

Completed acquisition by Motorola Solutions Inc. (Motorola) of Airwave Solutions Limited (Airwave)

Decision on relevant merger situation and substantial lessening of competition

ME/6601/16

The CMA's decision on reference under section 22(1) of the Enterprise Act 2002 given on 1 July 2016. Full text of the decision published on 12 August 2016.

Please note that [X] indicates figures or text which have been deleted or replaced in ranges at the request of the parties for reasons of commercial confidentiality.

Contents

| | <i>Page</i> |
|-----------------------------|-------------|
| SUMMARY | 2 |
| ASSESSMENT | 6 |
| Parties..... | 6 |
| Transaction | 6 |
| Jurisdiction | 6 |
| Counterfactual..... | 7 |
| Background..... | 7 |
| Frame of reference | 12 |
| Competitive assessment..... | 18 |
| Third party views..... | 30 |
| Decision | 30 |

SUMMARY

1. On 19 February 2016, Motorola Solutions Inc (through its direct subsidiary, Motorola Solutions Overseas Limited) (**Motorola**) acquired Guardian Digital Communications Holdings Limited (the parent company of Airwave Solutions Limited) (**Airwave**) (the **Merger**). Motorola and Airwave are together referred to as the **Parties**.
2. The Competition and Markets Authority (**CMA**) believes that it is or may be the case that the Parties' enterprises have ceased to be distinct and that the turnover test is met. The four-month period for a decision, as extended, has not yet expired. The CMA therefore believes that it is or may be the case that a relevant merger situation has been created.
3. Airwave owns and operates a nationwide private mobile radio (**PMR**) network in Great Britain (**GB**) that is based on digital terrestrial trunked radio (**TETRA**) technology (**Airwave network**). Airwave is restricted by its licence to offer services on the Airwave network only to the British emergency services.¹ Airwave, through its 'Airwave Direct'² operation, also supplies related maintenance and integration services (**managed service**)³ to emergency services customers on the Airwave network.
4. Motorola supplies TETRA equipment used in the Airwave network such as switching platforms and base stations and also manufactures radio terminals which operate on the Airwave network (**TETRA radio terminals**⁴).
5. There is a vertical relationship between the Parties, as Airwave is active upstream in the supply of the Airwave network and Motorola is active downstream in the manufacture for supply and distribution of TETRA radio terminals.
6. However, the Parties also overlap to some extent in the distribution of TETRA radio terminals to emergency services customers, since Motorola both manufactures and distributes these products direct to customers and Airwave

¹ It also offers services to designated sharer organisations. The list of sharer organisations is controlled and managed by Ofcom and includes those organisations who have a specific need to communicate with a blue light service. It includes organisations such as Coastguard Services, Environmental Agency Enforcement Officers, HM Prison Service, London Underground, etc.

² Airwave Direct is a fully-managed mobile communication service that runs over the Airwave network. It offers a choice of radio terminal options with a range of contract length options.

³ The package of managed services offered by Airwave included a range of services including: device management, device programming, upgrades, training and maintenance, 24/7 access to Airwave Direct's dedicated helpdesk as well as a bundled package of radio terminal and airtime. See [Airwave Direct-Professional Communications](#).

⁴ Non-TETRA radios terminals do not work on the Airwave network.

distributes these products as part of its managed service package. However, Airwave does not manufacture TETRA radio terminals.

7. The CMA therefore assessed the potential impact of the Merger in GB in relation to: (i) the distribution of TETRA radio terminals; (ii) the supply of the Airwave network; (iii) the supply of Airwave testing services/facilities; and (iv) the manufacture for supply of TETRA radio terminals.
8. There are plans for customers to begin transitioning from the Airwave network to the new Emergency Services Network (**ESN**) (its replacement) in the final quarter of 2017 and for the Airwave network to be switched off in December 2019 (although some short delay is possible). Because of this, it is likely that there will be very few sales of TETRA radio terminals in future. Further, to the extent that sales are made, the majority will be under existing contracts (where the brand of radio terminal and/or price has already been negotiated and there is no competition between suppliers of TETRA radio terminals for sales). The scope for any possible competitive harm arising from the Merger in relation to the manufacture and distribution of TETRA radio terminals is therefore small, declining and time-limited.
9. The CMA examined whether the Merger raises competition concerns as a result of horizontal unilateral effects in the distribution of TETRA radio terminals in GB. The CMA found that the Merger does not give rise to a realistic prospect of a substantial lessening of competition (**SLC**) in the distribution of TETRA radio terminals in GB as:
 - (a) Customers purchase these radio terminals either directly from the manufacturer or as part of a managed service package through Airwave. The CMA found that customers have a strong preference for one of these distribution channels. The evidence indicated that large organisations would typically buy TETRA radio terminals direct from a manufacturer (such as Motorola, Sepura or to a lesser extent Airbus), while mostly smaller customers would buy TETRA radio terminals as part of a managed service from Airwave.
 - (b) The CMA found that those customers requiring a managed service do not consider Motorola to be an alternative supplier (or competitor) to Airwave since Motorola does not offer a managed service. Similarly, customers who do not require a managed service and so would seek to purchase the radio terminal directly from a manufacturer would not typically consider Airwave since it does not manufacture TETRA radio terminals.
 - (c) The Parties are therefore not close competitors in the supply of TETRA radio terminals. Motorola's closest competitors are radio terminal

manufacturers (eg. Sepura and Airbus), rather than Airwave, which does not manufacture TETRA radio terminals. These competitors will remain following the Merger.

10. The CMA also examined whether the Merger would give rise to a realistic prospect of an SLC in the manufacture for supply of TETRA radio terminals as a result of Motorola (through its control of Airwave) harming competing manufacturers of TETRA radio terminals. The theories of harm (**ToH**) used to assess the Merger were:

(a) partial or total input foreclosure: whether the merged entity could foreclose competitors from access to inputs necessary for the supply of TETRA radio terminals, where the relevant inputs are:

(i) TETRA radio terminal compatibility with Airwave network settings ('interoperability'); and

(ii) access to testing services/facilities (which, as a consequence of testing, might involve limited disclosure of commercially sensitive information from the radio terminal manufacturer to Motorola),

(b) partial or total customer foreclosure: whether the merged entity might be able to harm the ability of its rivals to compete (or exclude them from competing) post-Merger in the supply of TETRA radio terminals by blocking access to Airwave as a distributor.

11. First, in relation to input foreclosure, the CMA found that the merged entity would not have the ability or incentive to foreclose its competitors. Specifically:

(a) In relation to interoperability, the CMA believes that the merged entity:

(i) would not have the ability to alter the Airwave network settings to disadvantage competing radio terminal suppliers without also harming Motorola's TETRA radio terminals and end users. Further, the Home Office and Terminal and Other Peripheral Suppliers (**TOPS**) Forum supervises Airwave network settings and could bring pressure to bear on the merged entity; and

(ii) would not have the incentive to undermine the interoperability of competing manufacturers' TETRA radio terminals, as any potential gains through foreclosing at this stage of the Airwave lifecycle would be small (given the small amount of contestable sales) and the CMA considers that these would be outweighed by the large reputational

costs with the Home Office and other customers (ie. the British emergency services).

