

# Anticipated Acquisition By Viasat, Inc. Of Connect Topco Limited

Final report

9 May 2023



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 Some numbers have been replaced by a range.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

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 Some numbers have been replaced by a range.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

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### Glossary

# Summary

## Overview

1. The Competition and Markets Authority (**CMA**) has decided that the anticipated acquisition (the **Merger**) of Inmarsat Group Holdings Limited (**Inmarsat**) by Viasat, Inc (**Viasat**) (together, the **Parties** or, for statements referring to the future, the **Merged Entity**) may not be expected to result in a substantial lessening of competition (**SLC**) in the supply of broadband inflight connectivity (**IFC**) services to commercial airlines or business aircraft operators serving the United Kingdom (**UK**).

## The Parties' activities

2. Both Parties are satellite network operators (**SNOs**) that own and manage a fleet of satellites. They use their satellite capacity to provide connectivity services to customers across different industries or 'verticals' including fixed broadband, government, maritime, offshore energy and aviation.
3. Our investigation has focused on the supply of IFC, as this is the main area of overlap between the Parties in the UK. IFC allows passengers to access the internet while flying (eg for work and recreational purposes, such as for social media or video streaming).

## The supply chain for IFC

4. There are three main levels in the supply chain for satellite based IFC services:
  - (a) SNOs own and manage satellite fleets. They may supply satellite capacity at the wholesale level to satellite service providers (**SSPs**) and resellers that sell IFC services to airlines and/or use their capacity captively to sell IFC services directly to airlines.
  - (b) SSPs use satellite capacity to assemble IFC services that can be sold to airlines directly or through resellers.
  - (c) Resellers purchase IFC services from SSPs and sell them to airlines. Some resellers provide value added services and are known as value added resellers (**VARs**).

## The types of satellites used to supply IFC

5. Different types of satellites can be used to supply IFC and other types of satellite connectivity services:
  - (a) Traditional geostationary earth orbit satellites (**GEOs**) are large satellites positioned at around 36,000 kilometres above the Earth's surface, allowing them to travel at the same rotational rate as the Earth and provide a stationary platform for continuous signal relay (ie they appear at a fixed point in the sky from a given user's perspective).
  - (b) New generation low earth orbit satellites (**LEOs**) are much smaller satellites positioned at around 500-2,000 kilometres above the Earth's surface and orbit around the Earth.
6. These differences mean that GEOs and LEOs have different strengths and weaknesses:
  - (a) Many more LEOs are required in a constellation to provide global coverage. LEOs also have a shorter lifespan than GEOs. This means that global LEO constellations are more expensive to build and maintain.
  - (b) Since LEOs orbit closer to the Earth's surface than GEOs, latency (or 'lag time') is lower. Lower latency improves user experience for certain end-use applications such as gaming and videoconferences.
  - (c) LEO constellations can provide full global coverage, whereas GEOs cannot provide coverage over polar regions, which is relevant for certain long-haul flights.
  - (d) LEO satellites orbit the Earth, including oceans and uninhabited areas, whereas GEOs provide stationary capacity where it is required. The proportion of usable capacity in LEO constellations is therefore lower than for GEO constellations.
  - (e) As LEOs are closer to the Earth's surface, they have smaller beams than GEOs. This makes it more challenging to serve areas where demand is concentrated (such as airports or busy flight paths), as all users under a single beam need to share that capacity. This means that LEO constellations require a large number of satellites in order to provide sufficient capacity in areas where demand is highest.

## **The satellite industry is evolving**

7. Satellite connectivity is a dynamic sector, with supply expected to expand rapidly in the next few years. The sector has recently seen, and is likely to continue to see, disruptive entry by new players with innovative technologies and substantial resources, while established providers are also responding to these threats and opportunities in various ways. This is affecting conditions of competition across all services provided using satellite connectivity, including IFC. For example:
  - (a) SNOs such as Starlink and OneWeb have launched LEO constellations and are expanding their capabilities including in IFC.
  - (b) Other players such as Amazon and Telesat have plans to launch LEO constellations.
  - (c) Established SNOs such as the Parties, Eutelsat and SES have recently launched or have plans to launch additional GEO satellites.
  - (d) SNOs and SSPs have announced plans to combine LEO and GEO technologies through mergers or other commercial partnerships. In July 2022 Eutelsat and OneWeb announced plans to merge, and in August 2022 and October 2022 OneWeb announced distribution partnerships with Intelsat and Panasonic respectively (both SSPs active in IFC) to develop hybrid (GEO/LEO) IFC services.
  - (e) Other consolidation has happened or is being explored in the sector. For example, in December 2020, Intelsat acquired the commercial aviation IFC business of Gogo.
8. Our view is that these developments would occur irrespective of the Merger and we have taken them into account in our competitive assessment where relevant.

## **Demand for satellite connectivity is also growing fast**

9. Demand for satellite connectivity is growing rapidly across most end-use applications, driven by increasing use of the internet and demand for data.
10. As regards IFC, airlines told us that IFC is important to the service they offer and that passengers increasingly expect the same level of connectivity on flights as they have elsewhere. Many airlines told us they plan to expand or improve their IFC services in the next five years by improving their existing offer and by installing IFC on more aircraft.

11. According to industry analyst Euroconsult, there were approximately 9,900 connected aircraft globally providing IFC services through more than 120 commercial airlines at the end of 2021, and this is expected to exceed 20,900 connected aircraft by 2031. Penetration rates are higher for widebody aircraft used for long-haul flights than for narrowbody aircraft used for short-haul flights, as connectivity is generally seen as more important for long-haul flights.

## **How airlines buy IFC services**

12. Contracts to supply IFC services are often awarded through a competitive tender process. Airlines can choose to line-fit IFC on aircraft (ie install the equipment required to provide IFC services during the manufacture of new aircraft) or retro-fit IFC (ie install the equipment after delivery or once in service).
13. Airlines consider a wide range of factors when selecting a supplier. These include route coverage, service reliability, technical support and maintenance, speed, whether a supplier has or can obtain the necessary regulatory certifications, supplier reputation/track record, the cost of the IFC service and other commercial terms, capacity, whether a supplier owns the satellites it uses, whether it also offers in-flight entertainment (**IFE**) and whether it operates in the Ka or Ku frequency band. Some of these factors are seen as more important than others. The weight attached to them also varies by airline and by contract.
14. The evidence we received suggests that airlines are generally sophisticated customers that are highly engaged with the IFC market and largely up to date with market developments.
15. We also found that airlines have some flexibility over how they procure IFC to encourage participation by emerging competitors and new technologies. For example, airlines can increase their available options by choosing to retro-fit rather than line-fit new aircraft, as it is quicker and easier for an emerging supplier to get the necessary regulatory certifications for a retro-fit. Airlines can also delay retro-fits to wait for new technology to emerge (there is much less flexibility over timings for line-fits).

## **How we assessed the Merger**

16. The market for the supply of IFC services is evolving rapidly, and significant developments have taken place during our phase 2 investigation: OneWeb completed its global constellation, Starlink successfully launched many more

satellites, OneWeb announced its distribution partnership with Panasonic, Eutelsat launched a new GEO satellite that will provide capacity over Europe, Starlink's IFC service went live on commercial aircraft in the United States, Starlink obtained Federal Communications Commission (**FCC**) authorisation to launch an additional 7,500 satellites and Starlink won its first contract with a European airline.

17. Our approach to assessing the Merger is forward-looking, and accounts for the future evolution of competitive conditions. This includes developments in the Parties' competitive offers as well as the competitive offers of their rivals. We adopted a time horizon of a few years for our assessment. We consider that any impact from entry or expansion by rivals that only manifests itself after this time horizon would not be sufficiently timely to be relevant to our assessment of the loss of competition between the Parties resulting from the Merger.
18. We have gathered a substantial volume of evidence to assess the impact of the Merger. This includes evidence on recent tenders, the Parties' internal documents relating to tenders, information on the Parties' and their rivals' strategic plans (including internal documents) and evidence from airlines, SNOs/SSPs/VARs and original equipment manufacturers (**OEMs**), including their views and assessment of emerging technologies and suppliers.
19. To assess the impact of the Merger we first considered the extent of competition between the Parties that would be lost because of the Merger, and then considered whether that loss would be substantial in view of the constraints that the Merged Entity would face post-Merger from emerging and established rivals. Below we set out our findings first for commercial aviation IFC and then for business aviation IFC.

## **Competition between the Parties and how this would evolve**

20. Both Parties have been growing faster than other established suppliers of IFC services at a global level, regularly bid against each other in tenders, identify each other in internal documents as likely rivals in upcoming tenders and are regarded as strong alternatives by airlines. Our analysis of a sample of tenders for IFC on aircraft that are likely to serve UK customers shows that the Parties won more contracts for IFC services between January 2020 and September 2022 than other suppliers.
21. Both Parties also have plans to launch additional satellites in the next few years that will significantly increase their capacity and, in Viasat's case, its

geographic coverage (where it has relied on capacity from third parties historically).

22. We have therefore concluded that the Parties compete closely and would likely remain close competitors in the next few years absent the Merger.

## **The constraint from established suppliers and how this would evolve**

23. The Parties currently compete principally with three established suppliers of IFC services: Intelsat, Panasonic and Anuvu. We considered the likely constraint they would exert on the Merged Entity.

### ***Intelsat***

24. Intelsat filed for Chapter 11 bankruptcy in May 2020 from which it emerged in May 2022. In December 2020 it acquired Gogo's commercial aviation IFC business and became a vertically integrated supplier.
25. Intelsat supplies IFC services that use GEO satellite capacity sourced from a combination of Intelsat's satellites and satellites owned by third parties. Intelsat recently launched an additional GEO satellite and plans to launch more to improve its access to GEO satellite capacity in the next few years.
26. Intelsat also recently started to commercialise a hybrid LEO/GEO IFC service that will utilise OneWeb's LEO capacity (once its constellation is ready to support IFC) and Intelsat's GEO satellite capacity.
27. Although we recognise there is some uncertainty, given that this hybrid IFC service is not yet live on passenger flights, we consider it likely, based on the evidence we have received, that this hybrid service will be successfully deployed in the next few years. OneWeb's constellation reached the threshold for global coverage in March 2023 following recent successful satellite launches and Stellar Blu, a technology supplier, has developed the equipment, an electronically steered antenna (**ESA**), that is required to supply Intelsat's hybrid LEO/GEO IFC service to aircraft. Recent test flights using the ESA and OneWeb's constellation have been successful. We received consistent feedback from both airlines and SSPs/SNOs that hybrid services are an attractive proposition, as they combine the best technological characteristics of GEO satellites and LEO satellites. In January 2023, Intelsat won its first customer for its hybrid GEO/LEO IFC service, Alaska Airlines, which has said publicly that it expects the service to go live on some of its aircraft in early 2024.

28. Intelsat's position in IFC globally has declined in recent years measured by the share of active aircraft globally with its IFC services installed. However, it has bid and is bidding on a wide range of opportunities, is regularly identified as a likely bidder in upcoming tenders in the Parties' documents, is regarded as a strong IFC supplier by most airlines, and has recently won IFC contracts. We expect that its vertical integration following the acquisition of Gogo, improved balance sheet following its emergence from Chapter 11 and the launch of its hybrid GEO/LEO IFC services and access to additional GEO satellite capacity will improve its competitive offer.
29. We have therefore concluded that Intelsat would likely be a significant constraint on the Merged Entity in the next few years.

### ***Panasonic***

30. Panasonic supplies IFC services that use GEO satellite connectivity sourced from satellites owned by third parties.
31. In October 2022, Panasonic announced that it had entered into a distribution agreement with OneWeb that will allow it to offer LEO IFC services and hybrid LEO/GEO IFC services that will utilise OneWeb's LEO constellation once it is ready to support IFC. Panasonic will also have access to additional GEO satellite capacity from Eutelsat following Eutelsat's recent satellite launch.
32. Panasonic's market position globally has remained relatively stable over the last five years, it frequently bids on a wide range of opportunities, regularly competing with both Parties in tenders, it is regularly identified as a likely bidder in upcoming tenders in the Parties' documents, it is seen as a strong supplier of IFC by most airlines and it has won recent IFC contracts.
33. While recognising there is some uncertainty, for similar reasons as for Intelsat, we expect that Panasonic's launch of a LEO service and a hybrid LEO/GEO service will improve its competitive offer. Panasonic's services will rely on the same LEO constellation (OneWeb) and will also use ESAs developed by Stellar Blu that have been demonstrated to work in test flights. A number of third parties (including airlines and SSPs/VARs) have said that they believe that Panasonic's partnership with OneWeb is a potential source of future strength, and Panasonic is, like Intelsat, a well-established IFC supplier.
34. We have therefore concluded that Panasonic would likely be a significant constraint on the Merged Entity in the next few years.

## **Anuvu**

35. Anuvu bids against the Parties in tenders less frequently than the Parties bid against each other or Intelsat or Panasonic, and is seen as a weaker IFC supplier by airlines. However, it does bid for and win contracts for narrowbody aircraft.
36. We have therefore concluded that Anuvu would likely be a moderate constraint on the Merged Entity in the next few years, but only for narrowbody opportunities.

## **The constraint from emerging suppliers and how this would evolve**

37. Starlink, Amazon, Telesat and OneWeb have all launched, or have plans to launch, LEO constellations.
38. OneWeb has agreed to supply satellite capacity to Intelsat and Panasonic, and we have considered any impact from OneWeb's entry in our assessment of those suppliers. Other than Starlink, we do not consider that there is sufficient evidence to show that entry by any other players in IFC will be sufficiently likely and timely to impact our assessment of the Merger.
39. Our assessment of emerging players has therefore focused on the constraint that Starlink would likely exert on the Merged Entity.
40. Starlink has achieved significant milestones since it won its first contract to supply IFC services in March 2022, including many during the course of our phase 2 investigation.
41. Starlink has won a number of additional contracts covering different regions (United States, Asia Pacific and recently Europe), aircraft types (widebody and narrowbody) and airlines (both low cost carriers (**LCC**) and full-service carriers), showing that Starlink is capable of winning contracts with a broad mix of customers. Starlink's award of a contract by airBaltic in January 2023 represents its first win with a European airline, and for aircraft that will fly to and from the UK.
42. Starlink's IFC service is now live on passenger flights in the United States. Test data and recent reviews show the quality of its IFC service is high. Starlink is also continuing to launch additional satellites – in 2022 alone it launched more than 1,700 satellites and recently received approval to launch 7,500 more. Future satellite launches will increase its capacity and geographic

coverage and will likely improve the quality of IFC service that Starlink can provide at airport hubs and other areas where there is concentrated demand.

43. Most airlines told us that Starlink is a strong or very strong supplier of IFC. Several airlines explained that they had rated Starlink based on its future potential. Although some airlines told us that Starlink's lack of certifications and experience and its commercial model means that it is not a viable option for them currently, feedback from airlines overall suggest that they have confidence that Starlink is likely to succeed and to be a strong competitor in time.
44. Starlink has competed with the Parties on some recent tenders, and we have seen some evidence of airlines using Starlink as leverage to extract better terms from the Parties.
45. Although we recognise that there is necessarily a degree of uncertainty regarding the pace and scale of Starlink's expansion in IFC, we expect Starlink to become a stronger competitor to the Merged Entity within the next few years as it launches additional satellites, obtains more certifications, gains more experience and data from serving customers and can demonstrate to other potential customers that its technology is mature.
46. We expect the strength of the constraint Starlink provides on the Merged Entity will vary from contract to contract depending on a range of factors such as the required certifications, the routes the aircraft will fly, whether the opportunity is for line-fit or retro-fit installation, and the airline's appetite for risk and willingness to accept Starlink's preferred commercial model, but that, overall, it will likely increase over the next few years.
47. We therefore concluded that the existing constraint from Starlink will have grown within the next few years and that Starlink will likely have become a significant constraint on the Merged Entity.

## **Decision for commercial aviation**

48. The evidence we have assessed has led us to decide that, while the Parties compete closely and would likely remain close competitors absent the Merger, the aggregate constraints the Merged Entity would likely face from other rivals are significant and are likely to increase, such that the Merger may not be expected to give rise to an SLC as a result of horizontal unilateral effects in the supply of broadband IFC services to commercial airlines serving UK consumers.

## Decision for business aviation

49. We have also considered the Merger's effect on the supply of IFC to large business aircraft operators. Supplying IFC to business aircraft operators has many of the same features as supplying it to commercial airlines. Currently the Parties compete closely as the two main providers offering satellite-based IFC to business aircraft operators outside North America. However, we expect other suppliers to expand and improve the services they offer in the next few years. Gogo, currently the largest supplier in North America (where most business aircraft operators are based), has signed an agreement with OneWeb that will allow it to offer a global service. Starlink is also successfully targeting business aircraft operators. Two further suppliers, Intelsat and Satcom Direct, are also likely to expand and improve what they currently offer by leveraging their respective positions in closely related markets.
50. We have therefore decided that the aggregate constraints the Merged Entity would likely face from other rivals are significant and are likely to increase such that the Merger may not be expected to give rise to an SLC as a result of horizontal unilateral effects in the supply of broadband IFC services to large business aircraft operators serving UK consumers.

# Final Report

## 1. The reference

- 1.1 On 14 October 2022, the Competition and Markets Authority (**CMA**), in exercise of its duty under section 33(1) of the Enterprise Act 2002 (the **Act**),<sup>1</sup> referred the anticipated acquisition by Viasat, Inc (**Viasat**) of Inmarsat Group Holdings Limited (**Inmarsat**) (the **Merger**) (together, the **Parties** or, for statements referring to the future, the **Merged Entity**) for further investigation and report by a group of CMA panel members (the **Inquiry Group**).
- 1.2 In exercise of its duty under section 36(1) of the Act,<sup>2</sup> the CMA must decide:
- (a) Whether arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation; and
  - (b) If so, whether the creation of that situation may be expected to result in a substantial lessening of competition (**SLC**) within any market or markets in the United Kingdom (**UK**) for goods or services.
- 1.3 In answering these questions, the Inquiry Group must decide whether there is an expectation (ie more than 50% chance) that an SLC will arise having regard to the totality of the evidence available to it.
- 1.4 On 28 March 2023, we published a notice of extension of the inquiry period under section 39(3) of the Act<sup>3</sup> on the inquiry webpage. We decided that the reference period should be extended by eight weeks. We are therefore required to prepare and publish a final report by 25 May 2023.
- 1.5 Our terms of reference, along with information on the conduct of the inquiry, are set out in Appendix A.
- 1.6 This document, together with its appendices, constitutes the Inquiry Group's final report published and notified to Viasat and Inmarsat in line with the CMA's rules of procedure.<sup>4</sup> Further information relevant to this inquiry,

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<sup>1</sup> Section 33(1) of the Act.

<sup>2</sup> Section 36(1) of the Act.

<sup>3</sup> Section 39(3) of the Act

<sup>4</sup> CMA rules of procedure for merger, market and special reference groups, March 2014 (corrected November 2015), (CMA 17), Rule 11:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/478999/CMA17\\_corrected\\_23.11.15.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/478999/CMA17_corrected_23.11.15.pdf).

including non-confidential versions of submissions, including from the Parties, can be found on the CMA case page.<sup>5</sup>

## 2. Industry Background

### Introduction

- 2.1 This chapter provides an overview of the satellite connectivity sector, including the industries where satellite connectivity is used, how the supply chain works, the different types of satellites that can be used to provide satellite connectivity, including the emergence of low earth orbit (**LEO**) satellites, and how the type of satellite affects the connectivity that end users receive. As our investigation has focused on the use of satellite connectivity to provide inflight connectivity (**IFC**) services, we have focused on the key features of the sector that are relevant to the supply of connectivity in that vertical.
- 2.2 This chapter also outlines some key trends in the satellite connectivity sector such the expansion of satellite capacity across suppliers, the increase in demand for satellite connectivity (including for IFC) and the growth of multi-orbit and/or multi-network services that combine different types of satellites (LEOs and geostationary earth orbit satellites (**GEOs**)) and/or technologies (satellite and terrestrial).

### The supply of satellite capacity and satellite connectivity services

- 2.3 Both Parties are active in the supply of satellite capacity and connectivity services to customers.<sup>6</sup>

#### *Industry verticals*

- 2.4 Satellite connectivity is used in a range of different industry sectors (or '**verticals**'). The main verticals supplied by one or both of the Parties are:<sup>7</sup>
- (a) *Fixed broadband*: connectivity for residential and commercial internet access, particularly in areas without good access to terrestrial internet services;

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<sup>5</sup> <https://www.gov.uk/cma-cases/viasat-slash-inmarsat-merger-inquiry>.

<sup>6</sup> Satellite connectivity refers to two-way satellite communications as opposed to one-way communications, such as satellite broadcasting for TV and radio.

<sup>7</sup> Parties, Merger Notice, 8 August 2022, paragraphs 31 to 36 and 106.

