC supplier/reseller	US provider of AAC solutions focused on the aphasia segment of the market. https://www.aphasia.com/
Logan Technologies	AAC supplier/reseller	Logan Technologies Ltd is the UK subsidiary of LoganTech, a US based company supplying the ProxTalker AAC hardware device. https://www.logan-technologies.co.uk/
Medequip Assistive Technology	Other	UK provider of community equipment services to local authorities and NHS. Indicated that it does not compete in the supply of dedicated AAC solutions. http://www.medequip-uk.com/
Microlink	AAC supplier/reseller	UK based supplier of workplace adjustments for disabled employees, which also acts as a reseller of AAC products. https://www.microlinkpc.com/
Microsoft	Technology company	US based developer of the Surface tablet range and the Windows software platform,

		which is a platform that runs various AAC software.
KM CAT (Adults)	Customer	<p>Kent and Medway Communication and Assistive Technology Service (KM CAT)'s Adult Team is a NHS hub serving adult AAC users in England's Kent and Medway region.</p> <p>https://www.ekhuft.nhs.uk/patients-and-visitors/services/radiological-sciences/medical-physics/kmcat/</p>
News-2-you	AAC supplier/reseller	<p>US based company providing software solutions with a focus on Education.</p> <p>https://www.n2y.com/</p>
NHS Ayrshire & Arran	Customer	NHS-funded institution (not categorised as a hub) providing AAC services to Scotland's Ayrshire and Arran region.
NHS Lanarkshire	Customer	NHS-funded institution (not categorised as a hub) providing AAC services to Scotland's Lanarkshire region.
Prentke Romich Company Inc (PRC)	AAC supplier/reseller	<p>US company that manufactures and develops dedicated AAC solutions. Parent company of Liberator and Saltillo.</p> <p>https://www.prentrom.com/</p>
Regional Communication Aid Service (RCAS)	Customer	<p>NHS hub serving England's North East region.</p> <p>https://www.ntw.nhs.uk/services/regional-communication-aid-service-neurological-service-walkergate/</p>
Royal Hospital for Neuro Disability	Customer	<p>NHS hub serving England's West London region.</p> <p>https://www.rhn.org.uk/what-makes-us-special/services/compass/</p>

RSL Steeper	AAC supplier/ reseller	UK supplier of Assistive Technology https://www.steepergroup.com/
Saltillo	AAC supplier/ reseller	US company that manufactures and develops AAC solutions. Subsidiary of PRC. https://saltillo.com/
Scottish Centre of Technology for the Communication Impaired (SCTCI)	Customer	NHS-funded institution (not categorised as a hub) providing AAC information, evaluation equipment and advice to 11 of the 14 geographical health boards in Scotland.
Sensory Guru	AAC supplier/ reseller	UK supplier of Assistive Technology http://www.sensoryguru.com/
Sequal Trust	Customer	UK charity raising funds to provide AAC solutions to disabled people of all ages with severe speech, movement or learning difficulties. https://www.thesequaltrust.org.uk/
SensoMotoric Instruments GmbH (SMI)	Eye gaze supplier	German provider of dedicated computer vision applications with a major focus on eye tracking technology. Acquired by Apple in June 2017.
South Lanarkshire Council	Customer	Local authority in Scotland which provides support to students with disabilities aged 3 to 18, including those with AAC needs.
Suffolk Communication Aids Resource Centre	Customer	NHS-funded institution (not categorised as a hub) providing support to children and young people with communication difficulties.
Surrey County Council	Customer	Local authority in England providing assessment, funding and support to children and young people up to the age of 19 requiring AAC solutions.

Talk to Me Technologies	AAC supplier/ reseller	US-based supplier of AAC devices. Talk To Me Technologies provides consultative and evaluation services for users of AAC devices through its own team of speech-language pathologists or AAC Consultants. https://www.talktometechnologies.com/
Techcess	AAC supplier/ reseller	UK subsidiary of Jabbla, selling Jabbla hardware devices with either Jabbla-designed AAC software or with Smartbox's Grid software. https://www.techcess.co.uk/
The Communication Advice Centre, Belfast	Customer	NHS-funded institution (not categorised as a hub) providing AAC services across the Northern Ireland region.
Therapy Box	AAC supplier/ reseller	Developer of AAC apps, sold through the AppStore and PlayStore 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. https://therapy-box.co.uk/
Treloar School and College	Customer	Registered charity that provides education, support and training to young people with physical disabilities, including those with AAC needs. https://www.treloar.org.uk/

Appendix C: Further Tobii submissions in respect of market definition

1. This appendix discusses some submissions made by Tobii on market definition and the question of whether non-dedicated solutions should be included in the relevant product market.