(b) In relation to testing, the CMA believes that the merged entity:

- (i) would not have the ability to foreclose access to testing. Airwave's and Motorola's contracts with the Home Office are designed to ensure a level playing field between device manufacturers in relation to TETRA radio terminals and ESN devices⁵ respectively. The contracts include clauses which require Airwave to make available reasonable and non-discriminatory access to testing services to radio terminal manufacturers. The CMA believes that these contractual protections would prevent Motorola from partially foreclosing rivals⁶; and
- (ii) would not have the incentive to foreclose access to testing, as any gains to Motorola (from higher testing fees or increased sales of Motorola's TETRA radio terminals) would be very small due to the limited testing expected (ie. few, if any, updates or innovations) and required at this stage of the Airwave lifecycle, the limited contestable terminal sales and the fact that any potential gains would likely be outweighed by the cost of this strategy (including reputational damage).

12. In relation to customer foreclosure, the CMA found that the merged entity would not have the ability to foreclose competitors from an important route to market that would affect rivalry upstream (for example, if Airwave were to refuse to sell rival devices). This is because most future sales of TETRA radio terminals will be under existing contracts. Any new sales through Airwave Direct would therefore represent a small (and diminishing) number of TETRA radio terminals, that the CMA does not consider amounts to an important route to market for TETRA radio terminals. Further, customers can continue to source TETRA radio terminals direct from manufacturers and this channel would be unaffected by any potential foreclosure. The CMA therefore considers that Motorola would not have the ability to prevent competitors from continuing to supply customers (either under existing Airwave contracts or directly).
13. The CMA therefore concludes that the Merger does not give rise to a realistic prospect of an SLC as a result of horizontal unilateral or vertical effects in any market or markets.

⁵ [REDACTED].

⁶ [REDACTED].

14. The Merger will therefore **not be referred** under section 22(1) of the Enterprise Act 2002 (the **Act**).

ASSESSMENT

Parties

15. Motorola is involved in provision of secure, encrypted technology, equipment and related services in GB. In particular, Motorola:⁷
- (a) is a supplier of TETRA⁸ infrastructure (eg. switching platforms and base stations) to Airwave;
 - (b) is a manufacturer of TETRA radio terminals; and
 - (c) has recently been awarded a long-term contract by the Home Office to supply user services for the ESN which will replace the Airwave network.
16. Airwave provides communications networks and services to the emergency services and other public service users. It is the incumbent provider of a PMR network and provides critical voice and data communications infrastructure to the British emergency services based on TETRA technology. The turnover of Airwave in 2015 was around £422 million in the UK.⁹

Transaction

17. On 3 December 2015, Motorola entered into a Sale and Purchase Agreement (**SPA**) for the acquisition of 100% of the issued capital of Guardian Digital Communications Limited.¹⁰
18. The Parties informed the CMA that the Merger was the subject of review by competition authorities in Germany.¹¹

Jurisdiction

19. As a result of the Merger, the enterprises of Motorola and Airwave have ceased to be distinct. The UK turnover of Airwave exceeds £70 million, so the

⁷ Motorola's Submission to the CMA, dated 23 March 2016, paragraph 3.

⁸ Terrestrial Trunked Radio (TETRA) is a set of standards developed by the European Telecommunications Standardisation Institute (ETSI) that describes a common mobile radio communications infrastructure throughout Europe.

⁹ Annex F: Airwave Accounts. Annual Report and Financial Statements Year Ended 30 June 2015.

¹⁰ Motorola's Submission to the CMA, dated 16 March 2016, paragraph 6.

¹¹ Motorola's Submission to the CMA, dated 16 March 2016, paragraph 7.

turnover test in section 23(1)(b) of the Act is satisfied. The Merger completed on 19 February and was first made public on 3 December 2015. The four month deadline for a decision under section 24 of the Act is 1 July 2016, following extension under section 25(2) of the Act.

20. The CMA therefore believes that it is or may be the case that a relevant merger situation has been created.
21. The initial period for consideration of the Merger under section 34ZA(3) of the Act started on 6 May 2016 and the statutory 40 working day deadline for a decision is therefore 1 July 2016.

Counterfactual

22. The CMA assesses a merger's impact relative to the situation that would prevail absent the merger (ie. the counterfactual). For completed mergers, the CMA generally adopts the pre-merger conditions of competition as the counterfactual against which to assess the impact of the merger. However, the CMA will assess the merger against an alternative counterfactual where, based on the evidence available to it, it believes that, in the absence of the merger, the prospect of these conditions continuing is not realistic, or there is a realistic prospect of a counterfactual that is more competitive than these conditions.¹²
23. In this case, there is no evidence supporting a different counterfactual, and the Parties and third parties have not put forward arguments in this respect. Therefore, the CMA believes the pre-Merger conditions of competition to be the relevant counterfactual.

Background

The Emergency Services Network

24. In 2000, Airwave was contracted to build and operate the Airwave network. As owner of the network, Airwave provides this network to the British emergency services (including police, fire, rescue and ambulance services).
25. When Airwave was being built, British Telecommunications (**BT**) (owner of Airwave at the time) bought TETRA infrastructure equipment (including switching platforms and base stations) from Motorola for use by Airwave

¹² [Merger Assessment Guidelines](#) (OFT1254/CC2), September 2010, from paragraph 4.3.5. The [Merger Assessment Guidelines](#) have been adopted by the CMA (see [Mergers: Guidance on the CMA's jurisdiction and procedure](#) (CMA2), January 2014, Annex D).

across GB. For the last [REDACTED], Motorola has continued to supply TETRA equipment to Airwave and Motorola has around [REDACTED] seconded to Airwave to provide [REDACTED] to ensure the consistent operation of the Airwave network.¹³

26. In April 2014, the Home Office launched a tender to replace the facilities provided by Airwave network with a new system called the ESN. Three lots¹⁴ were issued to provide the relevant critical data services:¹⁵
- (a) Lot 1 (delivery partner): will provide programme management, integration and reporting to assure the build of ESN and transition between 2017 and 2019 of users on to ESN including procurement of user radio terminals and upgrade of their vehicles;
 - (b) Lot 2 (user services): is a service integrator to provide end-to-end systems' integration, manage user accounts, provide user services including public safety functionality; and
 - (c) Lot 3 (mobile services): is a network operator to provide a resilient national mobile network.
27. In December 2015, the Lot 2 (user services) contract was awarded to Motorola. The Home Office told the CMA that Lot 2 will be re-tendered in 2022, and that it is important that the operation of Lot 2 is on the basis of open standards and fair competition. The Home Office said that it and other government departments will seek to ensure that the radio terminals market continues to be as fair and open as possible.¹⁶ Lots 1 and 3 were awarded to Kellogg Brown & Root Limited (KBR) and EE Limited respectively.
28. Following the contract award, the timeline for rollout of ESN is as follows¹⁷:
- (a) the ESN service begins July to September 2017; and
 - (b) transition of users from the Airwave network to ESN would take place between October 2017 and 2019.
29. Given the UK government's decision to replace Airwave's network with the ESN (a 4G LTE commercial network (owned and operated by EE Limited)), Airwave's supply arrangements with the relevant British emergency services/government departments will terminate upon expiry of the relevant contracts and the last of these contracts will expire on or before [REDACTED]. Airwave

¹³ Motorola's Submission to the CMA, dated 23 March 2016, paragraph 9.