- (b) *Government*: connectivity for government customers, including for military and non-military applications;
- (c) *Maritime*: connectivity for maritime customers, including for use on merchant, fishing, passenger, and leisure vessels;
- (d) *Off-shore energy*: connectivity for off-shore energy customers, including for use on off-shore support vessels, platforms, and rigs;<sup>8</sup> and
- (e) *Aviation*: IFC for commercial airlines and business aircraft operators, the main area of overlap between the Parties in the UK which is discussed in more detail in subsequent chapters.<sup>9</sup>

2.5 Satellite capacity is generally fungible across different industry verticals, with the main technological differences between end-uses being the type and form of the antenna used to receive the signal from the satellite.<sup>10</sup> There are differences between the suitability of broadband and narrowband satellite capacity for particular end-use applications. This is discussed in more detail in paragraph 2.10 below.

### ***Satellite connectivity supply chain***

2.6 The satellite connectivity supply chain comprises three main levels:

- (a) *Satellite Network Operators (SNOs)*: own and manage satellite fleets. They may supply satellite capacity at the wholesale level to satellite service providers (**SSPs**) and resellers that sell satellite connectivity services to downstream customers, and/or use their capacity captively to sell satellite connectivity services directly to end customers (ie by acting as an SSP). The extent to which SNOs operate at the wholesale and/or retail level varies between SNOs. The Parties are active at both levels of the supply chain (and sell through resellers as well as directly to end customers).
- (b) *SSPs*: assemble satellite connectivity services based on satellite capacity purchased from third party SNOs or sourced internally (ie for vertically integrated SNOs/SSPs like the Parties that own satellites). They use this capacity to develop a connectivity service for end customers, which may

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<sup>8</sup> Off-shore energy is sometimes included within the maritime vertical (eg, Parties, Merger Notice, 8 August 2022, Annex 19.27, April 2021, page 20; Viasat, Response to the Phase 1 first section 109 notice, Annex VA00012545; Parties, Merger Notice, 8 August 2022, Annex 19.3.061 May 2021, slide 65; and Inmarsat, Response to the Phase 1 second section 109 notice, Annex 3.6, [REDACTED], slide 11).

<sup>9</sup> The Parties refer to the aviation, maritime, and off-shore energy verticals together as 'mobility' verticals, as customers typically require connectivity on the move (see, for instance, Parties, Merger Notice, 8 August 2022, paragraph 177).

<sup>10</sup> Parties, Merger Notice, 8 August 2022, paragraph 457.

include managed services (such as service level agreements (**SLAs**), minimum capacity), applications (cybersecurity), related services (eg invoicing tools, customer support, and traffic monitoring) and equipment (eg user terminals<sup>11</sup>), which they sell to resellers and/or end-customers.<sup>12</sup>

- (c) *Resellers*: purchase satellite connectivity services from SSPs (including vertically integrated SSPs) and distribute them to end-customers. Some resellers provide additional value-added services to end-customers (eg installation and maintenance of user terminals) and are known as value added resellers (**VARs**).<sup>13</sup>

### ***Satellite connectivity can be supplied from a variety of satellites in different orbits***

2.7 Satellite connectivity can be supplied using capacity from satellites orbiting at different distances from the Earth's surface. Satellites can be separated into four categories:

- (a) *GEOs*: are positioned at around 36,000 kilometres above the Earth's surface, allowing them to travel at the same rotational rate as the Earth and provide a stationary platform for continuous signal relay (ie they appear at a fixed point in the sky from a given user's perspective).<sup>14</sup> As a result, GEOs have consistent line of sight to user and gateway terminals.<sup>15</sup>
- (b) Satellites with non-geostationary orbits (**NGSOs**) including:
  - (i) *Medium earth orbit satellites (MEOs)*: positioned at around 2,000 - 36,000 kilometres above the Earth's surface. MEOs' lower orbit compared to GEOs means that they do not provide a stationary platform but provide lower-latency satellite connectivity (ie there is less delay in signal travelling between the satellite and user terminal).
  - (ii) *LEOs*: are positioned at around 500-2,000 kilometres above the Earth's surface and orbit more quickly around the Earth than MEOs, handing off their signal to another LEO or gateway terminal. Most

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<sup>11</sup> A user terminal includes an antenna and other equipment needed to send and receive signals between the satellite and end-user.

<sup>12</sup> Parties, Merger Notice, 8 August 2022, paragraph 181(ii).

<sup>13</sup> Parties, Merger Notice, 8 August 2022, paragraph 8.

<sup>14</sup> Parties, Merger Notice, 8 August 2022, paragraph 461.

<sup>15</sup> A gateway terminal is a ground station (ie, a physical site with antennae and other equipment) that transmits data to/from satellites and connects them with the terrestrial internet.

NGSO constellations that have been launched or are planned are LEO constellations.

- (iii) *Highly elliptical orbit satellites (HEOs)*: move more slowly in high-altitude parts of their orbit than in low-altitude parts, which maximises viewing times and coverage over the polar regions.<sup>16</sup>

2.8 Since LEOs are smaller than GEOs and orbit closer to the Earth, they have different characteristics:

- (a) Many more LEOs are required in a constellation to provide global coverage, which means that global LEO constellations are more expensive to build.<sup>17</sup> The lower lifespan of LEOs compared to GEOs (around five years in theory compared to 15 or more years) also contributes to the increased cost.<sup>18</sup>
- (b) Since LEOs orbit closer to the Earth's surface than MEOs and GEOs, latency<sup>19</sup> is lower.
- (c) LEO constellations can provide full global coverage, whereas GEOs cannot provide coverage over the polar regions.<sup>20</sup>
- (d) LEO satellites orbit the Earth, including oceans and uninhabited areas, whereas GEOs provide stationary capacity<sup>21</sup> where it is required. Consequently, the proportion of usable capacity in LEO constellations is lower than for GEO constellations (given that demand is not evenly distributed across the globe).<sup>22</sup>
- (e) As LEOs are closer to the Earth's surface, they have smaller beams than GEOs. This makes it more challenging to serve areas where demand is dense, as all users under a single beam need to share that capacity. By contrast, GEOs have wider beams. They are therefore able to serve areas of low and high demand simultaneously from the same satellite.<sup>23</sup> This

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<sup>16</sup> Parties, Merger Notice, 8 August 2022, paragraph 147(iv).

<sup>17</sup> Parties, Merger Notice, 8 August 2022, paragraph 297: the Parties noted that it is more costly for LEO constellations to achieve global coverage due to the number of satellites required.

<sup>18</sup> Parties, Merger Notice, 8 August 2022, paragraph 297.

<sup>19</sup> Latency is the signal response time, or lag time, that is a result of the delay in the path between the satellite and the user terminal.

<sup>20</sup> Parties, Merger Notice, 8 August 2022, paragraph 463.

<sup>21</sup> Relative to a fixed point on Earth.

<sup>22</sup> Parties, Merger Notice, 8 August 2022, paragraph 299.

<sup>23</sup> Parties, Merger Notice, 8 August 2022, paragraph 299.

means that LEO constellations require a large number of satellites in order to provide sufficient capacity in areas where demand is highest.<sup>24</sup>

2.9 These differences are considered in more detail in the competitive assessment.

### ***Satellite connectivity is supplied over a variety of frequency bands***

2.10 Satellite connectivity can be supplied over different sections of the electromagnetic spectrum, known as frequency bands. In the satellite connectivity sector, frequency bands are separated into two main categories:

- (a) *Narrowband*: connectivity provided using lower frequencies (eg in L-band or S-band), which have less bandwidth and are, therefore, less suitable for data-intensive applications (eg video streaming). Narrowband, which uses frequencies that are less susceptible to signal interference, is, however, considered more reliable and, correspondingly, more suitable for critical applications, such as for aviation and/or maritime safety.<sup>25</sup>
- (b) *Broadband*: connectivity provided using higher frequencies (eg in Ku-band or Ka-band<sup>26</sup>), which have more bandwidth and therefore offer more throughput and capacity and are, as a result, more suitable for data-intensive applications. However, broadband operates at frequencies that are more susceptible to signal interference and is therefore generally considered less suitable for applications for which signal reliability is critical.<sup>27</sup>

### ***Raw capacity and managed services***

2.11 SNOs can supply satellite capacity to SSPs (or other SNOs) as ‘raw’ satellite capacity or as ‘managed’ satellite connectivity services.

- (a) The supply of raw satellite capacity is the provision of frequencies (measured in MHz) without any additional services by SNOs to SSPs. SSPs that lease frequencies from SNOs need ground infrastructure (used

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<sup>24</sup> Parties, Merger Notice, 8 August 2022, paragraph 297. The Parties submitted that LEO capacity is evenly spread across the globe, which means a large number of satellites is necessary to provide sufficient capacity at a given time.

<sup>25</sup> Parties, Merger Notice, 8 August 2022, paragraph 150. See also Annex 16.25, The Future of Maritime Connectivity (2022 Edition) (report), Valour Consultancy, July 2022, pages 21 to 24, and Annex 16.3, Prospects for In-Flight Entertainment and Connectivity, 9th edition, Euroconsult, July 2021, page 28.

<sup>26</sup> Ka-band satellites use K-band to receive signals whilst Ka-band is used to transmit signals. In contrast, Ku-band satellites do not rely on K-band and use Ku-band frequencies to both receive and transmit signals. K-band is therefore considered part of the Ka-band satellite service. Source: Parties, Merger Notice, 8 August 2022, footnote 88.

<sup>27</sup> Parties, Merger Notice, 8 August 2022, paragraphs 150 and 594.

to modulate/demodulate signals to/from customer remote sites located within the coverage of the satellites) and earth stations (used to receive customer signals that are retransmitted by the satellites). SNOs may also supply satellite capacity to other SNOs. SNOs purchase raw capacity from other SNOs where they do not have geographic coverage or require additional capacity in a particular region.

- (b) The supply of managed satellite connectivity services (measured in Megabytes per second (**Mbps**)) is the provision of a broader range of services that includes both raw satellite capacity and the necessary ground infrastructure and earth stations. The managed connectivity service may not necessarily include the provision of the network's day-to-day operations. SNOs rely on their ground infrastructure and earth stations when supplying managed satellite connectivity services to SSPs/SNOs. SNOs and SSPs with their own ground infrastructure and earth stations may rely on managed satellite connectivity services in regions not covered by their ground infrastructure and earth stations and/or when there are constraints in the supply of raw satellite capacity.

- 2.12 While most GEO SNOs only offer raw satellite capacity to SSPs and other SNOs, some offer both raw satellite capacity and managed satellite connectivity services.<sup>28</sup> One NGSO SNO told us that it can only offer managed connectivity services as its satellite network does not allow for SSPs to lease frequencies.<sup>29</sup>

### **Regulation of SNOs**

- 2.13 Before satellites can gain international recognition for use of spectrum, a satellite filing must be submitted to the International Telecommunication Union (ITU)<sup>30</sup> including (i) the number of satellites, (ii) orbital slots (positioning of satellites) and (iii) spectrum to be used.<sup>31</sup> Satellite filings receive international recognition subject to complex rules, including to avoid interference with other satellites.

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<sup>28</sup> See Appendix D.

<sup>29</sup> Competitor, Note of call [REDACTED], 23 January 2023, paragraph 18.

<sup>30</sup> The ITU is the United Nations specialised agency for information and communications technology ([About ITU](#)). The ITU's Radio Regulations is the international treaty that governs international (including space) spectrum use.

<sup>31</sup> Regulator, Note of call with Ofcom, 28 March 2023. For GEOs, an orbital slot is a fixed location above the Earth measured in degrees of longitude (see Parties, Merger Notice, 8 August 2022, Annex 22.1, GEO orbital slots, August 2022). A competitor told the CMA that there can only be one satellite per frequency band in each orbital slot pointing at a given location on earth; other satellites must be separated by two to three degrees on either side to avoid radio waves conflicting with each other (Competitor, Note of call [REDACTED], 12 January 2023). The geographic coverage of the slot is the portion of the Earth's surface that is visible from this location, which can cover multiple regions (for instance, North and South America or EMEA and South America), Parties, Merger Notice, 8 August 2022, Annex 22.1, GEO orbital slots, August 2022. A competitor told us that orbital slots are a finite and essential resource for satellite operators. Competitor, [REDACTED] Response to Provisional Findings.

2.14 In the UK, SNOs require a licence (or licence-exemption) from Ofcom to operate gateway stations and/or terminals in the UK or on UK-flagged vessels (including aircraft).<sup>32</sup> Licences permit access to the spectrum for the uplink (Earth to space) and can protect the downlink (space to Earth) path from interference from other (non-satellite) spectrum users in the UK.<sup>33</sup>

## Industry developments

### *Growth in satellite capacity and demand*

2.15 Satellite capacity is increasing rapidly. Euroconsult, an independent industry analyst, estimates that global high-throughput satellite (HTS)<sup>34</sup> capacity will grow to more than 60,000 Gigabits per second (Gbps) in 2026, approximately a four-fold increase from 2022 (see Table 1).<sup>35</sup>

**Table 1: Satellite supply by infrastructure (in Gbps)**

	2022	2023	2024	2025	2026
GEO	2,951	5,639	6,637	6,901	6,917
NGSO	12,446	19,374	24,196	30,637	55,740
<b>Total</b>	<b>15,397</b>	<b>25,013</b>	<b>30,833</b>	<b>37,539</b>	<b>62,656</b>

Source: Parties, Response to Phase 1 RFI2, 31 May 2022, Annex RFI2.037 – Euroconsult 2022 demand and supply forecast, Sheet: Con. Supply Data. Note: figures are rounded to avoid specifying decimal places.

2.16 Most of this growth in capacity is being driven by the launch of additional NGSO satellites, although satellite capacity from GEO satellites is also expected to more than double. The Parties' plans to launch additional satellites to increase capacity and those of third parties are considered in more detail in the competitive assessment.

2.17 Demand for satellite capacity is also expected to increase substantially, driven by a range of factors including growing use of internet services, increasing data requirements for end-use applications (eg higher-quality video streaming,

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<sup>32</sup> Regulator, Note of call with Ofcom, 28 March 2023. It can take three months or more to apply for NGSO licences, which are subject to public consultation, including to assess whether licences may raise competition concerns. GEO licences are more straightforward and are typically issued within 42 days.

<sup>33</sup> In the UK the spectrum is managed by Ofcom under [The Wireless Telegraphy Act 2006](#). See Regulator, Ofcom procedures for the Management of Satellite Filings, 14 March 2019, [new-procedures-1.pdf \(ofcom.org.uk\)](#), paragraph 1.1.

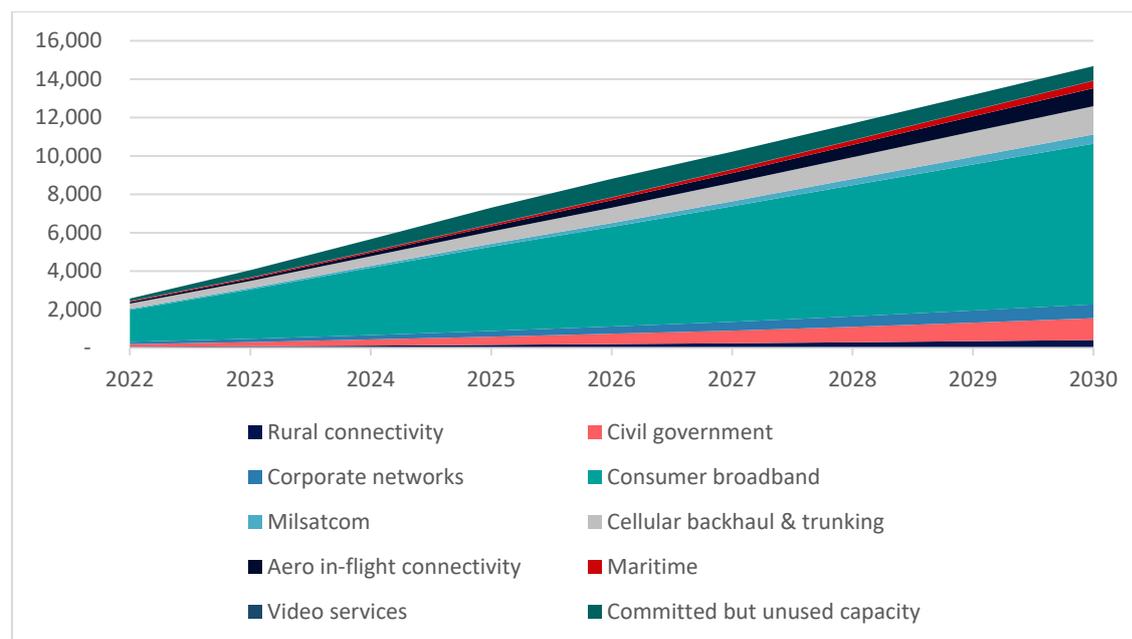
<sup>34</sup> HTS satellites deploy a large number of narrow spot-beams that re-use spectrum so that a single satellite can deliver a multiple of the throughput delivered by traditional wide-beam satellites. Regardless of the spectrum choice or orbit of the satellite, using spot-beam architecture allows multiple beams to re-use the same frequency band. This allows more capacity from same amount of allocated spectrum.

<sup>35</sup> Parties, Response to Phase 1 RFI2, 31 May 2022, Annex: RFI2.038, Euroconsult – High Throughput Satellites 6<sup>th</sup> Edition (Q1, 2022), page 52.

video conferences, cloud computing), and wider availability and accessibility of satellite broadband services.<sup>36</sup>

2.18 Euroconsult estimates that total demand globally for HTS capacity will increase from approximately 2,500 Gbps in 2022 to more than 7,000 Gbps in 2025 and to approximately 14,500 Gbps in 2030 (see Figure 1).<sup>37</sup> While the increase in demand is expected to be driven largely by consumer broadband (ie home internet), demand for HTS connectivity is growing significantly in other verticals, including in aviation.

**Figure 1: HTS demand by application by infrastructure (in Gbps)**



Source: Parties, Response to Phase 1 RFI2, 31 May 2022, Annex RFI2.037 – Euroconsult 2022 demand and supply forecast, Sheet: Con. Demand Data.

### **Multi-orbit and multi-network offerings**

2.19 Some SNOs and SSPs that historically specialised in one type of satellite connectivity (eg GEO) or technology (eg satellite) are now planning to provide multi-orbit and/or multi-network offerings, either alone or in partnership with other SNOs or SSPs, aiming to leverage the strengths of different types of satellites and technology to provide better connectivity to end-users.<sup>38</sup>

<sup>36</sup> Parties, Merger Notice, 8 August 2022, paragraph 192. Parties’ analysis of the Euroconsult and Northern Sky Research reports.

<sup>37</sup> Parties, Response to Phase 1 RFI2, 31 May 2022, Annex RFI2.037 – Euroconsult 2022 demand and supply forecast, Figures 12 and 13 combined (CMA’s analysis of data).

<sup>38</sup> Parties, Merger Notice, 8 August 2022, paragraph 363: the Parties note that ‘from the perspective of users, multi-orbit networks can allow for higher (and/or more consistent) speeds at a lower price, while still maintaining low latency for applications that are latency-sensitive such as VPNs, gaming and video calling by using the NGSO satellites’.

2.20 These developments are also discussed in detail in the competitive assessment.

## Satellite connectivity for IFC

### *IFC network technologies*

- 2.21 IFC can be supplied using a number of different technologies, including satellite connectivity. The technologies currently available to support IFC are (i) satellite-based connectivity in Ka- and/or Ku-band; (ii) air-to-ground (**ATG**) connectivity such as 4G/5G/LTE; and (iii) hybrid systems that use both satellite and ATG connectivity (eg the European Aviation Network (**EAN**)<sup>39</sup>).
- 2.22 A key difference between satellite-based and ATG services is the coverage that each can offer. Satellite IFC services can in principle provide connectivity across the globe (including over oceans and remote areas) while ATG only functions over land and near the coast, as it needs to be in proximity of a ground station.<sup>40</sup>
- 2.23 Hybrid services essentially seek to overcome the coverage limitations of ATG by filling gaps in coverage with satellite-based systems.<sup>41</sup>

### *Certifications of IFC Equipment*

- 2.24 For safety reasons, IFC equipment (eg user terminals) requires an authorisation called a type-approval before it is installed on aircraft. Certification is required for each aircraft model because of the structural and engineering differences between aircraft models and variants of aircraft models.<sup>42</sup>
- 2.25 The approval process varies by jurisdiction. The Civil Aviation Authority (**CAA**) is the regulator responsible for the safety of aircraft within the UK.

### *Types of certification*

- 2.26 There are two main types of certification: 'Type Certificates' (**TCs**) for line-fit installations of IFC (**line-fit**) (during the manufacture of new aircraft) and 'Supplemental Type Certificates' (**STCs**) for retro-fit installations of IFC (**retro-**

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<sup>39</sup> The EAN is a broadband service developed by Inmarsat and Deutsche Telekom in partnership with companies such as Thales, Nokia, Airbus and EAD Aerospace. The service combines satellite coverage with an integrated 4G LTE ground network to offer an inflight broadband service over Europe and adjacent seas.

<sup>40</sup> Parties, Merger Notice, 8 August 2022, paragraph 646.

<sup>41</sup> Parties, Merger Notice, 8 August 2022, paragraph 647.

<sup>42</sup> OEMs, [🔗] Note of calls with OEMs, 23 November and 30 November 2023.