Framework for demand side substitution

Tobii's submission

2. Tobii submitted that the information gathered by the CMA was insufficient to reach robust conclusions on either market definition or competitive assessment. Tobii submitted that four fundamental questions had not been addressed:
 - i. What exactly are the key dimensions of end user needs that determine the extent of demand side substitutability between AAC solutions based on purpose-built devices and those based on consumer tablets?
 - ii. Are there any clear 'break points' within the spectrum of end user needs, which allow well defined groups of end users for whom substitutability options may be more limited to be identified?
 - iii. If a group of customers with more limited substitution options can be systematically identified, how ubiquitous are they, relative to customers for whom there is a high degree of substitutability between AAC solutions based on purpose-built devices and those based on consumer tablets?
 - iv. If a group of customers with more limited substitution options can be systematically identified, to what extent do the products supplied by the Parties specifically serve this group of customers, as opposed to, in addition, customers for whom there is a high degree of substitutability?
3. Tobii submitted that the CMA was inferring that the Parties are solely, or predominantly, serving an, as yet undefined, 'subset' of customers with limited substitution options, without providing any evidence to show that this is, in fact, the case.

Our assessment

4. We are defining a product market for the purpose of assessing a horizontal unilateral effects theory of harm (as well as some vertical theories of harm), so our assessment framework for market definition should be understood in

this light. The purpose of the assessment is essentially to identify the set of products that are likely to be considered by a significant number of the Parties' customers as their 'next best option'. It is the availability of these products that reduces the proportion of the Parties' customers who regard the other Party's products as their closest alternative, which is considered as a key determinant of horizontal effects.¹

5. Against this backdrop, we disagree with Tobii's suggestions in several respects. First, we do not consider that the purpose of the exercise is to analyse the whole 'spectrum' of needs of users of AAC solutions, or to identify 'break points' in that spectrum between different groups of users with different needs and substitutability options. Our focus should be on customers of the products supplied by the Parties, as it is the preferences of these customers that will shape the Parties' incentives to raise price post-merger (or otherwise deteriorate quality, range or service levels). The preferences of individuals who use other products before the Merger is not relevant to this assessment. These individuals have opted for alternative options at pre-merger prices, and therefore they would be unlikely to change their behaviour if the price of dedicated AAC solutions was higher (as it may be following the Merger).
6. Second, the purpose of the exercise is to elicit information on customers' relative preferences between dedicated and non-dedicated AAC solutions. The question is not whether the Parties' customers could or could not use a non-dedicated AAC solution, but whether a significant share of these customers consider non-dedicated AAC solutions as their closest alternative to the dedicated AAC solution they are using pre-merger. The focus of the analysis should be on customers' relative preferences between products, rather than their general ability to use different solutions.
7. Third, it is not necessary for us to identify the specific needs of end users that might drive preferences and diversion patterns. Customers have made it clear to us that each end user has unique needs that must be taken into account in the purchasing decision, and that it is not possible to establish a straightforward correspondence between the observable medical condition of an end user and the type of solution that will be selected for him. We therefore consider that gathering evidence on substitutability at a more aggregate level from the organisations who purchase the solutions on behalf of end users is more effective and more informative in this case.
8. Finally, we note that representations from customers (both qualitative views and responses to diversion questions) are considered together with other evidence on substitutability and closeness of competition. We have also taken account of representations from competitors and the Parties' internal

¹ [Merger Assessment Guidelines](#), paragraph 5.4.6

documents to reach our view, as well as the pricing and features of different alternatives. While these are different sources of evidence, we would expect them to reflect the same fundamental drivers of competition. For example, we would expect the Parties' internal documents to monitor suppliers of products that are considered close substitutes to their own products by their customers. In this case, the evidence we have collected and analysed from the various sources is consistent.

Survey of end users

Tobii's submission

9. Tobii commissioned a survey of end users of AAC solutions and used the results to discuss demand-side substitution between dedicated and non-dedicated AAC solutions. Tobii discussed the design of the survey with the CMA before it went into the field and gave the CMA the opportunity to comment in writing on various aspects of the design including the draft questionnaire. Tobii was aware of the CMA's Survey Good Practice,² and referred to it in its submission.