¹⁴ The CMA understands that one further lot was withdrawn by the Home Office.

¹⁵ Home Office: [About the emergency services network](#)

¹⁶ Home Office submission.

¹⁷ Home Office: [About the emergency services network](#)

has not been awarded any contracts for the new ESN and Motorola has told the CMA that [REDACTED].^{18,19}

30. As part of the phasing-out of the Airwave network and the phasing-in of the new ESN, the UK government has entered into contractual arrangements with Motorola for it to assist with the provision of interoperability services between the two networks up until the Airwave network is scheduled to be switched off on 31 December 2019. This will facilitate communications between those regions which have migrated onto the new ESN and those which have not yet been migrated onto the new ESN. The provision of this interoperability service exists entirely outside the scope of the Merger and will enable Motorola to meet its deliverables to the UK government under the Lot 2 contracts without any unnecessary delay. It will also enable [REDACTED].
31. This interoperability service is run at a switching infrastructure connection level and has no impact on: (i) the current TETRA radio terminals used on the Airwave network; or (ii) the 4G LTE radio terminals that will be used on the new ESN. [REDACTED]
32. The CMA received some comments from competitors or potential competitors that Motorola may have an advantage in selling TETRA radio terminals due to the setting of, and its knowledge about, the standards for the new network. The CMA considers that these concerns are related to the award of the Lot 2 contract rather than an effect of the Merger and have therefore not been considered in the Merger assessment.
33. In relation to the future of the Airwave network following the transition to ESN, the evidence available to the CMA from the Home Office and Ofcom indicates that no decision has been reached in relation to the future use of the spectrum (for which there is extensive commercial demand and which may need to be handed back to the Ministry of Defence or Ofcom) or the Airwave network itself (for which a number of alternative uses exist). As the decision in relation to the spectrum will not be made by Motorola, the CMA has not considered any comments in relation to future uses of the Airwave network further.

Transition to ESN

34. In December 2015, the Home Office provided information on the transition dates for moving from the Airwave network to ESN.

¹⁸ [REDACTED].

¹⁹ Given the large costs of maintaining the legacy Airwave equipment and the uncertainty regarding what will happen to the spectrum after the current Airwave license finishes, the Airwave network is considered most likely to shut down and is not considered to offer a competitive constraint in any market after shut down.

35. A small number of third parties submitted that there would be delays to the ESN timetable (as set out by the Home Office) and it is unlikely that the Airwave network will be switched off in the planned timescales, if ever.²⁰ In such circumstances, these third parties told the CMA that there will be demand by customers for:
- (a) additional TETRA radio terminals to work on the Airwave network; and
 - (b) dual-mode radio terminals that will work on both the Airwave network and ESN (ie. the 4G LTE network).
36. The CMA contacted Motorola and various third parties (ie. customers, competitors and the Home Office) to investigate these issues.
37. First, in relation to delays to the ESN timetable:
- (a) The Home Office told the CMA that the ESN project is running to schedule. The Home Office have plans for dealing with each of the potential delays pointed to by third parties and does not believe any delays will, on their own, result in additional demand for TETRA radio terminals to work on the Airwave network.²¹
 - (b) Customers responding to the CMA's investigation indicated that they are preparing to transition at various points from 2017 to 2019. None of the customers that responded to the CMA's investigation expected a delay to the timetable.
 - (c) The risk register for ESN (which has been reviewed by the National Audit Office) shows that the delay risks are being addressed and that the Airwave network is on schedule to be switched off. The Home Office indicates that any delay over three months would be considered as a major concern and are therefore addressed as a priority.²²
38. Second, in relation to future demand for TETRA radio terminals:
- (a) Motorola told the CMA that practically all of the radio terminals required for use on the Airwave network are already contracted [redacted] for the period until the Airwave network is due to be switched off.²³

²⁰ The CMA was made aware of online commentary that speculated on the possibility of delays to the ESN rollout.

²¹ Home Office submission.

²² Risks resulting in a delay of more than 3 months were graded (in the risk register) as the fifth and most serious type of risk and only a minority of risks in the document received this grading.

²³ Motorola's Submission to the CMA, dated 23 March 2016, paragraph 11.

- (b) Customers responding to the CMA's investigation have indicated that:
- (i) they will require very few additional TETRA radio terminals pre-ESN. Responses to the CMA's merger investigation from 42 of the largest user groups indicated a total demand of only 2,100 units prior to ESN (ie. between 2016 and December 2019); and
 - (ii) that most of these additional TETRA radio terminals will be under existing contracts (ie. based on existing contracts and terms, rather than competition for new sales).
- (c) The Home Office told the CMA that demand for TETRA radio terminals between now and the transition to the ESN may be close to zero. It indicated that several organisations have stockpiles of radio terminals and that, once transition starts, old TETRA radio terminals will be made available from 2018 for organisations transitioning later – reducing any potential demand further.²⁴ The CMA has also seen evidence that the Home Office has written to organisations using TETRA radio terminals advising them to take the transition to ESN into account in ICT²⁵ planning and procurement strategies for the next and subsequent Spending Review and that it is in contact with many of these organisations. In particular, the Home Office indicated that the transition to ESN has been aligned with individual contract end dates as this would avoid the need for contract extensions and allow a measured transition to ESN.²⁶
39. Finally, in relation to the demand for dual-mode radio terminals (ie. radio terminals that will work on both the Airwave network and ESN):
- (a) Customers responding to the CMA's investigation have indicated even less demand for dual-mode radio terminals at present and sales of dual-mode radio terminals in new competitions are expected to be small.
 - (b) The Home Office has indicated that dual-mode radio terminals are only a fall-back plan which (based on the current situation) may not be needed²⁷.
40. In summary, whilst some delay is possible, the evidence set out in the paragraphs above indicates that the rollout of ESN is currently running to

²⁴ Home Office submission.

²⁵ Information and communication technologies.

²⁶ Motorola's Response to the CMA's 2nd Request for Information, Annex D (Home Office Letter and Q&A), letter dated 17 September 2013.

²⁷ Email from the Home Office to the CMA, dated 30 May 2016.

schedule and therefore the contestable sales of TETRA radio terminals in the period until ESN will be low.