**fit**) (on post-production or in-service aircraft that either have the IFC service of another provider installed or that are not yet connected).<sup>43</sup>

- 2.27 Line-fit certifications are issued by the national regulator and overseen by aircraft original equipment manufacturers (**OEMs**) which, based on market demand and other criteria, select IFC services to feature in the relevant aircraft model's catalogue (ie the IFC service becomes 'line-fit offerable' and can be chosen by airlines submitting an aircraft order). OEMs are therefore responsible for line-fit certifications for IFC equipment and act as gatekeepers between IFC providers and airlines.
- 2.28 The Parties submitted that line-fit certification takes between 18 and 24 months on average.<sup>44</sup> However, OEMs told the CMA that the process takes between 18 months and three years (with the average being 24 months),<sup>45</sup> with the timeline varying depending on the complexity of the technology involved.<sup>46</sup> OEMs also explained that once an IFC service is certified on an aircraft family, it is *de facto* 'offerable' across the various models of the aircraft family.<sup>47</sup>
- 2.29 Retro-fit certifications involve authorisation by a national regulator to modify the structure of an existing aircraft. Providers of IFC equipment (either SSPs or third parties that manufacture IFC equipment) can apply directly for retro-fit certifications, either on their own or in partnership with Maintenance Repair and Operations (**MROs**) providers.<sup>48</sup> Unlike TCs, an STC only relates to a specific model or variant of an aircraft family.
- 2.30 The Parties submitted that the retro-fit certification process typically takes one year for the first national regulator (plus three additional months for each additional regulator).<sup>49</sup> However, third-party evidence indicates that obtaining an STC depends on the aircraft model, and may take between six months and

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<sup>43</sup> Parties, Merger Notice, 8 August 2022, paragraph 798.

<sup>44</sup> Parties, Merger Notice, 8 August 2022, paragraph 811. The Parties noted that they have less visibility over the process for line-fit than retro-fit because OEMs handle the line-fit process.

<sup>45</sup> OEMs, [REDACTED] Note of calls with OEMs, 23 November and 30 November 2023.

<sup>46</sup> OEMs, [REDACTED] Note of calls with OEMs, 23 November and 30 November 2023.

<sup>47</sup> For instance, once a new IFC service becomes certified on the Boeing 777, it will generally also be 'offerable' on each Boeing 777 variant, such as the Boeing 777/8 or 777/9.

<sup>48</sup> Although in the Merger Notice the Parties submitted that once an STC is obtained for a given model of aircraft it can be used to install IFC equipment on that model for any airline registered in the country where the STC was granted (Parties, Merger Notice, 8 August 2022, paragraph 806), during the Phase 1 Issues Meeting, Viasat explained that STCs are specific not only to the aircraft model but also to the airline due to the aircraft configuration chosen when ordering the aircraft from an OEM at the line-fit stage. This suggests that STCs involve a degree of investment by the IFC provider that is airline specific, and that a large number of STCs are required to be able to serve multiple airlines, which is consistent with what one competitor submitted to the CMA (Competitor, Response [REDACTED] to Phase 1 competitor questionnaire, question 9).

<sup>49</sup> Parties, Merger Notice, 8 August 2022 paragraphs 802 and 806.

two years and in some cases as long as four years (plus up to six months for additional national regulators).<sup>50</sup>

- 2.31 For retro-fit installations, an OEM can also issue a ‘Service Bulletin’ (**SB**), which is a notification of modifications that may be made to an aircraft post production. The certification process for the SB is undertaken by the OEM itself, and this applies to IFC retro-fit installations on active aircraft as well as aircraft just off the production line. The time required for issuing an SB is typically shorter than the time needed for TC.<sup>51</sup>

### *Recognition of certification in the UK*

- 2.32 The CAA has a bilateral agreement with the United States Federal Aviation Administration (**FAA**), which means that any equipment approved by the FAA is accepted by the CAA for certification or validation. Typically, US manufacturers can reduce the timescale for approval from the CAA as they will have already received approval from the FAA.<sup>52</sup>
- 2.33 A similar agreement is in place with the European Union (**EU**) where the UK will accept equipment certified by the European Aviation Safety Agency (**EASA**). However, equipment approved by the CAA is subject to additional checks by EASA.
- 2.34 The CAA told us that approval of equipment and/or installation does not expire, but the holder’s design organisation approval is subject to review by the CAA every two years. The design organisation approval requires the payment of an annual fee.<sup>53</sup>

## **Future market developments**

### *IFC demand trends*

- 2.35 IFC allows passengers to access the internet while flying (eg for work and recreational purposes, such as for social media or video streaming).

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<sup>50</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 11. [🔗].

<sup>51</sup> Parties, Response to Phase 2 RFI3, 26 January 2023, paragraphs 1 to 6.

<sup>52</sup> Regulator, Note of call with CAA, 6 December 2022.

<sup>53</sup> Regulator, Note of call with CAA, 6 December 2022.

- 2.36 Demand for IFC in both business and commercial aviation is expected to grow.<sup>54</sup> While this is a worldwide trend, IFC demand is growing at different rates for different types of aircraft and in different geographic regions.
- 2.37 The Parties submitted that IFC penetration for narrowbody aircraft globally is significantly lower than for widebody aircraft (ie 30% compared to approximately 63% in 2021).<sup>55</sup> The IFC penetration for narrowbody aircraft in the United States is approximately 60% whereas it is below 20% among Europe-based airlines.<sup>56</sup> Given the low penetration and growing demand, the Parties submitted that IFC remains a nascent and dynamic market with a large number of uncommitted aircraft (especially narrowbody aircraft in Europe) which provide significant opportunities for current competitors and new entrants.<sup>57</sup>
- 2.38 Euroconsult estimates that global HTS demand for IFC will increase to approximately 930 Gbps in 2030, which is a 12-fold increase from 2022 (see Figure 2). Demand in Europe for both GEO and NGSO HTS capacity for IFC is expected to increase by 23 times in the same period, with other regions also showing significant increases in demand.<sup>58</sup> Notwithstanding this increase, demand for IFC is a relatively small proportion of current and forecast demand for HTS capacity (see paragraph 2.18).

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<sup>54</sup> For instance, Euroconsult forecasts that the number of commercial active broadband IFC terminals globally will grow from approximately 9,000 - 9,500 in 2022 to approximately 16,000 - 19,700 in 2030, corresponding to growth of 7 - 10% per year on average. Euroconsult forecasts that the number of business active broadband IFC terminals globally will grow from approximately 8,500 - 9,000 in 2022 to approximately 22,000 - 23,000 in 2030, corresponding to growth of 12% per year on average. CMA analysis of Euroconsult data provided in Parties, Response to Phase 1 RF15, 22 July 2022, Annex RF15.009, Euroconsult 'Prospects for In-Flight Entertainment and Connectivity – 9<sup>th</sup> Edition' – Data Annex, 23 August 2021.

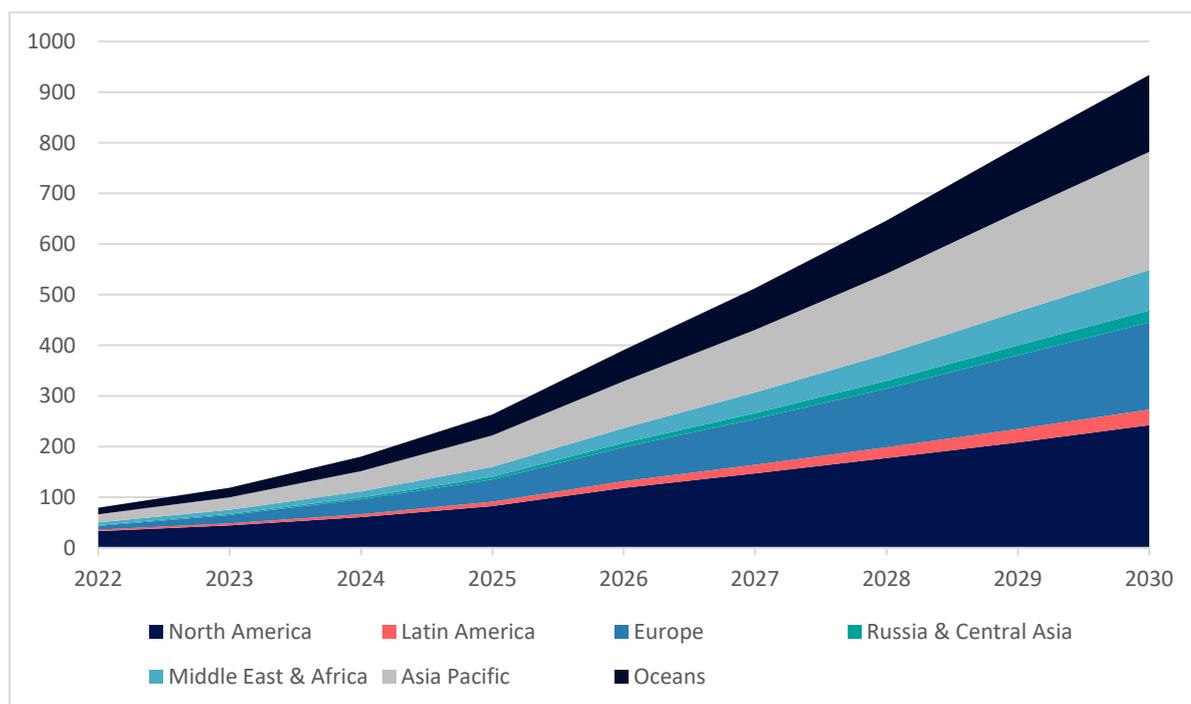
<sup>55</sup> Parties, Merger Notice, 8 August 2022, paragraph 694.

<sup>56</sup> Parties, Merger Notice, 8 August 2022, paragraph 695.

<sup>57</sup> Parties, Response to the Phase 1 Issues Letter, 18 September 2022, paragraphs 8, 10, and 106.

<sup>58</sup> Parties, Merger Notice, 8 August 2022, Annex RF12.037 – Euroconsult 2022 demand and supply forecast, Sheet: Aero.

**Figure 2: HTS demand for Aero in-flight connectivity by region (in Gbps)**



Source: Parties, Response to Phase 1 RF12, 31 May 2022, Annex RF12.037 – Euroconsult 2022 demand and supply forecast, Sheet: Aero.

2.39 Evidence from each of the Parties’ strategy documents indicates that this period of growing demand is seen by both as a key opportunity to capture new business and strengthen their position in IFC (see paragraphs 8.188 to 8.212).

2.40 According to Euroconsult there were approximately 9,900 connected aircraft providing IFC services through more than 120 commercial airlines at year-end 2021, and this is expected to exceed 20,900 connected aircraft by 2031, representing 58% IFC penetration.<sup>59</sup> Similarly, the total number of connected large business aircraft is expected to grow from less than 4,500 at year-end 2021 to over 12,000 by 2031.<sup>60</sup> This expected growth is supported by the Parties’ internal documents and other third-party evidence.<sup>61</sup>

2.41 To understand how demand for IFC services in commercial aviation may evolve over the next few years, we asked airlines to provide details of their procurement plans for IFC services over the period October 2022 to

<sup>59</sup> Parties, [Initial Submission, Part I Commercial Aviation](#), 25 November 2022, Annex ISCA.001, July 2021, pages 9 and 19.

<sup>60</sup> Parties, [Initial Submission Part II Business Aviation](#), 25 November 2022, paragraph 46.

<sup>61</sup> Inmarsat, Response to the Phase 1 second section 109 Notice, 2 November 2022, Annex 5.19, [REDACTED]. Viasat, Response to the Phase 1 third section 109 notice, 1 July 2022, Annex 21, [REDACTED], Viasat notes that the market is [REDACTED]. In addition, most commercial airlines and all business aircraft operators and VARs that responded to the CMA’s questionnaire indicated that demand for IFC is expected to increase, driven by passengers’ growing expectation for similar connectivity in the air as on the ground – often for free – including for internet browsing, social media, and more data-intensive applications like video streaming.

December 2024.<sup>62</sup> We received information from five airlines, regarding 9 tenders which we consider relevant for flights to and from the UK.<sup>63</sup>

- 2.42 Our analysis (which includes those 9 tenders) shows that these five airlines plan to procure IFC for more than 400 aircraft in total in the period up to December 2024. These tenders cover a mix of narrow and widebody aircraft and line and retro-fit installations (of both new and in-service aircraft).<sup>64</sup>
- 2.43 We consider that the actual number of tenders in the period October 2022 to December 2024 is likely to be higher than the number of planned tenders for which we received data. In particular, not all airlines responded to our questionnaire (see Appendix C for more detail on our approach to gathering evidence from airlines) and two that did respond told us that they plan to increase the proportion of their fleet with IFC but did not provide further details on their potential tenders/procurement activity, or were unable to provide exact timeframes for future tenders.<sup>65</sup>

### ***The importance of IFC to airlines' competitive offering***

- 2.44 The vast majority of respondents to our airline questionnaire said that they consider IFC to be important to their competitive offering,<sup>66</sup> with some (three) describing IFC as a 'hygiene factor'.<sup>67</sup> Several airlines (seven) told us that technological improvements in the wider telecommunications industry (eg home broadband, 5G) coupled with the increased use of online services at home and in the office has led to passengers increasingly expecting the same level of connectivity when flying as elsewhere.<sup>68</sup> Only a few respondents (four) told us that IFC is not currently important to their competitive offering.<sup>69</sup> All of these are low-cost carriers (**LCCs**) or have a low-cost segment in their fleet.

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<sup>62</sup> For each future tender, airlines were asked to provide the aircraft model, type of opportunity, number of aircraft, contract length, award and start of service date.

<sup>63</sup> Customer, Responses [REDACTED] to Phase 2 RFI 1, questions 4 and 7. We excluded four tenders provided by [REDACTED] as it did not operate flights to and from the UK in 2022. All other airlines in the sample operated flights to and from the UK in 2022 (including with the type of aircraft for which they plan to procure IFC).

<sup>64</sup> A customer [REDACTED] told us that it plans to retro-fit 112 new order aircraft in the relevant time period because a suitable line-fit option was not available at the time of their purchase.

<sup>65</sup> Customer, [REDACTED] Note of call, 15 December 2022, paragraph 21. Customer, [REDACTED] Note of call, 21 December 2022, paragraph 21; Customer, [REDACTED] Note of call, 12 December 2022, paragraphs 14 and 15.

<sup>66</sup> Customers, Responses [REDACTED] to Phase 2 RFI 1, question 5. All airlines that told us that IFC is important to their competitive offering have previously run at least one tender for IFC services and have IFC installed on at least part of their fleet. In line with their views on the importance of IFC, we found that respondents to our airline questionnaire generally have IFC installed (or plan to install it) on a high proportion of their aircraft – penetration rates among airlines that responded to our airline questionnaire and have IFC installed on at least some aircraft range from 31% to 100%: CMA analysis of airline responses to Phase 2 RFI 1, question 4.

<sup>67</sup> Customers, Responses [REDACTED] to the Phase 2 RFI 1, question 5.

<sup>68</sup> Customers, Responses [REDACTED] to the Phase 2 RFI 1, question 5.

<sup>69</sup> Customers, Responses [REDACTED] to the Phase 2 RFI 1, question 5; Customer, [REDACTED] Email received 15 December 2022; Customer, [REDACTED] Email received 9 December 2022 in response to the Phase 2 RFI1.

- 2.45 Several airlines told us that IFC services are less important on short-haul flights and/or narrowbody aircraft, citing lower passenger demand, high installation costs, low return on investment, and IFC equipment size/weight as reasons why.<sup>70</sup> Consistent with this, we found that all but three airlines ([REDACTED], [REDACTED] and [REDACTED]) had IFC installed on a smaller proportion of their narrowbody than their widebody fleet.<sup>71</sup> However, only three airlines (excluding LCCs) told us that they do not plan to install IFC on some (for one airline a very small number) of their narrowbody aircraft that fly short-haul routes.<sup>72</sup>
- 2.46 All respondents to our questionnaire that currently offer IFC told us they believe IFC will continue to grow in importance over the next five to ten years,<sup>73</sup> and many airlines told us they plan to expand or improve their IFC services in the next five years, either by improving their existing offer or installing IFC on more aircraft.<sup>74</sup>

### ***Development of interoperable terminals***

- 2.47 Currently each IFC supplier uses a proprietary user terminal (whether manufactured in-house or by a third party equipment supplier). This means that an airline that wants to switch supplier must ‘rip and replace’ the existing supplier’s user terminal. As discussed in paragraph 8.51, airlines told us that the costs of replacing IFC user terminals are substantial.
- 2.48 In June 2022, Airbus launched its HBCplus programme,<sup>75</sup> which will offer a supplier agnostic user terminal as both a line-fit and retro-fit option on all Airbus aircraft.
- 2.49 Airbus has developed a terminal that is compatible with GEO satellite Ka band IFC services. Airbus told us that it has already secured some customers for this terminal for aircraft deliveries scheduled for the second half of 2024.<sup>76</sup> Inmarsat is currently the only supplier available for selection through the HBCplus programme, but in October 2022 Airbus and SES announced that they had signed a letter of agreement for SES to become the second managed service provider available through the programme.<sup>77</sup> Following

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<sup>70</sup> For example, Customers, Responses [REDACTED] to the Phase 2 RFI 1, question 5. Customer [REDACTED] Note of call, 8 March 2023, paragraph 4.

<sup>71</sup> CMA analysis of Customer Responses to the Phase 2 RFI 1, question 4.

<sup>72</sup> Customers, Responses [REDACTED] to the Phase 2 RFI 1, question 4.

<sup>73</sup> Customers, Responses [REDACTED] to the Phase 2 RFI 1, question 5.

<sup>74</sup> Customers, Responses [REDACTED] to the Phase 2 RFI 1, questions 4 and 5. Two airlines told us that IFC suppliers can improve the quality of IFC they supply during the contract term, for example, by increasing capacity or improving software without having to replace hardware: Customer, [REDACTED] Note of call, 15 December 2022, paragraph 8; Customer, [REDACTED] Note of call, 7 December 2022, paragraph 12.

<sup>75</sup> [Airbus launches Airspace Link HBCplus – the flexible high bandwidth connectivity solution for airlines | News | Airbus Aircraft](#),

<sup>76</sup> OEM, Note of call [REDACTED], 23 November 2022, paragraphs 15 to 33.

<sup>77</sup> [Airbus and SES work towards first agnostic connectivity offer - Aircraft Interiors International](#)

publication of our Provisional Findings Report, SES told us that [REDACTED] its best estimate is that SES will be available for selection for [REDACTED] Airbus models through HBCplus in [REDACTED].<sup>78</sup>

2.50 Airbus is also working on a terminal that is compatible with both GEO and LEO satellite Ku band IFC services [REDACTED]. Airbus expects a Ku band solution to be available in [REDACTED]. This will be compatible with GEO and LEO satellite-based services (including hybrid services).<sup>79</sup>

2.51 Airbus explained that the technology to allow switching between Ka and Ku band is more complex than the technology to allow hybrid GEO/LEO services and that it is looking towards [REDACTED].<sup>80</sup>

2.52 [REDACTED].<sup>81</sup> [REDACTED].<sup>82</sup>

### **3. Parties and the Merger**

3.1 In this chapter we provide an overview of the Parties, the Merger and the Parties' rationale for the Merger.

#### **Viasat**

3.2 Viasat is a public company based in the United States listed on NASDAQ. Viasat's turnover in the financial year 2022 was approximately £2,205 million worldwide, of which £[REDACTED] million was generated in the UK.

3.3 Viasat is an SNO. It supplies satellite connectivity services globally for use in consumer and commercial applications. Viasat also provides communications and cybersecurity products and services to governments, and manufactures and supplies equipment (including satellites) and network technology for satellite connectivity services.

#### **Inmarsat**

3.4 Inmarsat is a private company incorporated and headquartered in the UK. Its ultimate parent company, Connect TopCo Limited, is owned by funds affiliated with Apax Partners LLP, Warburg Pincus LLC, Canada Pension Plan Investment Board, and the Ontario Teachers' Pension Plan Board, as well as members of Inmarsat's management. Inmarsat's turnover in the financial year

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<sup>78</sup> Competitor, [REDACTED] Response to RFIs, 15 April 2023 and 20 April 2023.

<sup>79</sup> OEM, Note of call [REDACTED] 23 November 2022, paragraph 26.

<sup>80</sup> OEM, Note of call [REDACTED] 23 November 2022, paragraph 26.

<sup>81</sup> [REDACTED].

<sup>82</sup> OEM, Note of call [REDACTED] 30 November 2022.

2022 was approximately £1,174 million worldwide, of which £[~~1~~] million was generated in the UK.

- 3.5 Inmarsat is an SNO that provides satellite connectivity services for government and commercial applications.