Our assessment

10. We consider that some key issues have not been addressed and the survey has the following limitations. First, it is based on an online panel. Paragraph 2.29 of the CMA's Survey Good Practice explains that samples for such panels are not random and that the CMA tends to place less evidential weight on results from them. Given the non-random nature of the sampling methodology, the CMA made clear to the Parties the importance of transparency and rigour of panel recruitment and data weighting methods for assessing the robustness of survey evidence. The Parties' submission includes a description of the methodology for the online panel written by Dynata, the market research company that conducted the survey. However, this description is not specific and provides little useful information for assessing the validity of this survey's results.
11. Second, the relevance and size of the sample falls short of the CMA's usual requirements for survey evidence in merger cases. The survey was completed by 101 end-users of AAC solutions or individuals who are responsible for making decisions on their behalf. Of these, 62 were customers of the Parties. The number of responses to diversion questions is very low – 6 responses from customers of Tobii Dynavox devices, 9 from customers of its software, 10 from customers of Smartbox devices and 19 from customers of its software. These numbers fall a long way short of the CMA's usual requirement of 100 respondents from customers of each Party. Tobii has

² [Good practice in the design and presentation of survey evidence in merger cases \(CMA, May 2018\)](#)

acknowledged that the small sample sizes make it difficult to draw strong inferences from the survey results.³

12. Third, we have some reservations about the credibility of the achieved sample. Tobii's submission states that in 2018 Tobii Dynavox sold just over [X] AAC products to [X] individual customers. The survey purports to have obtained responses from [X] purchasers of Tobii Dynavox products (hardware and software), ie 29% of the target population. This suggests that the online panel is either very large, or very significantly over-recruits among the types of people who are eligible for this survey. An alternative explanation might be that some respondents claimed to be eligible for the survey when they are not. The description of the online panel methodology makes clear that survey respondents are rewarded for taking part in surveys, and potential respondents therefore have an incentive to claim eligibility. The CMA has not been provided with sufficient information to assess the credibility of the achieved sample. In the absence of an explanation for the numbers obtained there remains a risk that some, or even most, respondents are not customers of the Parties, or of AAC solutions at all.
13. Fourth, the diversion question used by Tobii allowed respondents to divert to multiple brands without specifying the spend diverted to each brand.⁴ In our view, it is not possible to use responses to these questions to build diversion ratios that have a meaningful economic interpretation.
14. Sample surveys are most useful when they are of sufficiently high quality to be able to make robust inferences about whole populations from which the sample of responses are drawn. Our provisional conclusion is that this survey falls a long way short of this and may not be used to make inferences about populations of end-users of dedicated AAC solutions in general, or more specifically of end-user customers of the Parties. Surveys that do not meet that standard can sometimes be interpreted as providing information about a small sample of customers in the market which, while not providing reliable evidence in its own right, might be used in conjunction with other confirmatory evidence as indicative of certain customer behaviours. However, our provisional view, for the reasons given above, is that the results of this survey are potentially misleading and should not be given any evidential weight.

³ [X]

⁴ For example, if a customer would buy a piece of software worth £200 from one supplier and a piece of hardware worth £3000 from another supplier to compose a solution, these two suppliers will receive the same weight on diversion ratios.

CMA questionnaire used to gather evidence from NHS hubs

Tobii's views

15. Tobii has submitted a review by Dr Jonathan Cave of a version of one questionnaire that we sent to the NHS. The review suggests that:
- (a) It is likely that the sequencing and framing effects may have influenced the results and their external validity.
 - (b) Concentration on a subset of suppliers is likely to have influenced the results.
 - (c) The existence of side-markets unrelated to the NHS use of AAC solutions and components should (have been) considered.
 - (d) The varied and changing characteristics of end-users seem likely to have implications for demand elasticity and dynamic competition, but were not assessed.
 - (e) It is not clear whether the questionnaire was adequately tested. It does seem clear from the draft wording that all diversion options were not explicitly considered.
 - (f) The inclusion of the term '(tablets)' without clarification seems likely to have unduly focused respondents' understanding.
 - (g) The questionnaire is insufficiently clear as regards the 'neighbouring markets'.⁵
16. The review concludes: 'As a result, I cannot say that consumer diversion estimates based on this questionnaire are robust or reliable in relation to a well-specified counterfactual.'