Frame of reference

41. The CMA considers that market definition provides a framework for assessing the competitive effects of a merger and involves an element of judgement. The boundaries of the market do not determine the outcome of the analysis of the competitive effects of the merger, as it is recognised that there can be constraints on merger parties from outside the relevant market, segmentation within the relevant market, or other ways in which some constraints are more important than others. The CMA may take these factors into account in its competitive assessment.²⁸

Product scope

42. The supply chain in relation to the Merger involves three different levels:
- (a) the supply of both the Airwave network and related testing services/facilities (the 'upstream level');
 - (b) the manufacture for supply of TETRA radio terminals for use (the 'downstream level'); and
 - (c) the distribution of TETRA radio terminals to end users.
43. The Parties overlap to a small extent in the distribution of TETRA radio terminals in GB. The Parties are also vertically related:
- (a) Airwave is active upstream in the supply of the Airwave network and Motorola is active downstream in the manufacture for supply and also distribution of TETRA radio terminals.
 - (b) Airwave controls the Airwave network settings and testing services/facilities which are inputs for the manufacture for supply of TETRA radio terminals.
 - (c) Airwave is also one of Motorola's customers for TETRA radio terminals.
44. On the basis of the Parties' horizontal overlap and vertical relationship, the CMA has considered the relevant frames of reference in relation to:

²⁸ [Merger Assessment Guidelines](#), paragraph 5.2.2.

- (a) the distribution of TETRA radio terminals to end users;
 - (b) the (upstream) supply of the Airwave network;
 - (c) the (upstream) supply of the Airwave testing services/facilities; and
 - (d) the (downstream) manufacture of TETRA radio terminals.
45. Motorola submitted that the Parties do not compete in the UK (or elsewhere) for the provision of any goods or services and, as such, there is no horizontal overlap between the Parties. Motorola told the CMA that, for many years, there has been a vertical relationship between the Parties.

The distribution of TETRA radio terminals to end users

46. The distribution of TETRA radio terminals to end users can be segmented into:
- (a) the Airwave Direct channel, which comprises supply by Airwave of the necessary TETRA radio terminals to primarily²⁹: (i) smaller customers; and (ii) those requiring a managed service;³⁰ and
 - (b) the direct supply channel, comprising direct sales by the manufacturers (ie. Motorola, Sepura or Airbus) of TETRA radio terminals.
47. Competition for the supply of TETRA radio terminals to customers takes place in two stages:
- (a) First, the customer needs to decide whether its preference is for a TETRA radio terminal and managed service (or not).³¹ Here, Airwave and Motorola nominally compete for the customer. This nominal competition takes place before the formal tender process and the manufacturers of TETRA radio terminals are always mindful that Airwave is also a route to market. [X]³² If the customer's preference is for a TETRA radio terminal and managed service, then Airwave Direct is the only distribution channel available to the customer.
 - (b) Second, the customer needs to decide which TETRA radio terminal to purchase. Here, Motorola competes with other manufacturers including

²⁹ Airwave also has long term agreements for the ambulance and fire services.

³⁰ The package of managed services offered by Airwave includes a range of services, such as device management, programming, upgrades, training and maintenance, 24/7 access to AWD's dedicated helpdesk as well as a bundled package of radio terminal and airtime.

³¹ If a customer chooses a managed service, Airwave Direct will place an order with Motorola (or with other chosen manufacturer of the TETRA radio terminals) and then supply the TETRA radio terminals to the customer.

³² [X].

Sepura and Airbus (but not Airwave). In this channel, competition for contracts takes place through formal tenders.

48. In *Macquarie/Airwave*,³³ the CMA and its predecessor bodies indicated that managed services comprise a very wide range of services, which included at least 19 different services.³⁴ It found that there was no clear boundary to product market definition as each customer may require a tailor-made solution including some or all of those services and, from the supply side, there are many different suppliers providing a varied selection of those managed services. The European Commission (**EC**) has also found, in previous decisions³⁵ relating to telecommunications equipment, that managed services (which allow an operator to outsource certain tasks to the service provider, including network related technical activities) are a distinct separate product market.
49. The CMA found that the conditions of competition and customers' requirements differ materially for purchases made through these two distribution channels (ie. direct purchase from Motorola and purchases (of a managed service) via Airwave Direct). Airwave Direct, as the only supplier of a managed service, would not be able to easily start manufacturing TETRA radio terminals in response to relative changes in prices. However, it could not be excluded that manufacturers of TETRA radio terminals will start offering certain aspects of a managed service in response to relative changes in price.
50. On a cautious basis, the CMA has not considered the supply of managed services as a separate frame of reference from the supply of TETRA radio terminals. The CMA has assessed the distribution of TETRA radio terminals (both direct from manufacturer and as part of a managed service) in the competitive assessment.

The (upstream) supply of the Airwave network

51. The Airwave network is the only secure communications network for emergency services and blue light organisations (and sharer organisations who want to work closely with these organisations) in GB. There is no alternative method for emergency services to access to this network without

³³ Completed acquisition by Macquarie European Infrastructure Fund II and Macquarie Communications Infrastructure Group (via Guardian Digital Communications Limited) of Airwave Safety Communications Limited, 8 August 2007, paragraphs 24-25.

³⁴ These include: event support, fault management, incident management, field maintenance, outsource network operations, disaster recovery, control room services, call data record, fleet mapping, terminal supply, terminal configuration, terminal programming, terminal management, asset management, decommissioning, acoustic trauma measurement, vehicle installations, EMC testing and other ICT services.

³⁵ Case No COMP/M.6007 - NOKIA SIEMENS NETWORKS / MOTOROLA NETWORK BUSINESS, 15 December 2010, paragraphs 15-16. COMP/M.4297 – NOKIA / SIEMENS, 13 November 2006, paragraphs 44-46.

contracting with Airwave. The CMA therefore considers the Airwave network to represent a distinct frame of reference for the purposes of its assessment of vertical effects.

The (upstream) supply of the Airwave testing services/facilities

52. In order for radio terminals and software to be used on the Airwave network they have to be tested to ensure they will not damage the service received by other users. Airwave's testing facility [X] can confirm this. The CMA therefore considers the Airwave testing services/facilities to represent a distinct frame of reference for the purpose of its assessment of vertical effects.

The (downstream) manufacture of TETRA radio terminals

53. The CMA considered whether other types of radio terminals may be substitutes for emergency services customers requiring TETRA radio terminals.
54. In *Motorola/Vertex*³⁶, it was noted that land mobile radio (**LMR**) terminals covers two main categories of users: consumers and professionals. Consumer LMR terminals are typically purchased by individuals and groups of individuals for private purposes related to leisure, recreational or group activities. Professional LMR terminals (where TETRA radio terminals fall under) are typically purchased by companies and organisations for professional use related to mission-critical or business-critical tasks.
55. The CMA has not received any evidence to indicate that consumer LMR terminals can be used on the Airwave network and that demand- or supply-side substitutability exists in relation to professional LMR terminals used on the Airwave network (ie. TETRA radio terminals). The CMA has therefore assessed the manufacture for supply of TETRA radio terminals as a distinct frame of reference in the competitive assessment.

Conclusion on product scope

56. For the reasons set out above, on a cautious basis, the CMA has considered the impact of the Merger in the following product frames of reference:
- (a) the distribution of TETRA radio terminals;

³⁶ Case No COMP/M.4910 - MOTOROLA / VERTEX, 21 December 2007, paragraphs 9-15.