## **Merger and rationale**

- 3.6 On 8 November 2021, Viasat entered into a share purchase agreement with Inmarsat's shareholders pursuant to which Viasat agreed to acquire 100% of Connect TopCo Limited's issued share capital and therefore, indirectly, 100% of Inmarsat's issued share capital (the **Share Purchase Agreement**).<sup>83</sup>
- 3.7 The aggregate consideration agreed in respect of the Merger is valued at \$7.3 billion, comprising:
- (a) cash consideration of \$850 million; and
  - (b) approximately 46.36 million shares of Viasat common stock valued at \$3.1 billion (based on the closing price of \$67 per Viasat share on 5 November 2021 and the assumption of \$3.4 billion of net debt), representing an aggregate of 37.5% of Viasat common stock on a fully diluted basis.<sup>84</sup>
- 3.8 Completion of the Merger is conditional upon approvals from the CMA and European Commission.<sup>85</sup>

### ***Merger rationale***

- 3.9 The Parties told us the rationale for the Merger is to respond to the disruption from new NGSO operators in the satellite communications market.<sup>86</sup>
- 3.10 The Parties submitted that the Merger would achieve this by providing:
- (a) a more cost-efficient business through the combination of the Parties' complementary networks in complementary geographies; and
  - (b) a combined network of GEO satellites that will have greater capacity, broader geographic coverage and more resilience.<sup>87</sup>

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<sup>83</sup> Parties, Merger Notice, 8 August 2022, Annex 4, Share Purchase Agreement dated 8 November 2021.

<sup>84</sup> Parties, Merger Notice, 8 August 2022, paragraph 76.

<sup>85</sup> Parties, Merger Notice, 8 August 2022, paragraph 100.

<sup>86</sup> Parties, Merger Notice, 8 August 2022, paragraph 81.

<sup>87</sup> Parties, Merger Notice, 8 August 2022, paragraph 82.

3.11 The Parties' internal documents are broadly consistent with the stated rationale.<sup>88</sup>

## 4. Jurisdiction

4.1 An anticipated merger must meet the following two criteria to constitute a relevant merger situation for the purposes of the Act:<sup>89</sup>

(a) First, there must be arrangements in progress or in contemplation which, if carried into effect, would lead to two or more enterprises ceasing to be distinct; and

(b) Second, either:

(i) the UK turnover associated with the enterprise which is being acquired must exceed £70 million (the **turnover test**),<sup>90</sup> or

(ii) the enterprises that cease to be distinct must both supply or acquire goods or services of a particular description and, after the merger, together supply or acquire at least 25% of those goods or services in the UK (or in a substantial part of it). The merger must also result in an increment to the share of supply or acquisition (the **share of supply test**).<sup>91</sup>

4.2 These two limbs are considered in turn below.

### Enterprises ceasing to be distinct

4.3 The first limb of the jurisdictional test considers whether there are arrangements in progress or in contemplation which, if carried into effect, would lead to two or more enterprises ceasing to be distinct as a result of the merger.

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<sup>88</sup> See for example: Parties, Merger Notice, 8 August 2022, Annex 011.23, [redacted], July 2021, slide 14; Parties, Merger Notice, 8 August 2022, Annex 011.17, [redacted], October 2021, slide 109; Parties, Merger Notice, 8 August 2022, question 12, Annex 10.20, [redacted] (unknown date) slide 1; Parties, Merger Notice, 8 August 2022, Annex 10.11, [redacted], September 2021 slide 18 Parties, Merger Notice, 8 August 2022, Annex 10.1, [redacted], July 2022, slide 14.

<sup>89</sup> Section 23 of the Act. [Mergers: Guidance on the CMA's jurisdiction and procedure: CMA2 revised](#), paragraph 4.3.

<sup>90</sup> See [Enterprise Act 2002 \(Merger Fees and Determination of Turnover\) Order 2003](#), according to Article 2(b) 'applicable turnover' typically means the turnover of an enterprise in the preceding business year; see also paragraph 4.56 of [Mergers: Guidance on the CMA's jurisdiction and procedure: CMA2 revised](#).

<sup>91</sup> See also [Mergers: Guidance on the CMA's jurisdiction and procedure: CMA2 revised](#), paragraph 4.58, which provides that the 'share of supply test' is satisfied if the merged enterprises both either supply or acquire goods or services of a particular description, and will, after the merger, supply or acquire 25% or more of those goods or services, in the UK as a whole or in a substantial part of it.

## **The concept of ‘enterprise’**

- 4.4 Section 129(1) of the Act defines an ‘enterprise’ as ‘the activities or part of the activities of a business’.<sup>92</sup> A ‘business’ ‘includes a professional practice and includes any other undertaking which is carried on for gain or reward or which is an undertaking in the course of which goods or services are supplied otherwise than free of charge’.
- 4.5 Viasat and Inmarsat are both active in the supply of satellite connectivity services in the UK and generate turnover in the UK (see Chapter 3 above). We are therefore satisfied that each of Viasat and Inmarsat constitutes an ‘enterprise’ as defined under the Act.

## **The concept of ‘ceasing to be distinct’**

- 4.6 The concept of ‘ceasing to be distinct’ is described in section 26 of the Act. This provides that any two enterprises cease to be distinct if they are brought under common ownership or common control.
- 4.7 As set out in paragraph 3.6 above, Viasat entered into a Share Purchase Agreement with Inmarsat’s shareholders on 8 November 2021. The Merger concerns the proposed acquisition by Viasat of the entire issued and to be issued share capital of Inmarsat, and would result in Inmarsat being wholly owned by Viasat.
- 4.8 In view of the above, we found that the first element of the jurisdictional test is met, ie that there are arrangements in progress or in contemplation which, if carried into effect, would lead to two enterprises ceasing to be distinct.

## **Turnover or share of supply test**

- 4.9 The second element of the jurisdictional test seeks to establish sufficient connection with the UK on a turnover or share of supply basis.

## **The turnover test**

- 4.10 The turnover test is satisfied where the value of the turnover in the UK of the enterprise acquired exceeds £70 million.

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<sup>92</sup> [Section 129\(1\)](#) of the Act.

4.11 Inmarsat did not generate more than £70 million turnover in the UK in its most recent financial year.<sup>93</sup> As such, the turnover test in section 23(1)(b) of the Act is not satisfied.

## The share of supply test

4.12 The share of supply test is satisfied if the merging enterprises both either supply or acquire goods or services of a particular description, and will, after the merger, supply or acquire 25% or more of those goods or services in the UK as a whole, or in a substantial part of it.<sup>94</sup> There must be an increment in the share of supply as a result of the merger.

4.13 The CMA has a broad discretion to identify a specific category of goods or services supplied or acquired by the merger parties for the purposes of applying the share of supply test. It will have regard to any reasonable description of a set of goods or services to determine whether the share of supply test is met. The share of supply test is not an economic assessment of the type used in the CMA's substantive assessment.<sup>95</sup>

4.14 Both Viasat and Inmarsat supply IFC services to UK-based airlines. Based on the number of 'committed' aircraft owned by UK-based airlines,<sup>96</sup> the Parties have a combined share of supply of approximately [40 – 50]% (with an increment of approximately [0 – 5]%).

4.15 Accordingly, we found that the share of supply test in section 23 of the Act is met.

## Conclusion on the creation of a relevant merger situation

4.16 In view of the above, we have found that the Merger will result in the creation of a relevant merger situation.

## 5. Counterfactual

5.1 The CMA assesses a merger's impact relative to the situation that would prevail absent the merger (ie the counterfactual). The counterfactual is an

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<sup>93</sup> See paragraph 3.4.

<sup>94</sup> [Section 23](#) of the Act.

<sup>95</sup> [Mergers: Guidance on the CMA's jurisdiction and procedure: CMA2 revised](#), paragraph 4.63.

<sup>96</sup> Committed aircraft include both 'active' in-service aircraft in which IFC equipment has been installed and IFC services are currently active and 'backlog' aircraft for which an IFC provider has been contractually appointed but that provider's IFC equipment is not yet installed and active. UK-based airlines with committed aircraft with IFC capabilities are currently British Airways and Virgin Atlantic. Shares of supply were calculated by the CMA based on data provided by the Parties (Parties, Merger Notice, 8 August 2022, Annex 22.12, Q1 2022 - In-Flight Connectivity Tracker - Viasat (Valour Consultancy) for narrowbody and widebody aircraft).

analytical tool used in determining whether a merger gives rise to an SLC. It involves a comparison of the prospects for competition with the merger against the competitive situation without the merger. The CMA's conclusion on the counterfactual does not seek to ossify the market at a particular point in time.<sup>97</sup>

- 5.2 The counterfactual is not intended to be a detailed description of the conditions of competition that would prevail absent the merger. Those conditions are better considered in the competitive assessment.<sup>98</sup> The CMA will generally conclude on the counterfactual conditions of competition broadly – that is, prevailing or pre-merger conditions of competition, conditions of stronger competition or conditions of weaker competition.<sup>99</sup> The CMA seeks to avoid predicting the precise details or circumstances that would have arisen absent the merger.<sup>100</sup> If two or more possible counterfactual scenarios lead to broadly the same conditions of competition, the CMA may not find it necessary to select the particular scenario that leads to its counterfactual.<sup>101</sup>
- 5.3 Furthermore, as set out in the CMA's guidance, significant changes affecting competition from third parties which would occur with or without the merger (and which therefore form a part of the counterfactual) are unlikely to be assessed in any depth as part of the CMA's counterfactual assessment and will instead be considered in the competitive assessment.<sup>102</sup> This includes entry or expansion by a third party.<sup>103</sup> Likewise, where there is evidence to indicate that entry and/or expansion may be likely in reaction to any adverse effects from the merger, this will be considered in the countervailing factors part of the CMA's SLC assessment.<sup>104</sup>

## The Parties' views

- 5.4 The Parties submitted that the relevant counterfactual against which to assess the Merger is the prevailing conditions of competition. The Parties submitted that the prevailing conditions of competition involve disruption and transformational expansion in the sector, with all key industry players expanding their capabilities.<sup>105</sup>

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<sup>97</sup> For example, an assessment based on the prevailing conditions of competition might reflect that, absent the merger under review, a merger firm would have continued making investments in improvements, innovations or new products. See [MAGs](#), paragraph 3.3.

<sup>98</sup> [MAGs](#), paragraph 3.7.

<sup>99</sup> [MAGs](#), paragraph 3.9.

<sup>100</sup> [MAGs](#), paragraph 3.11.

<sup>101</sup> [MAGs](#), paragraph 3.9.

<sup>102</sup> [MAGs](#), paragraph 3.10.

<sup>103</sup> [MAGs](#), paragraph 3.10.

<sup>104</sup> [MAGs](#), paragraph 3.10.

<sup>105</sup> Parties, Merger Notice, 8 August 2022, paragraph 381.

## Our assessment

- 5.5 Satellite connectivity is a dynamic sector, with both supply (see Table 1) and demand (see Figure 1 and Figure 2) expected to grow rapidly in the next few years. The sector has recently seen entry by new players with innovative technologies and substantial resources, while established providers are also responding to these threats and opportunities in various ways. This is affecting conditions of competition across all verticals, including IFC. For example:
- (a) SNOs, such as Starlink and OneWeb, have launched NGSO satellite constellations and are expanding their capabilities, including in the supply of IFC services.
  - (b) Other firms, such as Telesat and Amazon, have announced plans to launch NGSO satellite constellations.
  - (c) Established GEO SNOs, including the Parties, Eutelsat, SES and Intelsat have recently launched, or have plans to launch, additional GEO satellites.
  - (d) SNOs and SSPs have announced plans to combine LEO and GEO technologies through mergers or other commercial partnerships. In July 2022 Eutelsat and OneWeb announced plans to merge,<sup>106</sup> and in August 2022 and October 2022 OneWeb entered into distribution partnerships with Intelsat<sup>107</sup> and Panasonic<sup>108</sup> respectively to develop hybrid (GEO/LEO) IFC services.
  - (e) Other consolidation has happened or is being explored in the sector. For example, in December 2020, Intelsat acquired Gogo's commercial aviation IFC business and became a vertically integrated supplier. In March 2023, SES announced that it was engaged in discussions with Intelsat regarding a potential combination.<sup>109</sup>
- 5.6 The evidence suggests that these trends are likely to continue. See further paragraphs 8.213 to 8.279 and Appendix D for more information on recent significant strategic initiatives undertaken by SNOs and SSPs and their future plans.

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<sup>106</sup> [Eutelsat and OneWeb to combine: a leap forward in satellite connectivity.](#)

<sup>107</sup> [Intelsat and OneWeb partnership brings multi-orbit connectivity to airlines worldwide and Eutelsat and Intelsat Sign Multi-Orbit Contract Enhancing Connectivity with OneWeb Services](#)

<sup>108</sup> [OneWeb and Panasonic Avionics Corporation to deliver low Earth orbit \(LEO\) connectivity to airlines worldwide.](#)

<sup>109</sup> [Statement by SES S.A. | SES](#)

- 5.7 Our view is that these developments would likely occur irrespective of the Merger (and as such should not be treated as a countervailing factor), but that it is unnecessary to reach precise views on the likelihood and pace of each of them in order to conclude on the counterfactual conditions of competition broadly. As such, and in line with our guidance,<sup>110</sup> we decided that while these developments form a part of the counterfactual, it was not necessary to assess them in any depth as part of our counterfactual assessment but instead we considered them where relevant in our competitive assessment.
- 5.8 In view of the above, we decided that the relevant counterfactual against which to assess the Merger is the prevailing conditions of competition.

## **6. Framework for assessment and our evidence base**

### **Theories of harm**

- 6.1 Theories of harm describe the possible ways in which an SLC may be expected to result from a merger and provide the framework for analysis of the competitive effects of a merger.
- 6.2 We have considered two theories of harm in our assessment, namely whether the Merger may be expected to result in an SLC as a result of horizontal unilateral effects in the markets for:
- (a) the supply of broadband IFC services to commercial airlines, and
  - (b) the supply of broadband IFC services to business aircraft operators.
- 6.3 While we have found that these markets are global (see the section on market definition below (paragraphs 7.26 to 7.33)), in our competitive assessment we have focused on competitive dynamics affecting flights to and from the UK.

### ***Horizontal unilateral effects***

- 6.4 Horizontal mergers combine firms that are currently active, or would be active in the future (absent the merger), at the same level of the supply chain and that compete to supply products or services that are substitutable for each other.<sup>111</sup>
- 6.5 Unilateral effects can arise in a horizontal merger when one firm merges with a competitor that would otherwise provide a competitive constraint, allowing

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<sup>110</sup> MAGs paragraphs 3.9, 3.10 and 4.16. See also paragraph 5.3 above.

<sup>111</sup> MAGs, paragraph 2.15.

the merged entity profitably to raise prices or degrade non-price aspects of its competitive offering (such as quality, range, service and innovation) on its own and without needing to coordinate with its rivals. Unilateral effects giving rise to an SLC can occur in relation to customers at any level of a supply chain, for example at a wholesale level or retail level (or both) and is not limited to end consumers.<sup>112</sup>

- 6.6 Our assessment of mergers is forward-looking and we therefore seek to account for the future evolution of competitive conditions when assessing a merger.<sup>113</sup> This includes developments in the merger parties' competitive offering and the competitive offering of third parties.
- 6.7 In order to investigate the horizontal unilateral effects theories of harm identified above, we considered the closeness of competition between the Parties and the strength of the constraints exerted by their established and emerging rivals. In our assessment, we considered the extent of competition between the Parties and their rivals over short-term competitive variables (price and non-price aspects of their offerings, which are typically flexed on an ongoing basis) and longer-term variables (such as innovation/product development, which are set as part of long-term investment decisions).
- 6.8 When assessing the constraint on the Parties from emerging or expanding rivals, we considered both:
- (a) any constraint that these rivals might exert before entry or expansion as a result of the threat of their entry or expansion (also referred to as 'dynamic competition' in the CMA's guidance),<sup>114</sup> and
  - (b) any constraint that these rivals might exert in the future following entry or expansion (also referred to as 'future competition' in the CMA's guidance).<sup>115</sup>
- 6.9 Firms may use different levers to respond to the threat of entry and expansion than to actual entry or existing competition. For instance, firms may respond to the threat of entry or expansion by using investment and innovation to protect their profits in the long-run from potential threats, whereas they may be more likely to flex pricing in response to competition from existing competitors.<sup>116</sup>

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<sup>112</sup> MAGs, paragraph 4.1.

<sup>113</sup> MAGs, paragraph 4.16(b).

<sup>114</sup> MAGs, paragraph 5.3.

<sup>115</sup> MAGs, paragraph 5.2.

<sup>116</sup> MAGs, paragraph 5.24.

- 6.10 Future competition can be relevant in two broad scenarios when assessing the constraints that a merged entity will face:
- (a) Entry or expansion triggered by the merger. In this scenario, the CMA will consider the extent to which such entry or expansion would replace the constraint eliminated by the merger. This is assessed as a countervailing factor. The CMA will seek to ensure that the evidence is robust when confronted with claims of entry or expansion being timely, likely and sufficient to prevent an SLC from arising.<sup>117</sup>
  - (b) Entry or expansion that would have occurred irrespective of the merger. In such circumstances, even though such entry or expansion would form part of the counterfactual, the CMA will often consider such entry or expansion as a constraint on the merged entity in its competitive assessment.<sup>118</sup> As explained at paragraph 5.7 above, our view is that entry and expansion by competing operators would occur irrespective of the Merger and should be taken into account where relevant in our competitive assessment rather than as countervailing factors.
- 6.11 We considered that in order to reach a conclusion on whether the Merger may be expected to result in an SLC in this case it was appropriate to assess the effects of the Merger on competition over the next few years.
- 6.12 Given the forward-looking nature of our review, as well as the fast-changing nature of these markets, we considered it important to take account of how competition in the relevant markets is likely to evolve (including closeness of competition between the Parties and the strength of the constraint from both established and emerging rivals) in the future.<sup>119</sup>
- 6.13 We considered, however, that it was appropriate to limit our competitive assessment to the next few years in this case. In particular, when looking at the impact of entry and expansion from rivals on the constraint faced by the Merged Entity, we considered that any impact from entry or expansion that would not manifest itself within a few years would not be sufficiently timely to be relevant to our assessment of the loss of competition resulting from the Merger.<sup>120</sup> Having regard to upcoming tenders for IFC and the frequency with

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<sup>117</sup> MAGs, paragraph 8.30. The CMA is likely to place greater weight on detailed consideration of entry or expansion and previous experience of entry and expansion (including how frequent and recent it has been).

<sup>118</sup> For example, a merger may be characterised as reducing the number of existing competitors from two to one. To the extent the CMA finds evidence that a rival would have entered absent the merger, the merger may be characterised as reducing the number of competitors from three to two. In this scenario, the merger may be concerning even if the entrant was broadly equivalent to the firm eliminated by the merger – unlike where entry is triggered by the merger.

<sup>119</sup> MAGs, paragraphs 2.10, 3.15 and 8.33.

<sup>120</sup> See by analogy paragraph 8.33 of the MAGs.

which contracts for IFC are contested more generally, we considered that a significant loss of competition over that time horizon would be sufficient to reach the SLC standard, even if beyond that time horizon the Merged Entity might face more significant constraints from rivals as a result of entry and expansion.<sup>121</sup>

- 6.14 Conversely, we considered that the constraint arising from entry and expansion that would manifest itself within a few years should be taken into account in determining whether the loss of competition resulting from the Merger would be substantial.
- 6.15 While all merger assessments are prospective, there can be a higher degree of uncertainty in some markets, such as those characterised by potentially significant changes in competitive conditions. In particular, there is necessarily a degree of uncertainty when assessing the outcome of the investments and expansion efforts made by the merging parties and their competitors. However, this uncertainty does not preclude us from taking account of these market developments in our assessment of the impact of the Merger. All mergers are assessed on a case-by-case basis, and there is no special elevated evidential standard for assessing changes in future competitive conditions: the statute requires us to decide whether, overall, we expect (ie more than 50% chance) that an SLC will arise having regard to the totality of the evidence available to us.<sup>122</sup>
- 6.16 Further, it is not necessary in order to answer this statutory question to assess whether this evidential threshold is met at each step of the analytical process.<sup>123</sup> For example, in our assessment of the possible expansion of established and emerging competitors in the relevant markets, we consider it unnecessary to reach precise conclusions with respect to the pace, scale and impact on the Merged Entity of such expansion, but instead make an overall assessment based on all available evidence.

## Overview of evidence base

- 6.17 We have gathered and taken account of a wide range of evidence to assess the impact of the Merger including:

(a) *Submissions from the Parties*: we have considered the Parties' submissions, responses to our informal and formal requests for

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<sup>121</sup> Also we do not consider, in view of the specific facts of this case and the fast-changing nature of the relevant markets, that we could formulate an expectation (i.e. a more than 50% chance) on whether the Merger will result in an SLC on the basis of events that are not expected to manifest themselves within the next few years.

<sup>122</sup> MAGs, paragraph 2.10.