Our assessment

17. As discussed in paragraph **Error! Reference source not found.**, we have designed our questionnaire with care to limit the extent of any framing bias. The design of the questionnaire reviewed by Dr Cave built upon our earlier engagement with the NHS in phase 1, which included both written questionnaires and 6 calls with NHS organisations. The wording and terminology used in our phase 2 questionnaire reflected that experience, and when we spoke again to NHS hubs in the course of this inquiry there was no indication that respondents did not understand any of the terms or the purpose of any of the questions. Respondents understood that we were interested in exploring substitutability between dedicated AAC solutions and

⁵ [X]

solutions based on consumer tablets, and they commented on this issue qualitatively before answering the diversion question. We used the word 'tablets' accompanied with examples (eg an 'iPad' or a 'Surface Pro') to refer to non-dedicated AAC solutions as this was the terminology most commonly used by respondents. It was clear from their written responses and our verbal engagement with them that they understood that this referred to non-dedicated AAC solutions incorporating such tablets with other peripherals and specialised software. Our diversion question was framed by reference to percentages of expenditure, so that it could accommodate all diversion strategies (eg 'unbundling' a dedicated AAC solution to purchase various components from different suppliers, including a consumer tablet).

18. We chose to ask a 'forced diversion' question ('what would you have done if product x was not available'), rather than ask alternative questions designed to explore the elasticity of demand to price changes and hence focus on the preferences of marginal customers (eg 'what would you have done if the price of product x rose by 5%'). The main reason for this is that our theory of harm involves not just a possible increase in price, but also various other deteriorations in the offering of the Parties that could harm customers, for example a deterioration in the quality of the products or the level of service associated with them, or a reduction in the range of products offered. As the possible changes in the Parties' offerings are varied and difficult to forecast, it is neither feasible nor meaningful to try to estimate demand elasticity through diversion questions. In this context, a forced diversion question is more appropriate to get an overall view of the closeness of competition between the merging parties.
19. The diversion ratios we have estimated are based on responses from NHS hubs. However, we consider that diversion ratios for the whole customer base are unlikely to be substantially different. The qualitative views on substitutability that we received from smaller customers were not materially different from those expressed by NHS hubs. Moreover, 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 mainstream devices. Finally, NHS hubs account for [redacted] [50-60%] of the Parties' sales of dedicated AAC solutions in the UK ([redacted] [60-70%] for Smartbox and [redacted] [40-50%] for Tobii). Therefore, even if smaller customers considered non-dedicated AAC solutions to be a closer substitute to the Parties' dedicated AAC solutions (than did the NHS Hubs), aggregate diversion to non-dedicated AAC solutions would remain low.
20. It is not clear from the submission what 'side markets' or 'neighbouring markets' are, or why they should have been explored as part of that exercise.

As noted above, the relevant economic question in a merger assessment is not whether some individuals use non-dedicated AAC solutions to address their needs (we do not dispute that this is the case), but whether current users of the Parties' dedicated AAC solutions (or the individuals/organisations who purchase these solutions on their behalf) consider non-dedicated solutions to be close substitutes for their needs.

Regulatory distortions

Tobii's view

21. Tobii has submitted a note describing the regulatory framework in the US market and how it has affected Tobii's products and business.⁶[REDACTED].

Our assessment

22. We recognise that the US regulatory framework may have shaped Tobii's product offering (and possibly that of some of its competitors) to a degree, but this does not invalidate our approach to market definition or the competitive assessment. Clearly, some UK customers are finding that Tobii's dedicated AAC solutions are the best option to meet their needs, otherwise they would not buy them. We are interested in the preferences of these UK customers, and the extent to which they regard other products as close substitutes. We have used evidence from these UK customers and their suppliers to come to a view on this question.

AAC profitability analysis

Tobii's view

23. Tobii has submitted an analysis of the profitability of a sample of providers of AAC solutions. [REDACTED].

Our assessment

24. In our view, this analysis has a number of limitations that make it difficult to draw any strong inferences on the profitability of AAC suppliers. In particular, the comparator companies used by Tobii (Liberator, Abilia, and Steeper) are involved in a different segment of the value chain (the distribution of products rather than their development) and, in the case of Abilia and Steeper, supply a broader range of assistive technologies than the Parties.
25. In any case, the relevant question for our inquiry is not whether competition in the relevant market was effective pre-merger, but whether the Merger could lead to a substantial lessening of that competition. Even if this analysis were

⁶ [REDACTED]

robust and clearly indicated that suppliers of AAC solutions were subject to competitive constraints pre-merger, if some of these constraints arose from the competitive interactions between Tobii and Smartbox they would be lost following the Merger. Tobii's analysis of profitability does not provide any insights on the nature and the origin of the competitive constraints acting on suppliers, which is what is relevant for our inquiry.