- (b) the supply of the Airwave network (provided solely by Airwave under contract to the GB government, see paragraph 24);
 - (c) the supply of the Airwave testing services/facilities;³⁷ and
 - (d) the manufacture for supply of TETRA radio terminals.
57. However, it was not necessary for the CMA to reach a conclusion on the precise product frame of reference, since, as set out below, no competition concerns arise on any plausible basis.

Geographic scope

58. Motorola did not make any submission in relation to the geographic scope of the relevant markets. The CMA considers that, for each product frame of reference, the relevant geographic scope is GB. The reasons are set out in the following paragraphs.
59. In relation to the distribution of TETRA radio terminals, these radios are designed and tested for the GB market and sold to user organisations that need them in GB. Radios that are not adapted to the conditions and testing regime in GB cannot be used in GB.
60. In relation to the supply of the Airwave network and related testing services/facilities, the network provides coverage across GB and is provided to user organisations based in GB. The testing services/facilities ensure that the radio terminals can operate on the GB market and are only necessary for radio terminals that will be used in GB.
61. In relation to the manufacture for supply of TETRA radio terminals, in *Motorola/Vertex*³⁸, the EC considered that the market for radio terminals (ie. LMR terminals) was at least EEA-wide and assessed the effects of the merger on a hypothetical world-wide market. The EC decision notes that the market for radio terminals is clearly not national as: (i) the main suppliers of LMR terminals are the same throughout the EEA; (ii) the same technologies and standards apply throughout the EEA; (iii) transport costs within the EEA are minimal; (iv) prices are generally similar; and (v) there is significant cross-border trade.

³⁷ Since the introduction of the Airwave network, Airwave has been [REDACTED].

³⁸ Case No COMP/M.4910 - MOTOROLA / VERTEX, 21 December 2007.

62. In *Nokia/Motorola*³⁹, the EC market investigation found that the scope of the geographic markets for mobile telecommunications equipment and associated network infrastructure services was at least EEA-wide, if not global, mostly due to the international standardisation of mobile telecommunication networks equipment and related services, the fact that contracts are concluded on a global basis and the limited regional variations in cost and price.
63. In *Macquarie/Airwave*⁴⁰, it was found that while some customers require managed services on a local or regional basis, others require it on a national (or at least GB-wide) basis and the main suppliers operate on a national basis. The CMA's predecessor body assessed managed services on a GB-wide basis.
64. In the present case, the CMA considers that while radio terminal manufacturers supply TETRA radio terminals on an EEA-wide (and world-wide) basis, TETRA radio terminals for use on the Airwave network in GB need to be approved and tested for such use within the GB. It is possible for overseas suppliers to supply TETRA radio terminals in GB, although approval and testing may cause some delay to starting to supply within GB.
65. Therefore, on a cautious basis, the CMA has considered the impacts of the Merger in GB, while acknowledging the EEA aspects of competition.
66. However, it was not necessary for the CMA to reach a conclusion on the relevant geographic scope for each product frame of reference, since, as set out below, no competition concerns arise on any plausible basis.

Conclusion on frame of reference

67. For the reasons set out above, the CMA has considered the impact of the Merger in the following frames of reference, in each case on a GB-wide basis:
 - (a) the distribution of TETRA radio terminals;
 - (b) the supply of the Airwave network;
 - (c) the supply of Airwave testing services/facilities; and
 - (d) the manufacture for supply of TETRA radio terminals.

³⁹ Case No COMP/M.6007 - NOKIA SIEMENS NETWORKS / MOTOROLA NETWORK BUSINESS, 15 December 2010.

⁴⁰ Completed acquisition by Macquarie European Infrastructure Fund II and Macquarie Communications Infrastructure Group (via Guardian Digital Communications Limited) of Airwave Safety Communications Limited, 8 August 2007, paragraph 27.

Competitive assessment

Horizontal unilateral effects

68. Horizontal unilateral effects may arise when one firm merges with a competitor that previously provided a competitive constraint, allowing the merged firm profitably to raise prices or degrade quality on its own and without needing to coordinate with its rivals.⁴¹ Horizontal unilateral effects are more likely when the merger parties are close competitors. The CMA assessed whether it believes that the Merger gives rise to a realistic prospect of an SLC in relation to unilateral horizontal effects in the distribution of TETRA radio terminals.

ToH 1 - Horizontal unilateral effects in the distribution of TETRA radio terminals

69. The CMA considered whether, pre-Merger, Motorola, Airwave and other manufacturers of TETRA radio terminals competed in the distribution of TETRA radio terminals to end users. Under this ToH, the loss of constraint between Motorola and Airwave would result in increased prices (in the form of a greater distribution margin being charged to end users) or reduction in quality.

Shares of supply

70. Information provided by manufacturers of TETRA radio terminals indicates that there are between [redacted]⁴² and [redacted]⁴³ TETRA radio terminals currently in use on the Airwave network.

71. The Parties told the CMA that Motorola (either directly or via Airwave Direct) supplies [redacted] TETRA radio terminals used on the Airwave network (ie. the installed base). The CMA notes that [redacted] and there are other radio terminal manufacturers who account for less than [0-5]% of the existing radio terminal base. The precise share of supply will shift from year to year depending on which user organisations are replacing TETRA radio terminals in that year.

72. Table 1 below sets out the proportion of Motorola radio terminals sold directly and via Airwave Direct in each of the last three years. Airwave does not manufacture TETRA radio terminals.

⁴¹ [Merger Assessment Guidelines](#), from paragraph 5.4.1.

⁴² Motorola's Submission to the CMA, dated 23 March 2016, paragraph 7.

⁴³ Email[redacted], dated 27 May 2016.

| | 2013 | 2014 | 2015 |
|-------------------------------|------------|------------|------------|
| Sepura | [REDACTED] | [REDACTED] | [REDACTED] |
| Motorola | [REDACTED] | [REDACTED] | [REDACTED] |
| Sepura (via Airwave Direct) | [REDACTED] | [REDACTED] | [REDACTED] |
| Motorola (via Airwave Direct) | [REDACTED] | [REDACTED] | [REDACTED] |
| Airbus | [REDACTED] | [REDACTED] | [REDACTED] |
| Total | [REDACTED] | [REDACTED] | [REDACTED] |

Table 1: CMA's estimate of shares of supply of TETRA radio terminals

73. Airwave told the CMA that, in the last 36 months:
- (a) [REDACTED]% of TETRA radio terminals supplied via Airwave Direct were Sepura TETRA radio terminals;
 - (b) [REDACTED]% were Motorola TETRA radio terminals;⁴⁴ and
 - (c) [REDACTED]% were Airbus TETRA radio terminals.
74. [REDACTED] (Airwave Direct) TETRA radio terminals sold to users of the Airwave network in 2015 were tendered on the open market. This is because the relevant TETRA radio terminals were [REDACTED].⁴⁵
75. The Home Office has previously advised Airwave network customers to take the transition to ESN into account in ICT planning and procurement strategies, noting that the transition to ESN has been aligned with individual contract end dates as this would avoid the need for contract extensions and allow a measured transition to ESN.