<sup>123</sup> MAGs, paragraph 2.32.

information, and information provided at site visits and the Main Party Hearings;

- (b) *Parties' internal documents*: we have gathered over 1 million internal documents from the Parties. These include:
  - (i) internal strategy documents produced for the senior management and/or boards of each Party;
  - (ii) internal documents relating to the Parties' future plans;
  - (iii) internal documents produced in connection with upcoming tenders for IFC, including documents that assess potential rivals, bidding strategy and responses to feedback from airlines;
- (c) *Evidence from airlines*: we have received evidence from airlines accounting for 80% of flights to and from the UK, including evidence on recent tenders, responses to questionnaires, written submissions and oral evidence. Please see Appendix C for a description of the airlines that we have gathered evidence from;
- (d) *Evidence from SNOs and SSPs*: we have received evidence from 14 SNOs and SSPs, including written submissions, oral evidence, and responses to informal and formal requests for information and documents (including internal documents relating to strategy and future plans);
- (e) *Evidence from OEMs*: we have gathered evidence from the two leading commercial aircraft OEMs (Boeing and Airbus) and from two business aircraft OEMs (Embraer and Bombardier);
- (f) *Share of supply data*: we have considered share of supply data produced by third party industry analyst Valour Consultancy; and
- (g) *Evidence from regulators*: we have obtained evidence in writing and orally from Ofcom and the CAA.

## Our assessment of the evidence

- 6.18 We have considered the totality of the evidence that we have received during our investigation in the round. Within this context, we considered what weight to give to the evidence we had collected.<sup>124</sup>
- 6.19 The relevant markets that will be affected by the Merger are expected to see potentially significant changes in competitive conditions over the next few years. As a result, in order to assess the impact of the Merger over the next few years, we needed to consider how market conditions, including competition between the Parties and the strength of competitive constraints on the Merged Entity, would likely evolve over that time horizon. Within this context, the Parties' and rivals' internal documents and statements made to the CMA in the course of this investigation regarding their strategy and future plans, and their assessment of how competitive conditions are evolving, were an important source of evidence.
- 6.20 When deciding what weight to attach to the evidence we have obtained, including these internal documents and statements, we have taken into account the context in which they were created and provided to the CMA, including the interests and incentives of the Parties and third parties in view of the direct economic or strategic impact that the outcomes of this merger investigation could have on them.
- 6.21 In relation to internal documents, in line with our guidance,<sup>125</sup> where internal documents support claims being made by the Parties or third parties, in deciding what weight to attach to these we considered whether they were generated prior to the period in which the Parties were contemplating the Merger, and the period in which third parties were aware of the Merger and our Provisional Findings Report.
- 6.22 In relation to statements and submissions, we took care to interpret them in their context, looking for corroboration from other evidence wherever possible and taking particular care where there is plausible contradictory evidence.
- 6.23 We set out more details on the evidence that we have gathered, how we have used it and the weight we have attached to it in our competitive assessment.

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<sup>124</sup> In attaching weight to different pieces of evidence, there is no set hierarchy between quantitative evidence (for example consumer surveys or statistical analysis) and qualitative evidence (for example internal documents or the statements or conduct of market participants), and we may attach greater weight to one or the other as appropriate in the circumstances and depending on our assessment as to the relative quality of such evidence.

<sup>125</sup> [MAGs](#), paragraph 2.29.

## 7. Market definition

### Introduction

- 7.1 This Chapter examines the relevant markets for the assessment of the Merger. Where the CMA makes an SLC finding, this must be ‘within any market or markets in the UK for goods or services’.<sup>126</sup> An SLC can affect the whole or part of a market or markets.
- 7.2 The purpose of market definition is to provide a framework for the analysis of the competitive effects of a merger. Identifying the relevant market should be seen as part of the analysis of the competitive effects of the merger (as set out in Chapter 8) rather than as a separate exercise.<sup>127</sup> The boundaries of the defined markets do not determine the outcome of our analysis of the competitive effects of a merger in a mechanistic way. We may, for example, take into account constraints outside the relevant market, segmentations within the market, or other ways in which some constraints are more important than others.<sup>128</sup>
- 7.3 We will also consider ongoing dynamics when defining markets where competitive conditions are expected to evolve. A relevant market should capture the most significant existing competitive constraints as well as those expected to emerge in the future. Where customer demands are changing, or suppliers are developing new capabilities (as we consider to be the case for satellite connectivity services, including IFC services, over the next few years),<sup>129</sup> historical evidence such as customer switching or characteristics of existing products may be of limited value in defining markets for the purposes of assessing the impact of a merger going forward.
- 7.4 In the remainder of this Chapter, we first consider the relevant product market. We then discuss the relevant geographic market.

### Product market

- 7.5 The Parties referred to previous decisions in the sector where the European Commission and the CMA considered several possible segmentations of the satellite connectivity supply chain.<sup>130</sup> These include segmentation based on (i)

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<sup>126</sup> Section 36(1)(b) of the Act.

<sup>127</sup> MAGs, paragraph 9.1.

<sup>128</sup> MAGs, paragraph 9.4.

<sup>129</sup> See further paragraphs 8.192 to 8.279.

<sup>130</sup> Parties, Merger Notice, 8 August 2022, paragraph 386. The Parties submitted that the European Commission has thus far always left open the precise definition of the market as it has not been necessary to define the market to reach a conclusion in prior cases.

the level of the supply chain (ie distinguishing between SNOs, SSPs and resellers), (ii) whether the user terminal is fixed (for example in a consumer residence) or mobile (for example on an aircraft), and (iii) whether connectivity is being used for land-based, maritime, or aeronautical applications.<sup>131</sup>

7.6 In this case, we consider that it is appropriate to assess the overlap between the Parties' activities at the SSP level of the supply chain. Although the Parties also overlap at the SNO level, each Party uses its satellite capacity to supply IFC (the area of focus in our investigation) captively and the Parties' activities at the wholesale level do not overlap materially.<sup>132</sup> We have considered the impact of the Parties' vertical integration (ie their ownership of the satellites they use to supply IFC) on their competitiveness in our competitive assessment.

7.7 In view of the above, the starting point for our assessment is the services provided by the Parties at the SSP level, ie the supply of IFC services to commercial airlines and business aircraft operators.

7.8 The Parties submitted that:

- (a) Satellite-based broadband IFC services compete with non-satellite based broadband services (ie ATG and hybrid solutions); and
- (b) the supply of IFC should be further segmented between (i) broadband and narrowband and (ii) commercial and business aviation.<sup>133</sup>

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<sup>131</sup> In the [Connect Bidco / Inmarsat](#) decision, the CMA considered it appropriate to distinguish between the supply of two-way satellite communications for fixed and mobile applications and between each level of the supply chain (ie, SNO, SSP, and VAR). It considered any differences between land-based, aeronautical, and maritime applications when assessing closeness of competition (paragraph 7.7).

<sup>132</sup> Parties, Merger Notice, 8 August 2022, paragraphs 514 to 515. [REDACTED] whereas [REDACTED]. In its response to the Provisional Findings Report, a competitor [REDACTED] submitted that the CMA's assessment falls short of fully recognising the ability and incentive of the Merged Entity to foreclose access to the upstream market, including access to Ka capacity and orbital slots including in the aviation and maritime verticals. Competitor [REDACTED] Response to Provisional Findings, 20 March 2023. We note that none of the Parties' main existing or emerging rivals in the supply of IFC (Panasonic, Intelsat, Anuvu or Starlink) rely on access to satellite capacity from either Party to supply IFC services. We therefore do not consider that the Merger gives rise to any risk of foreclosure that could lead to competitive harm downstream. We have considered the Parties' vertical integration, including their ownership of satellites (and by extension the orbital slots on which those satellites rely) in assessing how closely they compete (see paragraphs 8.336 to 8.366) and have also considered their rivals' access to capacity (either owned or sourced from third parties) in assessing their competitive strength (see paragraphs 8.369 to 8.503). As noted in paragraph 8.22, overall customers did not express a strong preference for Ka band over Ku band services. As explained in our Annotated Issues Statement, we have focused our assessment on the effect of the Merger in the aviation vertical. At Phase 1 the CMA found that the Parties were not close competitors in the maritime vertical and were unlikely to have become so absent the Merger. We also found that while Inmarsat is well-established in providing satellite connectivity services to maritime customers, Viasat only recently started supplying connectivity services to maritime customers (and Viasat does not supply satellite capacity to Inmarsat's rivals in the maritime vertical). We therefore consider it unlikely that the Merger would give rise to a foreclosure risk in the maritime vertical.

<sup>133</sup> Parties, Merger Notice, 8 August 2022, paragraphs 626 to 634.

7.9 In this section, we first consider these submissions, and therefore whether we should consider separately (i) the supply of broadband IFC services to commercial airlines and (ii) the supply of broadband IFC services to business aircraft operators. We then consider whether these services should be further segmented (for example, to take account of the differences in the certification and installation processes for IFC services on different types of aircraft).

### ***Satellite vs other technology***

7.10 The Parties submitted that satellite-based broadband services compete with non-satellite based broadband services, including ATG and hybrid services, and therefore that satellite-based and non-satellite-based IFC services should be considered in the same market.<sup>134</sup>

7.11 Customers that responded to our questionnaires told us that they regard satellite-based services and ATG based services as alternatives.<sup>135</sup> We therefore have found that ATG and satellite-based services belong to the same market. We note however that there are certain significant differences between ATG and satellite-based services. In particular, ATG services only provide coverage over land and near the coast, as they need to be in proximity of a ground station. This affects the types of opportunity for which these services are competitive. We have taken these differences into account in our competitive assessment.

### ***Broadband vs narrowband***

7.12 The Parties submitted that narrowband and broadband connectivity services should be considered separately due to the limited demand-side substitutability between them.<sup>136</sup> The Parties also submitted that narrowband suppliers are largely different to broadband suppliers.<sup>137</sup>

7.13 We agree with the Parties' submissions and consider that broadband and narrowband IFC services are not substitutable given that they each serve different customer needs (eg broadband has more bandwidth and is used for more data-intensive applications; narrowband, by contrast, can use lower frequencies that are less susceptible to signal interference and is used for less data-intensive tasks where resilience is critical).<sup>138</sup> The Parties do not

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<sup>134</sup> Parties, Merger Notice, 8 August 2022, paragraphs 642 to 644.

<sup>135</sup> Customers that responded to the CMA's questionnaire considered ATG/hybrid networks to be alternatives to satellite-based broadband solutions (see responses to commercial and business aviation questionnaires).

<sup>136</sup> Parties, Merger Notice, 8 August 2022, paragraph 633.

<sup>137</sup> Parties, Merger Notice, 8 August 2022, paragraph 633.

<sup>138</sup> Parties, Merger Notice, 8 August 2022, paragraphs 401 to 405.

overlap in the supply of narrowband IFC services and so our competitive assessment focusses on the supply of broadband IFC services.<sup>139</sup>

### **Commercial vs business aviation**

- 7.14 The Parties submitted that commercial and business aviation should be distinguished on the basis that: (i) the European Commission has considered distinguishing commercial and business aviation in the context of in-flight entertainment (**IFE**) services,<sup>140</sup> (ii) the nature and identity of customers is different, (iii) the IFC providers to each type of customer are different, (iv) the relationship between IFC suppliers and commercial airlines is more direct,<sup>141</sup> (v) industry reports distinguish commercial and business aviation, (vi) flight routes and expected coverage differ, (vii) aircraft types differ, and (viii) the services requested by customers vary.<sup>142</sup>
- 7.15 The Parties' internal documents show that they set their strategy and assess conditions of competition separately for commercial and business aviation.<sup>143</sup> There are also differences in the requirements of these customers and the identity and relative strengths of the providers serving them.<sup>144</sup> We therefore consider that the supply of IFC services to commercial aviation customers (ie commercial airlines) should be assessed as a separate product market to the supply of IFC services to business aviation customers (ie business aircraft operators, including both operators that manage fleets of aircraft for their customers' use and individual and corporate owners that operate their own business aircraft).
- 7.16 Therefore, for the purposes of our competitive assessment, we consider separately (a) broadband IFC services to commercial airlines, and (b) broadband IFC services to business aircraft operators. In the next subsections we consider whether these two product markets should be further segmented.

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<sup>139</sup> Unless otherwise stated, any references to 'IFC' in this final report will relate to broadband IFC rather than narrowband IFC.

<sup>140</sup> [LG Electronic / Lufthansa](#), paragraph 27. While the segmentation was confirmed by the investigation, the precise scope of the market was left open. Parties, Merger Notice, 8 August 2022, paragraph 627.

<sup>141</sup> Parties, Merger Notice, 8 August 2022, paragraph 628. The Parties noted that in business aviation suppliers negotiate more with OEMs, MROs and VARs than with end customers.

<sup>142</sup> See also [Parties, Phase 2 Initial Submission - Part II Business Aviation](#), 25 November 2022, paragraphs 3 to 5.

<sup>143</sup> For example, Viasat, Response to phase 2 s.109 Notice, 4 November 2022, Annex VA\_S.109.1\_004 [REDACTED] presents two separate and distinct analyses of the commercial aviation and business aviation segments [REDACTED]. Similarly, Inmarsat, Response to phase 2 s.109 Notice, 6 January 2023, Annex 1.178 [REDACTED] presents separate financial analysis for the commercial aviation and business aviation segments [REDACTED].

<sup>144</sup> For example, as set out in Parties, Merger Notice, 8 August 2022, paragraph 628.

## **Broadband IFC services to commercial aviation customers**

### *Parties' submissions*

7.17 The Parties submitted that there are differences between the supply of IFC for aircraft used for short-haul and long-haul flights respectively. This said, the Parties submitted that the competitive effects analysis would be the same whether these are regarded as two separate markets or two segments within an overall IFC market.<sup>145</sup>

### *Our assessment*

7.18 Airlines operate different types and models of aircraft depending on their commercial operations and the routes they cover.<sup>146</sup> Narrowbody aircraft are typically used for short-haul flights and therefore generally only require regional coverage, whereas widebody aircraft are typically used for long-haul flights, and are therefore more likely to require multi-regional or global coverage.<sup>147</sup> Different models of aircraft also require different certifications.<sup>148</sup> The certifications required also vary depending on how the airline intends to install the equipment (line-fit or retro-fit).<sup>149</sup>

7.19 This means that some IFC suppliers may be relatively stronger or weaker than others depending on the particular opportunity (eg depending on the aircraft type and model, whether the opportunity is for line-fit or retro-fit and the expected routes for the aircraft). However, we note that a single opportunity can cover multiple aircraft types (narrowbody/widebody) and models, as well as both line-fit and retro-fit installations (see paragraph 8.7), many suppliers are active across multiple segments and in practice bid for a wide range of opportunities (see paragraphs 8.134 to 8.141 and Appendix E), the user terminal is the same across aircraft types and models,<sup>150</sup> and customers consider broadly the same factors when selecting a supplier regardless of the type of opportunity (paragraph 8.23).

7.20 As such, we have found that the relevant product market for the purposes of our competitive assessment is the supply of broadband IFC services to

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<sup>145</sup> See for example, Parties, Phase 2 [Initial submission Part I Commercial Aviation](#), 25 November 2022, paragraph 275.

<sup>146</sup> Airlines typically use narrowbody aircraft to fly short to medium-haul routes and widebody aircraft to fly long-haul routes. Based on data from FlightAware for April 2022, 99% of intracontinental European short-haul flights and 98% of European intercontinental short-haul flights were operated by narrowbody aircraft, whereas 99% of European intercontinental long-haul flights were operated by widebody aircraft (see Parties, Response to the Phase 1 Issues Letter, 12 September 2022, paragraph 98(ii)).

<sup>147</sup> Customers, Responses to the Phase 1 commercial aviation customer questionnaires.

<sup>148</sup> See paragraph 2.24.

<sup>149</sup> See paragraphs 2.26 to 2.31.

<sup>150</sup> There are differences for smaller aircraft used for business aviation, which are not considered here.

commercial airlines without further segmentation, but we have considered differences between the relative strength of suppliers for particular types of opportunity, where relevant, in our competitive assessment. We consider geographic coverage below in our discussion of the geographic market.

### ***Broadband IFC services to business aircraft operators***

#### *Parties' submissions*

7.21 The Parties submitted that the business aviation market could be segmented into large and small business aircraft.<sup>151</sup>

### **Our assessment**

7.22 'Large' business aircraft include 'Bizliner' jets (which are repurposed short-haul commercial aircraft such as the Boeing 737 and the Airbus A320), 'Large Cabin' jets and 'Super Midsize Cabin' jets. 'Small' business aircraft include 'Midsize Cabin', 'Small Cabin', 'Very Light Jets' and 'Turboprops'.

7.23 As the antennae on small aircraft need to be smaller than those on large aircraft, the set of suppliers available to customers is different. We therefore consider it appropriate to assess the effects of the Merger on the supply of IFC to large business aircraft and small business aircraft separately. The Parties only overlap in the supply of IFC to large business aircraft as the Parties' antennae are currently too large to fit on small business aircraft.<sup>152</sup> We therefore only consider large business aircraft in our competitive assessment.

7.24 As with commercial aviation, different customers use different models of aircraft and have different coverage requirements depending on their commercial operations. We consider coverage in our discussion of the geographic market below. As with commercial aviation we consider other differences, where relevant, in our competitive assessment.

7.25 As such, we have found that the relevant product market for the purposes of our competitive assessment is the supply of broadband IFC services to operators of large business aircraft without further segmentation.

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<sup>151</sup> Parties, Merger Notice, 8 August 2022, paragraphs 639 to 641.

<sup>152</sup> Parties, Merger Notice, 8 August 2022, paragraph 641. Inmarsat offers small business aircraft a narrowband cockpit service and cabin IFC solution over its global L-band satellites, while Viasat is not active in this segment.

## Geographic market

### ***Broadband IFC services to commercial airlines***

#### *Parties' submissions*

7.26 The Parties submitted that, in terms of geographic scope, there are differences in the provision of IFC services used on long-haul flights and those used on short-haul flights.<sup>153</sup>

#### *Our assessment*

7.27 As noted above, we are required to consider whether the Merger may be expected to result in an SLC within any market or markets in the UK. As such, we have sought to identify a relevant geographic market that includes the supply of IFC services to customers that use IFC for flights to and from the UK. This is because UK consumers are more likely to be affected by supply and demand for IFC services that cover these routes (typically short-haul flights within Europe and long-haul flights to and from the UK).

7.28 From a demand-side perspective, the Parties supply IFC services to some commercial airlines that operate globally and others that have a more regional focus. From a supply side perspective, some (albeit not all) suppliers operate globally and compete for both short-haul and long-haul opportunities, including those relevant to UK consumers (see paragraphs 8.134 to 8.141 and Appendix E). As such, we consider that sources of competition to the Parties across the globe, and global competitive dynamics (including entry or expansion of competitors), will be relevant to some extent to our competitive assessment.

7.29 However, we recognise that competitive dynamics (both on the demand and supply side) may vary somewhat across different geographic areas:

- (a) From a demand-side perspective, the geographic coverage required by commercial airlines will depend on the specific routes they fly. For example, airlines that only fly short-haul flights from the UK may only require European coverage. Other airlines that fly long-haul routes to and from the UK may require multi-regional or global coverage. Coverage requirements can also vary across airline brands within an airline group and even within an airline's fleet (for example if particular aircraft in the

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<sup>153</sup> Parties, Merger Notice, 8 August 2022, paragraphs 654 to 660.

fleet are allocated to short-haul routes and other aircraft in the fleet are allocated to long-haul routes).

- (b) From a supply side perspective, some IFC suppliers may not be able to serve certain regions due to a lack of satellite coverage in that area, although we note that suppliers (including the Parties) often source satellite capacity from third parties to fill gaps in their coverage (see paragraphs 8.59 to 8.115).

7.30 As such, while we have found that the relevant geographic market is global, in our competitive assessment we focus on competitive dynamics affecting routes to and from the UK and the strength of the competitive constraints between the Parties and rival suppliers to serve customers flying such routes.

### ***Broadband IFC services to business aircraft operators***

#### *Parties' submissions*

7.31 The Parties submitted that the appropriate geographic frame of reference is global because the flexibility to deploy business aircraft on long-haul routes is an important part of their value proposition and they do not flex pricing regionally.<sup>154</sup>

#### *Our assessment*

7.32 As with commercial aviation, the coverage required by a business aircraft operator depends on the routes it intends to fly. As such, we note that some IFC suppliers may be better positioned to supply some customers than others. This said, we consider that it is appropriate to treat the provision of broadband IFC services to large business aircraft as a single global market given that some customers require global coverage. We consider differences in the coverage and services offered by the Parties and their rivals (including any regional differences) in our competitive assessment.

7.33 As with commercial aviation, we have focused our competitive assessment on the supply of IFC services most likely to impact UK customers. This means our assessment of the potential effects of the Merger has a particular focus on large business aircraft that are used (or most likely to be used) by UK consumers and businesses.<sup>155</sup>

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<sup>154</sup> Parties, Merger Notice, 8 August 2022, paragraphs 661 and 664.

<sup>155</sup> Parties, Merger Notice, 8 August 2022, paragraph 864.

## **Conclusion on market definition**

7.34 For the reasons set out above, we have decided that the relevant markets for the assessment of the Merger are:

- (a) the global supply of broadband IFC services to commercial airlines; and
- (b) the global supply of broadband IFC services to operators of large business aircraft.