26. For these reasons, we have not put any weight on this evidence.

Glossary

Term	Definition
AAC	Augmentative and assistive communication; a range of techniques that support or replace spoken communication. The techniques include gestures, signing, symbols, communications boards and books, as well as powered computer devices, with techniques appropriate for children and adults.
AAC software	Software that 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, accessible apps, third party content or environmental control.
AAC solutions	Solutions that combine hardware and software to enable people with communication needs to communicate. They can also include accessories and/or related services.
Access means /Access methods	The ways in which an end user can access AAC hardware and control AAC software . They include touch screens, special keyboards, switches, joysticks, head mice, eye gaze cameras and infrared cameras. The required access method will depend on the user's disability and physical impairments. For example, if the user has impaired mobility, an eye gaze camera may be required, as the user would not be able to touch a screen or operate a switch.
the Act	The Enterprise Act 2002.
App	A computer program or software application.
ATS or Assistive Technology Solutions	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.

Communication impairment	A difficulty in communicating due to a variety of different diagnosed conditions that relate to physical, sensory, intellectual, learning or cognitive disability.
Communicator 5	AAC software developed by Tobii Dynavox. Communicator is an AAC software platform that converts text and symbols into clear speech, and that gives individuals computer access and more.
Compass	AAC software developed by Tobii Dynavox. Compass offers a full-breadth of pre-stored communication, built-in supports and many other tools for communication and support.
Customer support	Encompasses training, technical support and repairs. This support can be provided to the purchaser of the solution (eg a NHS hub) or directly to the end user.
DA	Distributor Agreement
Dedicated AAC solutions	<p>Solutions that consist of four components: dedicated AAC hardware, AAC software, access means, and customer support.</p> <p>Dedicated AAC solutions enable people with communication needs to communicate, including those with more complex needs than can be the case for some users of non-dedicated AAC solutions.</p>
Dedicated AAC hardware	Either 'purpose-built' devices or 'wrapped tablets'. A purpose-built device is an integrated device designed specifically for the purpose of meeting AAC needs. 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.
DynaVox	DynaVox Systems LLC, a former US supplier of speech-generating devices and symbol-adapted special education software.
EBITDA	Earnings before interest, tax, depreciation and amortisation

EEA	European Economic Area
EUROW	Europe and the rest of the world
Eye gaze camera	A camera that tracks the user's eye movement to operate an AAC solution . Also used in the same context as 'eye tracking'.
EyeTech	EyeTech Digital Systems Inc. (EyeTech) is a US company that develops eye tracking algorithms, hardware and software for eye tracking technology.
Grid	AAC software developed by Smartbox which is an open platform and allows third parties to integrate their own hardware and access devices with the Grid. The Grid 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.
Merger Assessment Guidelines	Originally published jointly by the Office of Fair Trading and the Competition Commission and adopted by the CMA Board.
MBO	Management buy-out
Medically graded devices	AAC solutions that are certified to meet the requirements for eligibility for Medicare funding as durable speech generating devices in the US.
Merged entity	The combination of Tobii AB, Smartbox Assistive Technology Limited and Sensory Software International Limited
MT	Monitoring Trustee
NHS	National Health Service
Non-dedicated AAC solution	AAC solutions that customers build based on a mainstream consumer device (eg an iPad or a Microsoft Surface tablet).
OEM	Original Equipment Manufacturer

OFT	The Office of Fair Trading, the predecessor to the CMA
Peripherals	A device that can be attached to the main hardware of an AAC solution such as special keyboards, wheelchair mounts and rough cases.
RA	Reseller Agreement
Reseller	Organisation that act as a local distributor for suppliers of dedicated AAC solutions
R&D	Research and Development
RMS	Relevant merger situation
ROCE	Return on capital employed
SATL	Smartbox Assistive Technology Limited, 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
SEK	Swedish Krona
SGD	Speech Generating Devices
SLC	Substantial Lessening of Competition
Smartbox	The combination of Smartbox Assistive Technology Limited (SATL) and Sensory Software International Limited (SSIL).
Snap + Core First	AAC software developed by Tobii Dynavox. Snap + Core First is a symbol-based communication app.
SPA	Share Purchase Agreement
SSIL	Sensory Software International Limited, which previously developed the software products of SATL but which no longer carries out meaningful business activities.
Tobii	Tobii AB, a supplier of ATS and eye gaze solutions which is headquartered in Sweden with 15 offices in the US, Europe and Asia, as well as a global network of resellers.

Tobii Dynavox	A division of Tobii, which provides assistive technology for people with reduced ability to communicate and for special education.
WACC	Weighted average cost of capital

For a brief description of the third parties mentioned in this report, please refer to Appendix B.