Closeness of competition

76. Airwave does not design or manufacture TETRA radio terminals, and does not supply TETRA radio terminals on a standalone basis. Therefore, Motorola believes it has never tendered in competition against Airwave for the supply of TETRA radio terminals.⁴⁶
77. Motorola told the CMA that its closest competitors are radio terminal manufacturers (eg. Sepura and Airbus). Similarly, it said that customers

⁴⁴ Motorola submitted that in the last three years: [REDACTED] TETRA radio terminals were supplied by Motorola directly to users; [REDACTED] TETRA radio terminals were supplied by Motorola to Airwave for use by Airwave Direct customers; and [REDACTED] TETRA radio terminals were supplied by Motorola to Airwave under the [REDACTED] managed service/contract. Motorola's Submission to the CMA, dated 27 May 2016; Response to Question 4.

⁴⁵ Airwave's Submission to the CMA, dated 27 May 2016; Response to Question 3.

⁴⁶ Motorola's Submission to the CMA, dated 27 May 2016; paragraph 2.

requiring a managed service do not consider Motorola to be an alternative or competitor to Airwave Direct, as Motorola does not offer a managed service.

78. The CMA notes that the Parties distribute to different customer segments, ie. Motorola distributes its TETRA radio terminals to large customers while Airwave distributes TETRA radio terminals under long term arrangements (eg. with Firelink and Ambulance service) and to small customers.
79. The evidence⁴⁷ obtained by the CMA suggests that all customers have already chosen their distribution channel and, given the limited remaining lifespan of Airwave, it is unlikely that they would change channel or that new customers would enter the market. Therefore, as noted in the background section, customers requiring additional TETRA radio terminals are likely to use their existing contracts where possible (and therefore there will be no competition at all for these sales) or purchase further TETRA radio terminals directly from their existing channel (and therefore there is no competition between Airwave and Motorola).

Competitive constraints

80. Motorola told the CMA that Airbus, Hytera, Selex, Sepura and Thales are its top five competitors in the manufacture for supply of TETRA radio terminals to end users.⁴⁸ Motorola also indicated that Clear-tone and Nokia previously supplied radio terminals in the GB.⁴⁹
81. The shares of supply (shown in Table 1) indicate that the three main suppliers of TETRA radio terminals in the GB at present are Motorola, Sepura and Airbus. Hytera and Thales are not currently supplying TETRA radio terminals in the GB.
82. One radio terminal manufacturer told the CMA that it has TETRA radio terminals which are suitable for use with the Airwave network, dependent on approval from the Home Office and CESG.⁵⁰

⁴⁷ One third party told the CMA that costs of switching manufacturer (at this stage of the Airwave lifecycle) were high, noting that some negative factors when changing a radio device are that: the user interface may be so different that a longer training programme may be required; peripherals may not be compatible; and maintenance regimes may have to be substantially changed.

⁴⁸ Motorola's Submission to the CMA, dated 31 March 2016; paragraph 5.

⁴⁹ Airwave's Responses to the CMA's Questions dated 27 May 2016; paragraph 8.

⁵⁰ CESG is the National Technical Authority for Information Assurance within the UK. It provides trusted, expert, independent, research and intelligence-based service on Information Security on behalf of UK government.

Conclusion on horizontal unilateral effects

83. As set out above, the CMA believes that the scope for competition between Airwave and Motorola is limited. To the extent that competition could take place, the parties are not close competitors and, absent the Merger, limited competition would be expected between them for future sales. Further, there are a number of other manufacturers that can supply TETRA radio terminals. Therefore, the CMA believes that the Merger does not give rise to a realistic prospect of an SLC as a result of horizontal unilateral effects in relation to the distribution of TETRA radio terminals in GB.

Vertical effects

84. Vertical effects may arise when a merger involves firms at different levels of the supply chain. Vertical mergers may be competitively benign or even efficiency-enhancing, but in certain circumstances can weaken rivalry, for example when they result in foreclosure of the merged firm's competitors at either level of the supply chain. The CMA only regards such foreclosure to be anticompetitive where it results in an SLC in the foreclosed market(s), not merely where it disadvantages one or more competitors.⁵¹
85. The CMA has considered two main theories of harm in relation to the Merger:
- (a) input foreclosure, where the merged firm would restrict an important input into rival manufacturers of TETRA radio terminals; and
 - (b) customer foreclosure, where the merged firm would restrict access to an important route to market for rival manufacturers of TETRA radio terminals.
86. These two theories of harm cover a range of possible strategies by Motorola which could potentially foreclose rivals. These strategies are outlined under each ToH addressed below.

ToH 2 - Input foreclosure

87. Airwave supplies the following inputs into TETRA radio terminals⁵²:
- (a) TETRA radio terminal compatibility with Airwave network settings ('interoperability'); and

⁵¹ In relation to this ToH 'foreclosure' means either exit of a rival or to substantially competitively weaken a rival.

⁵² Airwave is also a customer of Motorola, in that Motorola supplies TETRA radio terminals to Airwave for Airwave Direct to distribute as part of its bundle of services (including airtime).

- (b) testing of new radio terminals (via the Airwave testing facility) so that TETRA radio terminals are certified.
88. This ToH relates to concerns that Motorola:
- (a) could undermine interoperability of competitor TETRA radio terminals with the Airwave network;
 - (b) could prevent development of competitors' new or improved products by foreclosing access to testing services/facilities (including dual-mode radio terminals that would operate on both the Airwave and ESN network); and
 - (c) would through its control of the Airwave testing services/facilities, gain access to commercially sensitive information about the activities of its competitors supplying TETRA radio terminals, which could allow it to choose unilaterally to compete less aggressively in the supply of TETRA radio terminals or reduce its competitors' willingness to use its testing services/facilities.
89. Accordingly, the CMA has considered whether the Merger would give rise to a realistic prospect of an SLC in the supply of TETRA radio terminals in GB as a result of partial or total foreclosure of inputs to competing radio terminal suppliers (through Motorola's control of inputs supplied by Airwave).
90. The CMA's approach to assessing vertical theories of harm is to analyse (a) the ability of the merged entity to foreclose competitors, (b) the incentive of it to do so, and (c) the overall effect of the strategy on competition.⁵³ The CMA therefore considers each of these aspects for each strategy below, noting that where ability or incentive is not present, it may not be necessary to evaluate the effect of the strategy.

ToH 2(a) - Foreclosure of interoperability

- *Ability*

91. The CMA examined whether the merged entity would have the ability to foreclose rivals by adjusting the Airwave network settings to undermine the interoperability of competing manufacturers' TETRA radio terminals.

⁵³ [Merger Assessment Guidelines](#), paragraph 5.6.6.