## **8. Horizontal effects in the supply of broadband IFC services to commercial airlines**

### **Nature of competition**

8.1 In this section, we provide an overview of the nature of competition in the supply of broadband IFC services to commercial airlines, including:

- (a) how competition takes place;
- (b) the key parameters over which suppliers compete; and
- (c) how customer (airline) behaviour might affect which suppliers compete with one another.

8.2 As noted above, our assessment of the potential effects of the Merger is focussed on competitive dynamics affecting routes to and from the UK and the strength of the competitive constraints between the Parties and rival suppliers to serve customers flying such routes, although we consider that global competitive dynamics are relevant to our assessment to some extent.

8.3 In line with the above, this section draws on evidence we have gathered from airlines serving a wide range of short, medium, and long-haul routes both within and outside of the UK (see Appendix C for more detail on our approach to gathering evidence from airlines).

## ***How competition takes place***

### *The competitive process*

- 8.4 Contracts to supply IFC services are often awarded to suppliers through tenders. Only four airlines told us they had awarded a contract directly to an IFC supplier without running a competitive process.<sup>156</sup>
- 8.5 Evidence we collected from airlines on recent concluded tenders shows that airlines typically invite multiple IFC suppliers to bid on their contracts and that they typically receive multiple bids (see paragraphs 8.133 to 8.154). By doing so, airlines can foster competition between IFC suppliers in order to obtain better contract terms.
- 8.6 As part of a tender, airlines typically send suppliers a request for a proposal (RFP) specifying, among other things:
- (a) the number and model/type of aircraft on which they wish to install IFC;
  - (b) whether the tender is for line-fit and/or retro-fit installation; and
  - (c) any specific technical and/or commercial requirements.<sup>157</sup>
- 8.7 A single tender can cover multiple aircraft models and aircraft types (narrowbody/widebody), as well as both line-fit and retro-fit installations. The tender process itself is typically very detailed, taking around six to 12 months to complete, and often involves multiple rounds of submission and evaluation of proposals, including negotiations over the final contract terms with the chosen supplier.<sup>158</sup>
- 8.8 The evidence we have gathered shows that suppliers are not typically aware of exactly who they are competing with and on what terms. An airline told us that in a past tender, although it had ruled out certain (specifically LEO-based) suppliers early in the process, it believed expectations that they would bid placed competitive pressure on the Parties, resulting in a better deal for the airline.<sup>159</sup>
- 8.9 The evidence we received also suggests that airlines are generally sophisticated customers that are highly engaged with the IFC market and

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<sup>156</sup> Customers, [REDACTED] Responses to the Phase 2 RFI 1, question 6, and Customer, [REDACTED] Email received 31 January 2023.

<sup>157</sup> Customers, Responses to the Phase 2 RFI1, questions 8 and 9.

<sup>158</sup> Customers, Responses to the Phase 2 RFI1, question 8. Three respondents to our airline questionnaire provided a detailed description of their procurement process: [REDACTED]

<sup>159</sup> Customer [REDACTED] Phase 2 Note of call, paragraphs 52 to 56.

largely up to date with market developments – many airlines told us they identify suitable suppliers to invite to tender through general market research, existing relationships/regular contacts with suppliers, or through industry events, conferences, and trade shows/fairs.<sup>160</sup> Two airlines also told us they have trialled or plan to trial emerging technologies.<sup>161</sup>

### *Pricing*

- 8.10 Pricing for IFC services is typically broken down into (i) hardware (user terminals) and installation, (ii) data charges and (iii) service / maintenance fees. When setting prices, IFC suppliers consider a range of factors, including the number and type of aircraft, the expected revenue per aircraft,<sup>162</sup> and the SLA required by the airline. As such, pricing proposals are usually bespoke for each tender.
- 8.11 In terms of pricing for data, there are several different models that IFC suppliers can use, including ‘pay as you go’, unlimited data for passengers and charging for each boarded passenger. The model used for a given tender will typically vary based on the airline’s preference (which may be indicated in the RFP) and the bid context (for example the strategic importance of the tender to the IFC supplier and/or the competitive positioning of that supplier relative to other likely participants).

### *Other contract terms*

- 8.12 Contract terms influence how frequently competition takes place to win a contract (depending on contract length and termination rights), as well as the extent to which IFC suppliers may face competitive pressure during the term of their existing contracts, for example as a result of performance-related clauses that enable airlines to terminate their contracts and/or renegotiate prices.
- 8.13 In terms of contract length, IFC contracts are typically long term (between five and ten years among all respondents to our airline questionnaire) and airlines often have renewal clauses in their contracts (this was the case for the majority (11 of 17) of respondents).<sup>163</sup> The Parties submitted that contract lengths have been decreasing, and are now typically closer to five years than ten, and provided some examples of airlines negotiating shorter contract

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<sup>160</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 8.

<sup>161</sup> Customers, [REDACTED] Notes of calls.

<sup>162</sup> [REDACTED] Viasat, response to Phase 2 RF11, 10 November 2022, questions 2 and 3.

<sup>163</sup> CMA analysis of operator responses to the Phase 2 RF11, question 9.

lengths (eg five or seven years).<sup>164</sup> A few respondents to our airline questionnaire told us they negotiate long-term contracts because of the high costs of procuring and installing equipment, and the difficulty of switching supplier once IFC equipment has been installed on aircraft.<sup>165</sup>

- 8.14 In terms of performance-related contract clauses/obligations, IFC contracts typically include SLAs –commitments from the IFC supplier regarding the level of performance it will provide during the contract.<sup>166</sup> The Parties submitted that airlines often demand contractual clauses allowing them to terminate their IFC contract during the contract term if a materially improved IFC product has become available, and their existing IFC supplier has failed to offer a comparable alternative.<sup>167</sup>
- 8.15 We received some evidence of airlines incorporating re-pricing and/or termination clauses into contracts that provide a mechanism for addressing issues with service quality, either in isolation or relative to competitors, during the contract period. Three airlines told us they can [REDACTED].<sup>168</sup> The Parties also submitted two examples of airlines acting upon clauses that either allowed them to switch to a new supplier with a materially better IFC service or to negotiate improved terms with their existing supplier,<sup>169</sup> and [REDACTED].<sup>170</sup>
- 8.16 Overall, the above evidence shows that IFC contracts are usually long-term (between five to ten years), resulting in relatively infrequent competitive interactions between suppliers to supply the same aircraft, although there are ways in which airlines may be able to put some competitive pressure on their suppliers during the term of their contract.

### ***Parameters of competition***

- 8.17 IFC suppliers offer differentiated services (eg in terms of capacity, speed, geographic coverage and commercial terms) and operate different business models (eg some are vertically integrated and own the satellites they use to supply IFC services and others source satellite capacity from third parties). As a result, airlines consider a wide range of factors when choosing an IFC supplier (paragraphs 8.59 to 8.115 describe the IFC activities of the Parties

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<sup>164</sup> Inmarsat, Main Party Hearing transcript, page 65 and Inmarsat, Additional material following Inmarsat Main Party Hearing, paragraphs 9.4 to 9.5.

<sup>165</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 9.

<sup>166</sup> Customer, [REDACTED] Response to Provisional Findings, 20 March 2023, paragraph 32 and Customer, [REDACTED] Note of call, 6 December 2022, paragraphs 20 to 21.

<sup>167</sup> Parties, Merger Notice, 8 August 2022, paragraph 785; and Parties, Parties' Phase 2 Initial submission, 25 November 2022, paragraph 295.

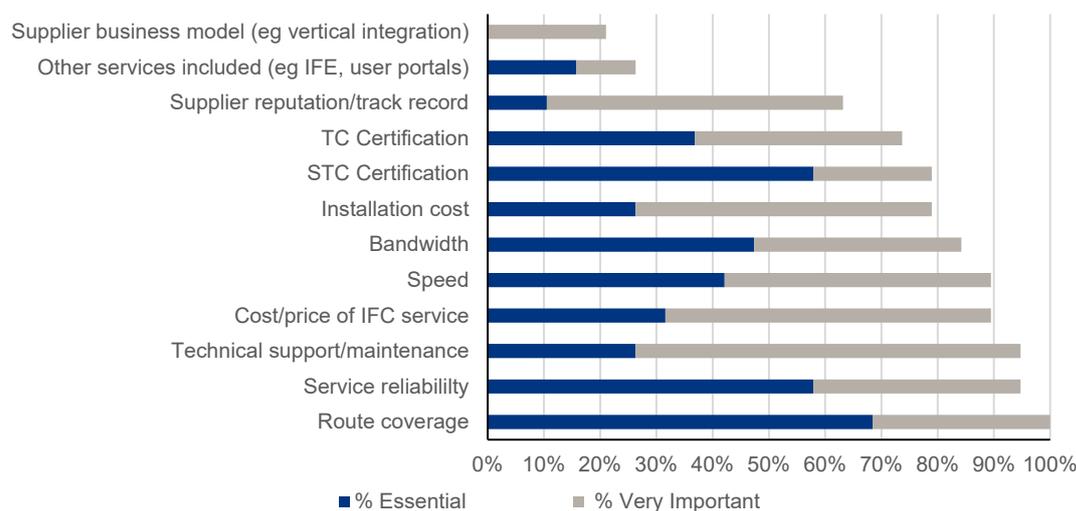
<sup>168</sup> Customer, [REDACTED] Note of call, 6 December 2022, paragraph 20; Customer, [REDACTED] Note of call, 7 December 2022, paragraphs 14 to 17; Customer, [REDACTED] Response to the Phase 2 RF12, 16 November 2022, question 21.

<sup>169</sup> Parties, Phase 2 initial submission, 25 November 2022, paragraphs 295 (i) and 295 (ii).

<sup>170</sup> Viasat, Main Party Hearing transcript, [REDACTED].

and their main rivals in detail). To better understand the importance of various competitive parameters to airlines, and therefore assess the constraint the Parties and their rivals exert on one another, we asked airlines how important a range of factors are to them when choosing an IFC supplier as part of our airline questionnaire.

**Figure 3: Choice factors and proportion of airlines rating each factor as ‘essential’ or ‘very important’**



Source: CMA analysis of third-party responses to the Phase 2 RFI1, question 12.

Notes: Respondents were asked to categorise each of the factors on the y-axis as either ‘essential’, ‘very important’, ‘important’, ‘not very important’, ‘not at all important’ or ‘I don’t know’. From top to bottom, the number of respondents for each question was: Supplier business model, Other services included, Supplier reputation/track record, STC certification, Installation cost, Bandwidth, Speed, Cost/price of IFC service, Technical support/maintenance, Route Coverage: 19; and STC certification, service reliability: 18.

8.18 Figure 3 above shows the proportion of respondents that categorised each factor we presented in our questionnaire as ‘essential’ or ‘very important’, and shows that:

- (a) The vast majority of factors scored highly with respondents, with only two factors scored as essential or very important by fewer than half of respondents.<sup>171</sup> This is consistent with airlines considering a broad range of factors when choosing an IFC supplier.
- (b) All respondents to our questionnaire said that route coverage is either essential or very important, with the majority listing a desire to provide a consistent customer experience as the factor driving this.<sup>172</sup>

<sup>171</sup> The factors which were rated less important by airlines were the business model of the IFC supplier and the other services supplied as part of the IFC service.

<sup>172</sup> Customers, Responses to the Phase 2 RFI1, question 14.

- (c) The vast majority of respondents also said that service reliability (95%), technical support and maintenance (95%), speed (89%), the cost of the IFC service (89%) and bandwidth (84%) are either essential or very important.
- (d) The majority of respondents said that installation costs (79%), STCs (79%) and TCs (74%) are either essential or very important (we cover the role of STCs/TCs in competition for IFC contracts in more detail below). The majority (63%) of respondents also said supplier reputation/track record is either essential or very important (although only 10% consider it essential).
- (e) Very few respondents said that the ability to offer other services, such as IFE or user portals (26%), or supplier business model, including vertical integration (21%) are essential or very important.

8.19 Some airlines also told us that, given the high costs associated with switching IFC suppliers and the typically long contract lengths, they also seek suppliers that will improve their offering during the contract term.<sup>173</sup>

8.20 We also asked respondents to our questionnaire whether self-supplying the satellite capacity used to provide IFC impacts a supplier's competitive strength. Many (12 of 19 that provided a response) told us being vertically integrated in this way positively impacts a supplier's competitive strength, because it allows a supplier to be more competitive on price,<sup>174</sup> have more control over its systems which can in turn impact quality (for example, the amount of throughput an aircraft can receive),<sup>175</sup> and to streamline the provision of its services.<sup>176</sup>

8.21 However, two airlines told us it was not important [REDACTED] or had to be considered alongside a wide range of other factors [REDACTED] when choosing a supplier.<sup>177</sup> Supplier business model, which included reference to vertical integration, was also rated as 'essential' or 'very important' less often by respondents to our airline questionnaire (just 21%, see Figure 3) than other factors – the majority

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<sup>173</sup> Customer, [REDACTED] Response to the Phase 2 RF11 11 November 2022, question 10; Customer, [REDACTED] Response to the Phase 2 RF11, 16 November 2022, question 11; Customer, [REDACTED] Response to the phase 2 RFI, 21 November 2022, question 11; Customer, [REDACTED] Note of Call, 7 December 2022, paragraph 12. Two airlines told us that IFC suppliers can improve the quality of IFC they supply during the contract term, for example, by increasing capacity or improving software without having to replace hardware: source: Customer, [REDACTED] Note of call, 15 December 2022, paragraph 8; Customer, [REDACTED] Note of call, 7 December 2022, paragraph 12.

<sup>174</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 16.

<sup>175</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 16.

<sup>176</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 16.

<sup>177</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 16. The remaining five airlines either did not express an opinion or did not provide an informative answer to this question.

of respondents (68%) rated supplier business model as ‘fairly important’.<sup>178</sup> We note that, consistent with this evidence, in our analysis of airlines’ recent tenders (see paragraph 8.132) we found several examples of airlines having chosen non-vertically integrated suppliers in tenders where vertically integrated suppliers also bid.<sup>179</sup>

- 8.22 As regards frequency bands, two airlines we spoke with told us there is more capacity available in Ka than in Ku.<sup>180</sup> One of these airlines also told us [REDACTED].<sup>181</sup> The other told us that new Ka satellites are about twice as powerful as Ku satellites, primarily due to the double bandwidth allocation of Ka-band versus Ku-band.<sup>182</sup> A third airline told us it typically looks at Ka band for new products because of the uplift in bandwidth and customer proposition it offers.<sup>183</sup> However, this airline explained that being a Ku supplier would not be enough to exclude a supplier from a procurement process, and that although it considers Ka band IFC services are currently better than Ku band IFC services, there is not enough of a difference between the two technologies to justify only considering procuring Ka band IFC services.<sup>184</sup> None of the other airlines that responded to our questionnaire expressed a strong preference for one over the other.<sup>185</sup>
- 8.23 While some airlines told us they weigh various factors differently depending on the type of aircraft for which IFC is being procured (eg wider coverage for widebody,<sup>186</sup> or antenna size and weight for narrowbody<sup>187</sup>), none indicated that their procurement process or the broad considerations they take into account when selecting a supplier differ depending on the type of opportunity (ie line-fit or retro-fit) or aircraft (ie narrowbody or widebody).

### ***The role of certifications in winning IFC contracts***

- 8.24 As described in paragraphs 2.26 to 2.31, there are two main types of certifications for IFC equipment: TCs for line-fit installations and STCs for retro-fit installations.<sup>188</sup> Both TCs and STCs must be obtained prior to IFC

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<sup>178</sup> Our question asked respondents to rate ‘Business model of IFC supplier (for example vertical integration)’ in order to elicit responses about how IFC services are supplied as opposed to how pricing is set (eg a supplier’s commercial model). In practice, all respondents who answered this question did so in relation to vertical integration.

<sup>179</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 7.

<sup>180</sup> Customers, [REDACTED] Phase 2 notes of calls.

<sup>181</sup> Customer, [REDACTED] Note of call, 2 December 2022, paragraph 23.

<sup>182</sup> Customer, [REDACTED] Note of call, 21 December 2022, paragraph 50.

<sup>183</sup> Customer, [REDACTED] Note of call, 7 December 2022, paragraph 44.

<sup>184</sup> Customer, [REDACTED] Note of call, 7 December 2022, paragraphs 44 and 45.

<sup>185</sup> Customers, Response to the Phase 2 RF11, question 16. We asked airlines whether the ‘Ability to offer Ku-band or Ka-band broadband connectivity capacity’ impacted the competitive strength of suppliers.

<sup>186</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 8.

<sup>187</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, questions 8 and 11.

<sup>188</sup> Parties, Merger Notice, 8 August 2022, paragraph 798.

equipment being installed on aircraft, but not necessarily prior to winning an IFC contract. This means that suppliers that do not hold the necessary certifications for the aircraft covered by a tender at the time they place their bid may be able to exert a competitive constraint on those that do.

- 8.25 The Parties submitted that certification is not a pre-condition for competing in and winning tenders, and that airlines will choose equipment that can be certified rather than equipment that is already certified.<sup>189</sup> The Parties also submitted that 21% of line-fit tender opportunities and 40% of retro-fit opportunities between 2016 and 2022 were awarded to suppliers that did not have the necessary certification at the time of contract award,<sup>190</sup> and provided several examples of themselves and competitors winning IFC contracts without the necessary certifications.<sup>191</sup>
- 8.26 Figure 3 above shows that the majority of respondents to our airline questionnaire rated certifications as either essential or very important in their choice of IFC supplier (TCs, 79%; STCs, 74%), although we note that responses to this question do not necessarily indicate that respondents consider it essential or very important for a supplier to have the certification in place at the time they award the contract.<sup>192</sup>
- 8.27 As part of our evidence gathering in Phase 2, we spoke with several airlines about their willingness to procure IFC from a supplier that does not yet have the relevant STC or TC (as applicable). We found that these airlines differed in the extent to which they perceived the lack of certification at the time of contract award as a risk and, therefore, in their willingness to award a contract to a supplier without the relevant certification. All airlines told us that they would consider a supplier without the necessary certification in certain circumstances.<sup>193</sup> Two respondents [REDACTED] and [REDACTED] told us that they would need either demonstrable plans or written confirmation that the IFC solution would be certified within the necessary timeframes.<sup>194</sup>

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<sup>189</sup> Parties, Response to the Phase 1 Issues Letter, 12 September 2022, paragraph 87. The Parties also provided examples of Viasat and Inmarsat winning tenders without the necessary certifications.

<sup>190</sup> Parties, Parties' Phase 2 initial submission, 25 November 2022, paragraphs 250 and 251.

<sup>191</sup> Inmarsat, additional material submitted following Inmarsat Main Party Hearing, 1 February 2023, paragraph 3.1 and accompanying table and paragraph 4.1 and accompanying table; and Viasat, additional material submitted following Viasat Main Party Hearing, 1 February 2023, paragraphs 1 to 7 and Table 1 to Table 3.

<sup>192</sup> Customers, [REDACTED] Responses to the Phase 2 RFI 1, question 11. In another question in our Phase 2 questionnaire, which asked more broadly about their considerations when choosing a supplier to procure IFC from, a small number of respondents (4 of 19 that provided a response) identified certification as a main consideration in their selection process.

<sup>193</sup> Customer, [REDACTED] Note of call, 7 December 2022, paragraph 30; Customer, [REDACTED] Note of call, 12 December 2022, paragraph 36; Customer, [REDACTED] Note of call, 15 December 2022, paragraph 32; Customer, [REDACTED] Note of call, 2 December 2022, paragraph 29; Customer, [REDACTED] Note of call, 21 December 2022, paragraph 26; Customer, [REDACTED] Note of call, 6 December 2022, paragraph 38.

<sup>194</sup> Customer, [REDACTED] Note of call, 7 December 2022, paragraph 30; Customer, [REDACTED] Note of call, 15 December 2022, paragraph 32.

8.28 We have also received other evidence showing that IFC suppliers have won tenders before holding the necessary TC/STC. For example:

- (a) Based on our tender sample (see Table 5), the Parties did not hold the necessary TC or STC for six out of ten of the tenders they won. Of these six tenders, three were for retro-fits and three were for line-fits.<sup>195</sup>
- (b) One airline [REDACTED] told us it was willing to award Starlink a contract [REDACTED] without an STC because it believed Starlink would be able to obtain the STC during 2023.<sup>196</sup> Starlink has been awarded a number of other contracts in the last few years to retro-fit IFC on a range of narrowbody and widebody aircraft without having the relevant STCs in place at the time of award.<sup>197</sup>
- (c) Intelsat was awarded a contract by Alaska Airlines in January 2023 to retro-fit a hybrid LEO/GEO IFC service on around 60 narrowbody Embraer aircraft, without having the relevant STC in place at the time of award.<sup>198</sup>

8.29 The evidence outlined above shows that airlines' attitude towards risk and preferences regarding the status of certifications for their chosen IFC supplier varies, and is dependent on the circumstances. While having made some progress towards obtaining the relevant certification or holding similar certifications may be advantageous for a supplier, having the relevant certification at the time of bidding is not a prerequisite for winning a tender, particularly for retro-fits. This appears to be true for emerging suppliers and/or services as well as for more established suppliers of IFC services.