92. Airwave told the CMA that, as network operator, it is not aware of which TETRA radio terminals are used by users for those TETRA radio terminals that were not bought through Airwave.
93. The Home Office told the CMA that, according to the terms of the contract between the Home Office and Airwave, Airwave shall, amongst other things, ensure that any changes it makes to the functionality of the Airwave network “*of its own volition are backwardly compatible with the existing Airwave network systems and terminals*”. Airwave shall also “*give reasonable advance notice of its intentions with regard to any software changes and ensure that its reference system is upgraded accordingly*”.⁵⁴
94. In addition, the Home Office told the CMA that interoperability and fair access to relevant information is within the remit of the TOPS Forum. The TOPS Forum exists to ensure a level playing field for device development in Airwave and radio terminal suppliers are represented at the forum and decisions reached are overseen by the Home Office (which chairs the TOPS Forum).⁵⁵ The Home Office keeps in close contact with many user organisations. As such, any attempt to undermine the interoperability of competitor TETRA radio terminals on the Airwave network would warrant an intervention by the Home Office, who told the CMA that they are confident that their involvement prevents any abuse in this area.⁵⁶
95. For these reasons, the CMA considers that the merged entity would not have the ability to alter the Airwave network settings to disadvantage competing radio terminal suppliers without also harming Motorola’s TETRA radio terminals and end users.
- *Incentive*
96. In relation to the merged entity’s incentive to foreclose, any gains from altering the Airwave network settings to disadvantage rivals would be very small. Gains could conceivably only accrue from incremental sales of Motorola TETRA radio terminals which, given the small, declining and time-limited

⁵⁴ [redacted].

⁵⁵ The TOPS Forum is a support service for suppliers of radio terminal, data applications and control room equipment serving public safety organisations operating on the Airwave network. The aim of the TOPS Forum is to provide suppliers with information that will assist them in developing, testing and obtaining approval for terminals, products and/or services that are intended to operate seamlessly over the Airwave network. Meetings take place regularly between Airwave and TOPS members. See: <https://dev.airwavesolutions.co.uk/community/about-tops/>

⁵⁶ The Home Office told the CMA that any changes to the air interface that are not within what is covered by the Terminal Equipment Requirement Specification (TERS) agreed by the terminal suppliers’ TOPS forum would have to be taken to the forum for discussion and approval before rolled out to the live service, giving other suppliers a chance to review and object to any changes that would only be favouring one party. Home Office response to CMA questions, dated 17 June 2016.

market, will be very small. On the other hand, given the public safety aspect of the services being offered, the CMA considers that there would be significant reputational damage to Motorola if it undermined the interoperability (and proper operation) of competitor TETRA radio terminals with the Airwave network.

97. There are also reputational issues/damage to relationship with the Home Office and the wider industry⁵⁷ for Motorola. Home Office, as the coordinator for the major user groups of the Airwave network (particularly the direct manager of the Police and fire service), has significant influence over Airwave and is one of Motorola's major customers in the UK. The CMA considers that if the Home Office became aware that Motorola was manipulating any part of the Airwave network to the disadvantage of other suppliers of TETRA radio terminals, this would be expected to have a negative impact on that commercial relationship.
98. Any gain to Motorola from disruption to the Airwave network, in the form of increased sales of Motorola's TETRA radio terminals, would therefore be substantially outweighed by harm to Motorola's future prospects as a supplier in GB and internationally. Therefore the CMA believes that Motorola would not have an incentive to alter the Airwave network settings to disadvantage competing radio terminal suppliers.

ToH 2(b) - Foreclosure of testing

99. Airwave is required to maintain a 'reference system' for the certification of all TETRA radio terminals that will operate on the Airwave network. [✂]
100. Motorola told the CMA that the testing process is an open, transparent and verifiable process to prove that the selected TETRA radio terminals work as advertised by the TETRA manufacturer and that the relevant tests are:⁵⁸
 - (a) performed against the published 'Airwave Functional Requirements Specification' and are binary in nature (ie. TETRA radio terminals either pass or fail);
 - (b) a team from the selected TETRA radio terminal manufacturer (and/or the relevant user organisation who selected the TETRA radio terminal through their tender process) is normally present to perform and witness

⁵⁷ The CMA notes that, within the industry, GB's experience (as an early adopter) is being watched by key stakeholders in other jurisdictions and any harm to communications for emergency services in GB due to actions by Motorola could have a significant impact on Motorola's reputation in other countries.
<http://www.landmobile.co.GB/news/b-apco-2016-migrating-to-lte>

⁵⁸ Motorola's Submission to the CMA, dated 23 March 2016, paragraph 24.

the tests [REDACTED] and the TETRA radio terminals are returned to the radio terminal manufacturer after testing if requested;

(c) the relevant TETRA radio terminal manufacturer and/or user organisation may also have independent third parties attend the testing session to witness the tests or to investigate any features that failed the tests; and

(d) [REDACTED].

- *Ability*

101. In relation to the merged entity's ability to foreclose access to testing, the Home Office told the CMA that Airwave's and Motorola's contracts with it are designed to ensure a level playing field between device manufacturers in relation to TETRA radio terminals and ESN devices⁵⁹ respectively. The contracts include clauses which require Airwave to make reasonable and non-discriminatory access to testing services available to radio terminal manufacturers. In relation to devices for use on ESN, Motorola is expected to conduct Network Approval Testing of User Devices provided by third parties in accordance with the Network Approval Testing procedures and cannot charge excessive fees to third parties or vary pricing depending on the third party.⁶⁰ The Home Office also discusses any issues in respect of Airwave regularly with customers and competitors. The CMA therefore believes that these contractual protections would prevent Motorola from partially foreclosing rivals.⁶¹

- *Incentive*

102. In relation to the merged entity's incentive to foreclose access to testing, the CMA considers that:

(a) the income from the Airwave network far outweighs the income from sales of TETRA radio terminals and, to an even greater extent, third party testing. Motorola submitted that total revenues generated from third party testing at the Rugby site in the last financial year were £[REDACTED].⁶² The Airwave network service generates an income of approximately £[REDACTED] per year;

⁵⁹ [REDACTED].

⁶⁰ Home Office submission.

⁶¹ [REDACTED].

⁶² Motorola's Submission to the CMA, dated 20 April 2016; Responses to CMA's Supplemental Information Request, dated 18 April 2016; response to Question 11.

- (b) the amount of testing is expected to reduce markedly as there is limited incentive to design new TETRA radio terminals or upgrade existing ones due to a lack of new competitions for radio terminal sales in the remaining years prior to complete switchover to ESN, and the CMA has found no evidence that this established legacy technology will have any significant improvements made to it before ESN;
 - (c) if any new TETRA radio terminals were unable to be tested, this would impact only a small proportion of the contestable sales of new TETRA radio terminals⁶³;
 - (d) any delays to the certification of updated TETRA radio terminals for use on the Airwave network may damage the user/customer experience with these radio terminals and this would be damaging to Airwave itself as a provider of a managed service; and
 - (e) given the Home Office's commitment to ensuring that the TETRA radio terminals market continues to be as fair and open as possible, any action by the merged entity which undermines that commitment would harm the merged entity's relationship with the Home Office.
103. Therefore the merged entity's gain (from higher testing fees or higher Motorola terminal sales) would be very small or negligible given the short lifespan of Airwave, and the few innovations or sales of new TETRA radio terminals through new competitions that are expected. This gain would be substantially outweighed by reputational damage to Motorola with the Home Office. Therefore the CMA believes that Motorola would not have the incentive to foreclose access to testing.