### ***Airlines' decisions whether to install IFC though retro-fit or line-fit***

#### ***IFC installations on new aircraft***

8.30 IFC equipment can be installed on new aircraft by line-fit (ie installed on the assembly line by an OEM when new aircraft are being manufactured) or retro-fit (ie installed on aircraft shortly after an OEM has delivered the aircraft to the

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<sup>195</sup> CMA analysis of Competitors' responses to Phase 2 SSP and SNO RFI, question 4; Parties, Response to the Phase 2 RF11, 2 November 2022, question 4; and Customers, Responses to the Phase 2 RF11, question 6.

<sup>196</sup> Customer, [REDACTED] Email received 31 January 2023.

<sup>197</sup> These include contracts with Hawaiian Airlines (retro-fit of A320, A330, and B787 aircraft), JSX (retro-fit of E135 and E145 aircraft), and ZipAir (retro-fit of B787 aircraft): Inmarsat, additional material submitted following Inmarsat Main Party Hearing, 1 February 2023, paragraph 3.1 and accompanying table and paragraph 5.4.

<sup>198</sup> Inmarsat, additional material submitted following Inmarsat Main Party Hearing, 1 February 2023, paragraph 3.1 and accompanying table.

airline). The latter involves keeping new aircraft out of service for a period of time to install IFC before they enter into active service.

- 8.31 IFC suppliers can obtain certification for their IFC services to be installed by line-fit (ie through a TC) and/or retro-fit (ie through an STC) for each aircraft model, but do not necessarily obtain both. As a result, when an airline begins the process of procuring IFC services for new aircraft there may be some suppliers whose service is available to be line-fit and others whose service is available to be retro-fit. The extent to which the two types of installation are substitutable from the airline's perspective therefore impacts the competitive constraint retro-fit suppliers exert on line-fit suppliers (and vice versa) for new aircraft.
- 8.32 The Parties submitted that retro-fit is an important access point to the commercial aviation market, even for more established suppliers such as the Parties.<sup>199</sup> In particular, the Parties pointed to their own data which shows that roughly [REDACTED] of Viasat's and [REDACTED] of Inmarsat's tender opportunities since 2019 involved a retro-fit component, and that, to date, almost [REDACTED] of Viasat's IFC installations have been retro-fits.<sup>200</sup>
- 8.33 Airlines told us that there are several practical differences in the IFC procurement process for line-fit and retro-fit installations:
- (a) The timing of procurement for line-fits is primarily driven by OEMs' aircraft production timelines.<sup>201</sup> Evidence from airlines show that OEMs typically require notification of an airline's chosen IFC supplier 18-24 months prior to the delivery of the aircraft and that there is little to no flexibility in these timings.<sup>202</sup> Given that it can take between six and 12 months to run a tender process to select an IFC provider, an airline's search for an IFC supplier can therefore begin between two to three years before the new aircraft arrive.<sup>203</sup>
  - (b) As retro-fitting involves modifying the aircraft post-delivery, one airline told us retro-fits allow it to procure IFC at a later point in time.<sup>204</sup>

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<sup>199</sup> Parties, Response to the Phase 1 Issues Letter, 12 September 2022, paragraph 36 and Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraph 143.

<sup>200</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraph 143. We note that these proportions cover retro-fits of new and in-service aircraft and so will include retro-fits of aircraft that were built before IFC was available through line-fit.

<sup>201</sup> Customer, [REDACTED] Note of call, 2 December 2022, paragraph 7(a); and Customers, Responses to the Phase 2 RFI 1, question 13 [REDACTED].

<sup>202</sup> Eg Customer, [REDACTED] Note of call, 6 December 2022, paragraph 8; Customer, [REDACTED] Note of call, 7 December 2022, paragraph 5; Customer, [REDACTED] Note of call, 2 December 2022, paragraphs 7(a), 7(d), and 7(e).

<sup>203</sup> Eg, Customer, [REDACTED] Note of call, 2 December 2022, paragraph 7(d); Customer, [REDACTED] Note of call, 6 December 2022, paragraph 2.

<sup>204</sup> Customer, [REDACTED] Note of call, 2 December 2022, paragraph 8.

(c) A few airlines told us that their choice of IFC supplier for line-fits is more constrained relative to retro-fits, as line-fit options are determined by the aircraft OEMs.<sup>205</sup> In general, there are fewer IFC suppliers offering line-fit services than retro-fit services.

8.34 We found that respondents to our airline questionnaire were significantly more likely to have chosen to line-fit new order aircraft with IFC than retro-fit.<sup>206</sup> On average, these airlines chose to line-fit IFC on nearly three-quarters of their new order aircraft (74%).<sup>207</sup> However, we also note that airlines had taken a range of approaches – several airlines were planning to line-fit all of their aircraft, while a small number of airlines were planning to retro-fit all or a majority.<sup>208</sup>

8.35 Based on seven follow-up calls to our questionnaire (for [REDACTED] airlines), airlines' willingness to retro-fit IFC on newly delivered aircraft rather than line-fit varies. Some airlines told us they would not retro-fit IFC on newly delivered aircraft, some said it would depend on the circumstances and others were willing (and planned) to do so. Some respondents highlighted the high costs of retro-fitting new aircraft (given the opportunity cost associated with grounding newly delivered aircraft), and risks involved with modifying aircraft immediately after delivery (eg delays that mean an aircraft is grounded for longer than initially intended or that the aircraft enter into service without IFC). However, others pointed to increased options and more flexible timing available when retro-fitting, as well as the possibility of combining IFC with other post-delivery modifications to the aircraft.<sup>209</sup> One airline also told us it almost always carries out some modifications on aircraft post-delivery, and that it is possible to incorporate IFC installation into those.<sup>210</sup> Another airline told us that it would be willing to retro-fit new narrowbody aircraft post-delivery, but not widebody aircraft, as it would not be willing to operate long-haul routes without IFC given the importance of IFC to its value proposition on such routes.<sup>211</sup>

8.36 Viasat identified one example of an airline asking it to bid both retro and line-fit options as alternatives in a tender.<sup>212</sup> The Parties also submitted that while airlines might express an initial preference for a line-fit offerable IFC service, it

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<sup>205</sup> Customer, [REDACTED] Note of call, 7 December 2022, paragraph 3; Customer, [REDACTED] Note of call, 2 December 2022, Customers, [REDACTED] Responses to the Phase 2 RF11, question 8.

<sup>206</sup> 'New order' aircraft include all aircraft airlines have ordered and for which (a) IFC has already been procured or (b) for which IFC will be procured between October 2022 and December 2024.

<sup>207</sup> Based on CMA analysis of third-party responses to the Phase 2 RF11, question 4.

<sup>208</sup> Based on CMA analysis of third-party responses to the Phase 2 RF11, question 4.

<sup>209</sup> Customers, [REDACTED] Notes of calls, December 2022 – March 2023.

<sup>210</sup> Customer, Note of call, 6 December 2022, paragraph 13.

<sup>211</sup> Customer, [REDACTED] Note of call, 8 March 2023, paragraph 3.

<sup>212</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraph 354.

is not uncommon for them to consider retro-fit options as well.<sup>213</sup> In support of this, the Parties provided two examples of tenders that were initially launched as a line-fit tender but eventually changed to seek retro-fit options.<sup>214</sup>

8.37 Both airlines told us they made this decision for several reasons, including, but not solely due to, the availability of their preferred IFC suppliers as line-fit options:

(a) One airline [X] told us that it changed from a line-fit to a retro-fit because at the time of the tender it had not decided which routes the tendered aircraft would fly, and its current short-haul supplier (Inmarsat EAN) is retro-fit only. It also told us that the choice was influenced by OEM production timelines not allowing it to make a full assessment.<sup>215</sup>

(b) The other airline [X] told us that its preferred IFC option was available on a retro-fit basis only, but that delays in its tender due to the Covid pandemic meant it would not have been able to select a line-fit option anyway.<sup>216</sup>

8.38 Based on the evidence above, we consider that retro-fitting IFC on new aircraft is an alternative option to line-fit, although airlines' willingness to retro-fit new aircraft (including to take advantage of the wider pool of available IFC suppliers) varies.

#### *IFC installations on in-service aircraft*

8.39 Airlines may not have IFC installed on part or all of their fleet. For example, airlines may have aircraft that entered into service before IFC was commercially available. Airlines can choose to ground these aircraft and retro-fit them with IFC services, but may decide to wait until the aircraft reach the end of their lifecycle and line-fit or retro-fit the replacement aircraft with IFC.

8.40 Overall, airlines did not express a clear preference for one approach over the other. Four airlines ([X], [X], [X] and [X]) told us that decisions whether to retro-fit in service aircraft or wait to install IFC on replacement aircraft are driven by a number of factors including the aircraft's remaining lifespan, the high costs of IFC installation and grounding aircraft, the impact on passenger

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<sup>213</sup> Inmarsat, additional material submitted following Inmarsat Main Party Hearing, 3 February 2023, paragraph 2.1.

<sup>214</sup> Inmarsat, additional material submitted following Inmarsat Main Party Hearing, 3 February 2023, paragraphs 2.1 to 2.3 and Viasat, additional material submitted following Inmarsat Main Party Hearing, 4 February 2023, paragraphs 76 to 83.

<sup>215</sup> Customer, [X] Email received 30 January 2023.

<sup>216</sup> Customer, [X] Response to the Phase 2 RFI 2, 24 November 2022, question 1.

experience, and the impact of flying aircraft without IFC on airlines' competitiveness.<sup>217</sup>

- 8.41 Consistent with there being no clear preference between the two approaches, one respondent told us it plans to wait to line-fit replacement aircraft rather than retro-fit some of its unconnected in-service aircraft, but that it is considering installing IFC via retro-fit on others.<sup>218</sup> Another airline told us it has not decided which approach to take for installing IFC on unconnected in-service aircraft, and a number of airlines told us they plan to retro-fit at least some unconnected aircraft.<sup>219</sup>

### ***Airlines' ability and willingness to delay tenders***

- 8.42 We have considered whether airlines may delay their tenders for IFC services in order to wait for market developments that may improve their available options. The Parties submitted that this may cause IFC suppliers to face constraints from IFC services that are not yet available.<sup>220</sup>
- 8.43 Many respondents to our airline questionnaire told us that it is extremely difficult to delay tenders for line-fit opportunities, consistently noting that they have little to no flexibility over the dates by which they must inform OEMs of their choice of IFC supplier, as these are driven by the production timelines of the OEM.<sup>221</sup> Any delay in informing an OEM could result in the airline losing its slot in the production line. Given the current backlog in aircraft manufacture, one respondent told us it would not take this risk.<sup>222</sup> Several respondents also told us that line-fit installation requires airlines to start their tender several years in advance of the delivery date of their aircraft (paragraphs 8.7 and 8.33 above).
- 8.44 Although they have little flexibility to influence OEM production timelines, airlines do not necessarily have to select an IFC supplier for their entire order of new aircraft at the same time. When airlines order a large number of aircraft, OEMs manufacture them in tranches, meaning airlines can select a supplier for the first tranche of aircraft and postpone their tender for the others

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<sup>217</sup> We were told an aircraft typically has a lifecycle of between 20 and 30 years: Source: Customer, [REDACTED] Note of call, 15 December 2022, paragraph 25 and OEM, [REDACTED] Note of call, 1 June 2022, paragraph 38. One respondent told us it would not be economical to install IFC on an aircraft that has less than 5 years in-service left: Customer, [REDACTED] Note of call, 15 December 2022, paragraph 20.

<sup>218</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraphs 5 and 14; Customer, [REDACTED] Response to the Phase 2 RF12, 16 November 2022, questions 4, 5, and 13.

<sup>219</sup> Customer, [REDACTED] Response to the Phase 2 RF11, 21 November 2022, questions 5 and 13.

<sup>220</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraph 128.

<sup>221</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 13.

<sup>222</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraph 3.

until the OEM requires their decision. For example, one airline [REDACTED] told us that for a [REDACTED].<sup>223</sup>

- 8.45 In addition, while many respondents to our airline questionnaire told us that they generally have more flexibility over the timing of tenders for retro-fit installations, several told us that they generally try to combine IFC retro-fits with heavy maintenance checks or cabin mid-life upgrades given the substantial costs of grounding aircraft.<sup>224</sup> The frequency of these checks/upgrades varies significantly between airlines and from two to 12 years.<sup>225</sup>
- 8.46 The Parties submitted several examples of airlines delaying tenders for line-fit opportunities.<sup>226</sup> However, in each case the airline's decision to delay was influenced by delays in OEM production/delivery timelines.<sup>227</sup>
- 8.47 When we asked airlines to provide details of any occasions when they had decided to delay their procurement of IFC, we received a few examples where airlines had delayed tenders for retro-fit opportunities, but none for line-fit. Three respondents said they had delayed their procurement of IFC in the past. One delayed because there was no suitable IFC technology available for its small, short-haul aircraft at the time.<sup>228</sup> Another told us it delayed procuring IFC for its aircraft until it was satisfied the available technology would be of sufficient quality to support the customer experience it wanted to provide.<sup>229</sup> The third told us it sometimes delays or extends tenders to get a better understanding of the market since IFC services develop quickly.<sup>230</sup>
- 8.48 A few other airlines told us they would consider delaying tenders to wait for industry developments or emerging technologies. One respondent told us it would delay a tender if there was a new emerging technology.<sup>231</sup> Another respondent said that it might delay if there was an emerging product that was better than what is currently on offer in the market.<sup>232</sup>

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<sup>223</sup> Customer, [REDACTED] Note of call, 6 December 2022, paragraph 17.

<sup>224</sup> Customer, [REDACTED] Note of call, 15 December 2022, paragraph 23; Customer, [REDACTED] Note of call, 2 December 2022, paragraph 18; Customer, [REDACTED] Note of call, 7 December 2022, paragraph 8; Customer, [REDACTED] Note of call, 12 December 2022, paragraph 24.

<sup>225</sup> Customers, [REDACTED] Notes of calls.

<sup>226</sup> Inmarsat, additional material submitted following Inmarsat Main Party Hearing, 1 February 2023, paragraphs 6.1 to 6.4.

<sup>227</sup> Inmarsat, additional material submitted following Inmarsat Main Party Hearing, 1 February 2023, paragraphs 6.1 to 6.4.

<sup>228</sup> Customer, [REDACTED] Response to the Phase 2 RFI1, 15 November 2022, question 13; Customer, [REDACTED] Note of call, 6 December 2022, paragraph 15.

<sup>229</sup> Customer, [REDACTED] Response to the Phase 2 RFI2, 16 November 2022, question 5.

<sup>230</sup> Customer, [REDACTED] Response to the Phase 2 RFI1, 18 November 2022, question 13.

<sup>231</sup> Customer, [REDACTED] Response to the Phase 2 RFI1, 11 November 2022, question 13.

<sup>232</sup> Customer, [REDACTED] Response to the Phase 2 RFI2, 22 November 2022, question 13.

8.49 Overall, the evidence we have considered shows that for retro-fit installations airlines have a degree of flexibility to delay tenders and may be willing to do so to wait for emerging products that they expect to be superior to existing technologies.

### **Switching and multi-sourcing**

8.50 The ease with which airlines can switch between IFC suppliers or source IFC from multiple suppliers impacts the constraint the Parties and rival suppliers exert on each other. If switching is costly, an airline's existing IFC supplier will have a competitive advantage when competing for contracts to supply IFC on aircraft for which it is the incumbent supplier; if multi-sourcing is costly, an airline's existing IFC supplier will have a competitive advantage when competing for contracts to supply IFC on unconnected aircraft for the same airline.

8.51 Airlines consistently told us that switching IFC supplier is extremely costly and difficult due to the high costs of grounding aircraft and replacing equipment.<sup>233</sup> Consistent with this, we have received only two recent examples (covering four tenders) of airlines ([REDACTED] and [REDACTED]) switching from one satellite-based IFC supplier to another among the [REDACTED] airlines that responded to our questionnaire, and few examples of airlines considering switching.<sup>234</sup> These two examples of switching were also identified by the Parties, alongside a small number of examples of switching between 2016 and 2020.<sup>235</sup>

8.52 Two other airlines ([REDACTED] and [REDACTED]) provided us with details of potential switching opportunities that they eventually awarded to the incumbent supplier.<sup>236</sup> In one example, the airline [REDACTED] told us it abandoned a switching opportunity because it was not commercially viable to switch.<sup>237</sup>

8.53 Airlines can source IFC services across their fleet from one supplier or multiple suppliers. If airlines have a strong preference for sourcing from one supplier, then supplying IFC services on part of an airline's fleet would give a supplier a competitive advantage in any tenders for aircraft (either new or in-

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<sup>233</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 21.

<sup>234</sup> Customer, [REDACTED] Email received 31 January 2023 and Response to the Phase 2 RF11, 18 November 2022, question 6; Customer, [REDACTED] Email received 25 January 2023 and Response to the Phase 2 RF11, 10 November 2022, question 6.

<sup>235</sup> Parties, Phase 2 Initial submission, 25 November 2022, paragraph 295; and Parties, Phase 2 Initial submission, 25 November 2022, Annex ISCA.037. The Parties provided an additional five examples of switching opportunities. Of the five: one involved switching from L-band (ie narrowband) to Ku-band technology, one involved switching from ATG to satellite-based connectivity, and one did not result in an actual switch. The Parties also submitted several examples of airlines the Parties said have begun procurement for IFC services on aircraft with IFC already installed.

<sup>236</sup> Customers, [REDACTED] Responses to the Phase 2 RF11 question 6.

<sup>237</sup> Customer, [REDACTED] Response to the Phase 2 RF11, 15 November 2022, question 6.

service) on the remaining part of the airline's fleet. If airlines do not have a preference for single-sourcing their IFC, then IFC suppliers would not have this advantage.

- 8.54 Airlines identified various pros and cons of sourcing IFC services from one or multiple suppliers. Several airlines told us single-sourcing simplifies logistics and contributes to consistency of service across fleets.<sup>238</sup> Two respondents said this was particularly important given their small fleet size. On the other hand, a number of respondents – including some who noted the benefits of single-sourcing – told us that multi-sourcing allows them to foster competition between multiple suppliers, compare performance and prices, and get the best deal possible.<sup>239</sup>
- 8.55 In practice, many airlines that responded to our questionnaire source IFC for their fleet from multiple suppliers – almost two-thirds (16 of 25) of airlines that provided a response currently multi-source IFC.<sup>240</sup>
- 8.56 This evidence indicates that IFC suppliers have a significant incumbency advantage when it comes to aircraft on which their IFC service has been installed, given the significant costs involved in switching. However, we do not consider that being installed on part of an airline's fleet confers a material competitive advantage when competing for other aircraft in the same airline's fleet, as the evidence shows that airlines are able and willing to multi-source.

## **The Parties and their main rivals**

- 8.57 This section sets out the Parties' and their main rivals' current activities in IFC and their sources of satellite capacity for IFC.
- 8.58 We have found that there is a degree of differentiation between the Parties and their main rivals. In particular:
- (a) SSPs use a variety of sourcing models to access the satellite capacity needed to supply IFC. Viasat and Inmarsat (as vertically integrated suppliers of IFC) self-supply the large majority of their demand for satellite capacity. Although Intelsat is vertically integrated, it relies on third parties for the majority of its satellite capacity for IFC. Anuvu and Panasonic have entirely relied on third party satellite capacity for their IFC activities in the

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<sup>238</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 18.

<sup>239</sup> Customers, [REDACTED] Responses to the Phase 2 RF11, question 18.

<sup>240</sup> Based on CMA analysis of Customer responses to the Phase 2 RF11, question 17. This is based on an airline's entire fleet, and so an airline that uses different suppliers for its widebody and narrowbody fleets but single-sources for each aircraft type would be counted as multi-sourcing. However, half of the airlines who responded also multi-sourced within their widebody fleet, and around a quarter did so within their narrowbody fleet.

past. Starlink is the only rival to the Parties that intends to self-supply all its demand for satellite capacity to supply IFC.

- (b) SSPs differ in relation to other aspects of vertical integration. For example, Viasat and Starlink both currently manufacture the antennae used as part of their IFC services, whereas other SSPs work with third parties that manufacture their antennae. The Parties and their main rivals also use different arrangements to obtain certifications and other components for their IFC equipment, some doing this in-house and others relying on third parties.
- (c) The Parties are the only significant SSPs to rely on VARs in the supply of IFC to commercial airlines. Thales is a reseller of the Parties' IFC, acting for Viasat in the United States and for Inmarsat globally (predominantly on widebody aircraft), and SITAONAIR exclusively resells Inmarsat's IFC. The Parties' main rivals all supply IFC directly to commercial airlines.
- (d) There is a degree of differentiation in the IFC services offered by SSPs to commercial airlines. While many SSPs offer some types of IFE as an option to commercial airlines as part of their IFC services, only Panasonic and at least one VAR of the Parties offer IFE equipment (eg seat back monitors) to commercial airlines. There are also differences in the commercial terms offered by different suppliers.
- (e) The technologies used to supply IFC to commercial airlines differ between the Parties as well as between the Parties and other SSPs. Both Parties utilise GEO Ka-band capacity to supply IFC, with Inmarsat also offering a hybrid satellite/terrestrial service in Europe that relies on an ATG network (ie EAN). Intelsat, Panasonic, and Anuvu supply IFC using GEO Ku-band capacity. Intelsat also uses Gogo's ATG network in North America to offer IFC. Starlink is the only SSP that currently supplies IFC services using LEO satellite capacity. Intelsat and Panasonic will supply multi-orbit IFC by utilising OneWeb's LEO capacity alongside their own GEO capacity in future. Panasonic will also supply LEO-based IFC.