ToH 2(c) - Commercially sensitive information

104. The CMA understands that, as part of the testing process for a supplier's new or modified TETRA radio terminal, Airwave requires access to that terminal. One third party said that this would give Airwave an insight into that supplier's future product plans and the details of its technology. It said that post-Merger this could give Motorola a commercial advantage, or deter suppliers from testing (and therefore from introducing new or improved models).
105. Motorola told the CMA that the market for the supply of TETRA radio terminals will soon no longer exist with respect to the Airwave network and, as

⁶³ Many of the sales expected for TETRA radio terminals between now and ESN will be of TETRA radio terminals that require limited additional testing.

these TETRA radio terminals are unsuitable for use on the ESN, access to any confidential information will have no competitive relevance.⁶⁴

106. The CMA believes that Motorola would not have the ability foreclose rivals given that (i) future testing of TETRA radio terminals is expected to be limited, as discussed above; and (ii) any competitive advantage that could be derived from this information is negligible given the small size of the contestable market for Airwave terminals.
107. Even if it were possible for Motorola to do so, the CMA considers that the merged entity would not have the incentive to use commercially sensitive information to gain an advantage. As discussed above, the small potential gain to Motorola from deterring rivals from testing or accessing confidential information should be set against the considerable reputational cost to the merged entity and possible legal risks of using proprietary information of doing so.
108. Therefore, the CMA considers that the merged entity will not have the ability to disadvantage its competitors by accessing or using commercially sensitive information.

Conclusion on input foreclosure

109. For the reasons set out above, the CMA believes that the Merger does not raise vertical competition concerns in relation to input foreclosure.

ToH 3 - Customer foreclosure

110. The CMA has considered whether Motorola might be able to harm the ability of its rivals to compete post-Merger in the supply of TETRA radio terminals by blocking access to Airwave as a distributor.
111. This ToH relates to concerns that Motorola:
 - (a) might stop offering rivals' TETRA radio terminals on Airwave Direct, thereby diverting customers to its own products (total customer foreclosure);
 - (b) might increase retail prices when selling rivals' TETRA radio terminals through Airwave Direct (partial customer foreclosure) and/or reduce the

⁶⁴ Motorola's Submission to the CMA, dated 23 March 2016, paragraphs 22-23.

price of Motorola's products, thereby diverting customers to its own products; and/or

- (c) might start to bundle or tie aspects of the managed service with Motorola's TETRA radio terminals in a preferential way via Airwave Direct. This would have a similar effect to paragraph 111(b).⁶⁵

112. Accordingly, the CMA has considered whether there is a realistic prospect of an SLC in relation to the supply of TETRA radio terminals in GB as a result of partial or total foreclosure of customers to competing TETRA radio terminal suppliers (through Motorola's control of Airwave as a customer), using the same framework of ability, incentive and effect as described in paragraph 90.

Ability

113. As discussed in paragraphs 38-40, the CMA considers that the contestable sales of TETRA radio terminals for use on the Airwave network in the period until ESN is expected to be shut down will be low, as the majority of new TETRA radio terminals are likely to be issued under existing contracts with Airwave Direct or manufacturers. All customers who told the CMA that they had plans to purchase new terminals bought directly from the manufacturer, rather than via Airwave Direct.
114. The CMA notes that TETRA radio terminal manufacturers do not rely solely on Airwave Direct as a route to market for their products, and can supply direct to end users. One competitor told the CMA that, post-Merger, it would seek to continue or increase direct sales to customers.
115. The CMA also considers that Motorola may not have the ability to force Airwave customers to purchase Motorola terminals. One large customer of Airwave told the CMA that it would insist on Sepura radio terminals as this is the single brand of terminal preferred and used in its organisation.
116. Based on the evidence above, the CMA considers that Motorola may not have any ability to favour its own TETRA radio terminals post-Merger and, if it can, this is nonetheless likely to affect a small proportion of future sales of new TETRA radio terminals. Given (i) that most customers, to the extent that they require additional TETRA radio terminals, can purchase these under existing

⁶⁵ The CMA also considered whether Motorola might bundle aspects of its managed service (eg. airtime) with its terminals when sold by Motorola directly. The CMA understands that Motorola would not be able to reduce the functionality of competitors' products by doing so (see ToH 2). If this kind of bundling or tying reduced the attractiveness of Motorola's terminals, it would have no incentive to do so. If it increased their attractiveness, the CMA would generally view this as pro-competitive unless it had longer-term effects such as removing a competitor from the market and resulting in higher prices in the long term. Given the short remaining period for terminal radio sales, such effects are unlikely.

contracts; (ii) that customers can choose to purchase additional TETRA radio terminals direct from the manufacturers; (iii) the scale of rival TETRA radio terminal manufacturers' international operations; and (iv) that the relevant market may be wider than GB, the CMA believes that the merged entity will not have the ability to foreclose rivals.

Conclusion on customer foreclosure

117. The CMA considers that the merged entity would not have the ability to foreclose competitors from an important route to market that would affect rivalry upstream, if Airwave Direct were to favour Motorola devices. This is because most of the future sales of TETRA radio terminals will be under existing contracts, and contestable sales through Airwave Direct are likely to account for a small absolute value and a small proportion of all sales. The CMA therefore considers that any strategies which could be used by Motorola would have a limited effect on the market, due to the limited number of contestable sales expected prior to the end of the Airwave network.
118. For the reasons set out above, the CMA believes that the Merger does not raise vertical competition concerns related to customer foreclosure.

Conclusion on vertical effects

119. For the reasons set out above, the CMA believes that the Merger does not give rise to a realistic prospect of an SLC as a result of vertical effects.

Barriers to entry and expansion

120. Entry, or expansion of existing firms, can mitigate the initial effect of a merger on competition, and in some cases may mean that there is no SLC. In assessing whether entry or expansion might prevent an SLC, the CMA considers whether such entry or expansion would be timely, likely and sufficient.⁶⁶
121. The CMA has not had to conclude on barriers to entry or expansion as the Merger does not give rise to competition concerns on any basis.

⁶⁶ [Merger Assessment Guidelines](#), from paragraph 5.8.1.

Third party views

122. The CMA contacted customers and competitors of the Parties, as well as the Home Office and Ofcom. Third party comments have been taken into account where appropriate in the competitive assessment above.

Decision

123. Consequently, the CMA does not believe that it is or may be the case that the Merger has resulted, or may be expected to result, in a substantial lessening of competition within a market or markets in the United Kingdom.

124. The Merger will therefore **not be referred** under section 22(1) of the Act.

Sheldon Mills

Senior Director of Mergers

Competition and Markets Authority

1 July 2016