### **Viasat**

- 8.59 Viasat is a vertically integrated supplier of IFC (ie it owns and operates satellites). It provides satellite connectivity services across a range of verticals globally, including IFC.

## *IFC activities*

- 8.60 Viasat generated USD [X] from the supply of IFC services to commercial aircraft globally in FY2022.<sup>241</sup>
- 8.61 Viasat supplies IFC services to commercial airlines based on its Ka-band satellite network.<sup>242</sup> Viasat supplies IFC equipment as well as IFE services to commercial airlines (although IFE services are almost exclusively sold outside Europe (including the UK)).<sup>243</sup>
- 8.62 [X].<sup>244</sup> [X].
- 8.63 Viasat's offering in IFC includes:
- (a) IFC, which is based on Ka-band satellite capacity that Viasat self-supplies and sources from third parties.<sup>245</sup>
  - (b) IFE, which includes live television and on-demand content (the later through Viasat W-IFE which provides an end-to-end entertainment solution for airlines).<sup>246</sup>
  - (c) Technical monitoring and support services, which provides airlines with continuous monitoring and a range of customised support services. These services include 24x7x365 technical support and hardware support including spares and repair management.<sup>247</sup>
  - (d) Other customer-facing solutions and passenger-facing services, including passenger portals tailored to airlines, and passenger advertising solutions.<sup>248</sup>
- 8.64 Viasat supplies IFC directly to commercial airlines in Europe. In other parts of the world, Viasat both supplies IFC directly to commercial airlines and distributes its services through VARs (such as Thales in the United States).<sup>249</sup>

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<sup>241</sup> Parties, Email from Viasat, April 2023.

<sup>242</sup> Parties, Merger Notice, 8 August 2022, paragraph 610.

<sup>243</sup> Parties, Merger Notice, 8 August 2022, paragraph 612.

<sup>244</sup> Parties, Merger Notice, 8 August 2022, paragraph 989.

<sup>245</sup> Parties, Merger Notice, 8 August 2022, paragraph 610.

<sup>246</sup> [In-Flight Entertainment - Content, Live In-Flight TV & Streaming Services - Viasat.](#)

<sup>247</sup> [Commercial Aviation Flight Operations - Business Aviation Software - Viasat; Aviation Support Services | Viasat.](#)

<sup>248</sup> [In-flight Passenger Internet Connectivity -Aviation Passenger Experience - Viasat; In-Flight Advertising - Airplane Marketing Solutions - Viasat.](#)

<sup>249</sup> Parties, Merger Notice, 8 August 2022, paragraph 611.

## *Satellite capacity*

- 8.65 Viasat owns and operates four GEO satellites that it uses to offer Ka-band IFC services in North America, Europe, and the North Atlantic flight corridor.<sup>250</sup>
- 8.66 Viasat self-supplied around [X] of its satellite capacity for IFC in commercial aviation in each year of the period 2019 – 2022.<sup>251</sup> The [X] of satellite capacity for IFC in commercial aviation Viasat sourced from third parties in 2022 was in [X].<sup>252</sup>
- 8.67 Viasat is planning to launch three additional GEO satellites, with one each over the Americas (ViaSat-3A), the EMEA region (ViaSat-3B), and the APAC region (ViaSat-3C), known collectively as its ViaSat-3 constellation.<sup>253</sup> On 1 May 2023, Viasat announced that ViaSat-3A had been successfully launched.<sup>254</sup> ViaSat-3, once in service, will allow Viasat to offer near to global Ka-band coverage (other than at the poles) using its own satellites rather than needing to lease capacity from third parties.<sup>255</sup> ViaSat-3A is expected to enter into service in mid 2023, with the others expected to enter into service [X].

## *Inmarsat*

- 8.68 Inmarsat is a vertically integrated supplier of IFC. It provides satellite connectivity services across a range of verticals, including IFC.

## *IFC activities*

- 8.69 Inmarsat generated USD [X] from the supply of IFC services to commercial aircraft globally in 2022.<sup>256</sup>
- 8.70 Inmarsat provides two broadband IFC services for commercial airlines:<sup>257</sup>
- (a) GX Aviation service, which is based on Inmarsat's own Ka-band satellite network, which provides global coverage (except at the poles); and

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<sup>250</sup> Parties, Merger Notice, 8 August 2022, paragraph 421.

<sup>251</sup> Viasat, Response to Phase 2 RF13, question 4.

<sup>252</sup> Viasat, Response to Phase 2 RF13, question 5.

<sup>253</sup> Parties, Merger Notice, 8 August 2022, paragraph 424.

<sup>254</sup> <https://news.viasat.com/newsroom/press-releases/viasat-3-americas-successfully-launched>. ViaSat-3A is en route to its GEO orbit and is on target for service launch in mid 2023.

<sup>255</sup> [X].

<sup>256</sup> Parties, Merger Notice, 8 August 2022, paragraph 618.

<sup>257</sup> Parties, Merger Notice, 8 August 2022, paragraph 617.

(b) EAN service, which combines Inmarsat's S-band satellite capacity and an ATG service, the 4G terrestrial radio connectivity obtained from Deutsche Telekom, to supply IFC to airlines within Europe.<sup>258</sup>

8.71 [REDACTED].<sup>259</sup> [REDACTED].

8.72 Inmarsat's offering to commercial airlines also includes:

(a) A passenger portal (known as OneFi) that offers a range of passenger-facing services, such as Wi-Fi access, loyalty programmes, and food and beverage ordering, designed to enhance passengers' onboard digital experience.<sup>260</sup>

(b) Airline operations and maintenance services, designed to maximise aircraft performance and efficiency.<sup>261</sup>

8.73 Inmarsat supplies both its GX Aviation and EAN service directly to airlines.<sup>262</sup> Inmarsat also supplies its GX Aviation service through VARs in Europe (eg Thales, SITAONAIR) and in other regions. While around [REDACTED] of Inmarsat's global IFC revenue in 2022 was through VARs, less than [REDACTED] of Inmarsat's European IFC revenue in the same year was through VARs.<sup>263</sup>

8.74 As noted in paragraph 2.49, Inmarsat was announced in June 2022 as the first IFC supplier available to commercial airlines as part of Airbus' HBCplus programme.<sup>264</sup>

### *Satellite capacity*

8.75 Inmarsat owns and operates four satellite networks comprising a fleet of 16 GEO satellites, six of which offer broadband connectivity that can be used in the provision of IFC (known as Inmarsat's GX satellites). Inmarsat's GX satellites offer global coverage (except at the poles) in Ka-band.<sup>265</sup>

8.76 Inmarsat estimated that it self-supplied [REDACTED] of its satellite capacity for IFC in each year of the period 2018 – 2022, sourcing [REDACTED]% of its needs from third

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<sup>258</sup> As set out in Chapter 2, the EAN and other ATG networks can only provide IFC over land and near the coast as they need to be in proximity of a ground station.

<sup>259</sup> Parties, Merger Notice, 8 August 2022, paragraph 1004.

<sup>260</sup> [OneFi \(inmarsat.com\)](https://www.inmarsat.com).

<sup>261</sup> [Airline operations and maintenance \(inmarsat.com\)](https://www.inmarsat.com).

<sup>262</sup> Parties, Merger Notice, 8 August 2022, paragraph 618.

<sup>263</sup> Inmarsat, Inmarsat's follow-up to MPH, question 1.

<sup>264</sup> [Inmarsat selected as first connectivity provider for new Airbus Airspace Link HBCplus solution.](#)

<sup>265</sup> Parties, Merger Notice, 8 August 2022, paragraph 430.

parties in each year.<sup>266</sup> The [REDACTED] satellite capacity Inmarsat sourced from third parties in 2022 was [REDACTED].

- 8.77 Inmarsat plans to launch four more GEO satellites that offer Ka-band connectivity, which are all expected to be in operation by the [REDACTED].<sup>267</sup> Inmarsat also plans to launch two HEO satellites to provide coverage over the Arctic Circle, in part to better serve IFC customers.<sup>268</sup>
- 8.78 In addition to offering GEO satellite based IFC, Inmarsat utilises a hybrid satellite/terrestrial network for flights within Europe, known as the EAN. Inmarsat's EAN combines S-band satellite services and terrestrial radio ATG services to provide IFC to short-haul commercial aircraft in Europe.<sup>269</sup> [REDACTED].<sup>270</sup>

### **Intelsat**

- 8.79 Intelsat is a vertically integrated supplier of IFC that also supplies satellite capacity for IFC to other SSPs.<sup>271</sup> Intelsat self-supplies some of the satellite capacity needed to support its IFC activities and also relies on third party providers of satellite capacity for IFC.
- 8.80 Intelsat entered into Chapter 11 bankruptcy in the United States in 2020, from which it emerged in February 2022.

### **IFC activities**

- 8.81 Intelsat told us that IFC is an important end-use application for its satellite capacity.<sup>272</sup>
- (a) In relation to its activities as a wholesale supplier of satellite capacity, less than [REDACTED] of Intelsat's overall revenue in the period 2018 – 2021 was earned from the supply of satellite capacity for IFC.<sup>273</sup>

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<sup>266</sup> Inmarsat, Response to Phase 2 RFI 3, question 3.

<sup>267</sup> Parties, Merger Notice, 8 August 2022, paragraph 431.

<sup>268</sup> Parties, Merger Notice, 8 August 2022, paragraph 437.

<sup>269</sup> Parties, Merger Notice, 8 August 2022, paragraph 112.

<sup>270</sup> Parties, Merger Notice, 8 August 2022, paragraph 649.

<sup>271</sup> As a supplier of satellite capacity for IFC, Intelsat launched a managed service platform, the Intelsat Flex Network, to support its distribution partners in 2017. Intelsat currently provides end-to-end connectivity as a managed service for distribution partners across a range of end-use applications, including aviation. Intelsat told us that this managed service is the product sold to its distribution partners in business aviation. Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, questions 2 and 5.

<sup>272</sup> Competitor, [REDACTED] Response to Phase 1 competitor questionnaire, question 8.

<sup>273</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 1.

(b) In relation to its activities as a supplier of IFC directly to commercial airlines, [REDACTED] of Intelsat's overall revenue in 2021 was earned from the supply of IFC following its acquisition of Gogo.<sup>274</sup>

8.82 Intelsat moved into the supply of IFC directly to commercial airlines following its acquisition of Gogo's commercial aviation IFC business in 2020.<sup>275</sup> Gogo's commercial aviation IFC business purchased satellite capacity from third parties prior to its acquisition by Intelsat and relied on Gogo's ATG network in North America to supply IFC.<sup>276</sup>

8.83 Intelsat integrates a range of products and services it partly self-supplies and partly sources from third parties as part of the IFC service it offers to commercial airlines.<sup>277</sup> Intelsat told us that it provides hardware, internet services, video streaming, software, and maintenance support to its airline customers as part of its '2Ku' IFC service, which utilises Ku-band GEO connectivity, with antennae and wireless access points sourced from third parties. Intelsat developed the software required to support its IFC service and deliver services to passengers on aircraft.

8.84 Intelsat has also started to commercialise an IFC service that will use an electronically steered antenna (**ESA**) developed by Stellar Blu which has a single antenna and two modems (one for LEO and one for GEO) to provide multi-orbit connectivity to its IFC customers.<sup>278</sup> This is discussed further in paragraph 8.217.

### *Satellite capacity*

8.85 Intelsat currently owns and operates seven satellites which provide HTS connectivity and can therefore support IFC.<sup>279</sup> Intelsat told us that four of its HTS satellites cover Europe and that its seven satellites in aggregate provide global coverage except in some remote oceanic regions and the Arctic and Antarctic regions.<sup>280</sup>

8.86 Intelsat also sources third party satellite capacity to meet the demands of its IFC customers.<sup>281</sup> More than [REDACTED] of Intelsat's satellite capacity for IFC was

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<sup>274</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 4.

<sup>275</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 2.

<sup>276</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 9.

<sup>277</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 9.

<sup>278</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 9; and Competitor, Response to s.109 request, Board presentation.

<sup>279</sup> Competitor, [REDACTED] Response to Phase 1 competitor questionnaire, question 3 and <https://www.intelsat.com/newsroom/intelsat-40e-high-throughput-satellite-successfully-launched/>. Intelsat launched Intelsat 40e in April and it will become operational in May 2023.

<sup>280</sup> Competitor, [REDACTED] Response to Phase 1 competitor questionnaire, questions 1 and 3. Intelsat also owns and operates a number of non-HTS satellites which are not suitable for the provision of IFC.

<sup>281</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 7.

sourced from third parties in 2020 and 2021, with Intelsat self-supplying [REDACTED] and [REDACTED] of satellite capacity for its IFC activities in each year respectively.<sup>282</sup>

8.87 [REDACTED].<sup>283</sup> [REDACTED].<sup>284</sup>

8.88 [REDACTED].<sup>285</sup> [REDACTED].

8.89 Intelsat has also entered into a distribution agreement with OneWeb to use its LEO satellite capacity to supply IFC to commercial airlines.<sup>286</sup> As noted in Appendix D, OneWeb told us that it expects to start supplying satellite capacity for IFC in early 2024. Intelsat will be able to offer an IFC service which utilises both its GEO capacity (either self-supplied or sourced from third parties) and OneWeb's LEO capacity once OneWeb's satellite network is able to support IFC. This is discussed further from paragraph 8.213.

8.90 In addition to offering GEO satellite based IFC, Intelsat uses Gogo's ATG network in North America to supply IFC to regional and narrowbody aircraft. Around half of Intelsat's active aircraft globally are supplied with IFC using Gogo's ATG network rather than satellite based IFC.

### **Panasonic**

8.91 Panasonic offers IFC services for passengers in commercial aviation.<sup>287</sup> Panasonic supplies commercial airlines that operate globally.

#### *IFC activities*

8.92 Panasonic earned around \$[REDACTED]m from the supply of IFC in commercial aviation in 2021.<sup>288</sup> Revenue from the supply of IFC in commercial aviation represented around [REDACTED] of Panasonic's total revenues in each financial year between 2018 and 2021.

8.93 Panasonic's offering to commercial airlines includes:<sup>289</sup>

(a) IFC, which is based on the Ku-band GEO satellite capacity Panasonic currently sources from third party SNOs.

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<sup>282</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 7.

<sup>283</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 7.

<sup>284</sup> Competitor, [REDACTED] Response to s.109 request, Board presentation [REDACTED] and Competitor, [REDACTED] Response to s.109 request, Board presentation: [REDACTED].

<sup>285</sup> Competitor, [REDACTED] Response to Phase 1 competitor questionnaire, question 4.

<sup>286</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 7.

<sup>287</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, paragraph 6.

<sup>288</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 4.

<sup>289</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 5.

- (b) IFE, for which Panasonic offers hardware and software (eg seat back monitors) as well as a range of digital services for use by passengers.
- (c) IFC equipment, such as Panasonic's single panel antenna and its satellite modem. Panasonic currently manufactures most of its own IFC equipment.<sup>290</sup>
- (d) Technical monitoring and support services, which provides Panasonic's airline customers with a range of maintenance services and continuous performance monitoring.
- (e) Other customer-facing and passenger-facing services, including mobile connectivity services, passenger marketing services, and e-commerce platforms allowing airlines to, for example, facilitate in-flight food and beverage ordering by passengers.

### *Satellite capacity*

- 8.94 Panasonic is not vertically integrated (ie it does not own and operate its own satellites) and sources all the satellite capacity it uses to supply IFC from third party SNOs.<sup>291</sup>
- 8.95 Panasonic sources its satellite capacity from a number of SNOs.<sup>292</sup> Panasonic chooses these suppliers of satellite capacity based on availability, price, geographic coverage, and willingness to contract. Panasonic typically enters into multi-year contracts (around [REDACTED] years) with third party SNOs for satellite capacity to support its IFC activities.
- 8.96 Information provided by Panasonic shows that it currently sources satellite capacity for IFC from Telesat and Intelsat in Europe.<sup>293</sup> Panasonic expects to source the large majority [REDACTED] of its European capacity from Eutelsat in the second half of 2023 once Panasonic starts to source satellite capacity from Eutelsat's 10B satellite.<sup>294</sup>
- 8.97 Panasonic also provided information on its global sources of satellite capacity for IFC, which are relevant for intercontinental flights to and from the UK.<sup>295</sup> [REDACTED].

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<sup>290</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 9.

<sup>291</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 7.

<sup>292</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 7.

<sup>293</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI 2, question 5.

<sup>294</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI 2, question 4.

<sup>295</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI 2, question 5.

8.98 Panasonic has also entered into a distribution agreement with OneWeb to use its LEO satellite capacity to supply IFC to commercial airlines.<sup>296</sup> As noted in Appendix D, OneWeb told us that it expects to start supplying satellite capacity for IFC in early 2024. This is discussed further from paragraph 8.213.

### **Anuvu**

8.99 Anuvu is a supplier of IFC to commercial airlines which sources satellite capacity from third party SNOs.

8.100 Anuvu entered into Chapter 11 bankruptcy in the United States in July 2020, from which it emerged in March 2021.

### *IFC activities*

8.101 Anuvu told us that its IFC activities in commercial aviation represent [REDACTED].<sup>297</sup>

8.102 Anuvu's IFC service includes:<sup>298</sup>

- (a) Network Management System – Network resource management is a system that takes raw capacity and transforms it into internet services for commercial airlines.
- (b) Regulatory Support – Anuvu obtains STCs and offers equipment for factory installation on several Boeing aircraft.
- (c) Post-Installation Support – Anuvu provides technical and network support and management services.
- (d) Digital Media – Anuvu provides several value-added digital media services, for example the 'Airtime Portal' and IFE services (eg entertainment and digital content delivered directly to passengers' own devices).

8.103 Although Anuvu sources satellite capacity from third parties, Anuvu controls its own network operations, modems, and ground infrastructure.<sup>299</sup> Anuvu offers value-added services which range from passenger-facing services (such as passenger portals and live TV broadcasting) to customer-facing services (such as antenna installation and repair services).

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<sup>296</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 7.

<sup>297</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, questions 4 and 6.

<sup>298</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 9.

<sup>299</sup> Competitor, [REDACTED] Response to s.109 request, Board presentation.

8.104 Anuvu told us that it [REDACTED].<sup>300</sup>

### *Satellite capacity*

8.105 Anuvu currently sources GEO satellite capacity from a number of SNOs, including [REDACTED].<sup>301</sup> Over half of Anuvu's satellite capacity is sourced from [REDACTED].

8.106 Anuvu is currently planning to launch two GEO micro-satellites in the second half of 2023.<sup>302</sup> These two micro-satellites will provide Anuvu with a small, assured base of Ku-band capacity for IFC.<sup>303</sup> Anuvu told us it intends to use this capacity to supplement the capacity it sources from third parties in geographic regions where satellite capacity is constrained (ie North America).

### *Starlink*

8.107 Starlink is a supplier of satellite connectivity services to households and businesses that has recently started to supply IFC services.

### *IFC activities*

8.108 Starlink told us that it expects the importance of IFC to its business to grow in the next five years.<sup>304</sup> As set out in paragraph 8.245, Starlink has been awarded contracts to supply IFC to a number of commercial airlines and has bid for IFC contracts with other commercial airlines in the United States and in other jurisdictions.

8.109 Starlink owns and operates satellites and self-supplies its satellite connectivity capacity.<sup>305</sup>

8.110 Starlink and its IFC customers contractually agree on who is responsible for installing and maintaining Starlink IFC equipment, whether Starlink, the customer, or a third party hired by Starlink or the customer.

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<sup>300</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 7.

<sup>301</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 7.

<sup>302</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 5.

<sup>303</sup> Micro-geostationary satellites are a tenth the size of traditional geostationary satellites – typically one cubic metre. This makes them much more affordable to build and launch, enabling satellite operators to provide bespoke regional or gap-filling services that would not be financially viable using large satellites. Micro-geostationary satellites can also offer a competitive replacement option for certain legacy geostationary satellites that have reached the end of their lifetime. See: [ESA - Micro-geostationary satellite wins ESA support](#).

<sup>304</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, paragraph 6.4.

<sup>305</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, paragraph 7.2.

8.111 [REDACTED].<sup>306</sup> [REDACTED].<sup>307</sup> Starlink told us that, [REDACTED], it prefers to give its IFC customers the right to terminate their service without liability if they are not happy with the service.<sup>308</sup>

8.112 [REDACTED].<sup>309</sup>

### *Satellite capacity*

8.113 [REDACTED]. The first Starlink satellites launched in November 2019 and, as of 21 March 2023, Starlink had 3,745 active LEO satellites in orbit.<sup>310, 311</sup>

8.114 Starlink's initial Federal Communications Commission (**FCC**) licence authorises it to launch 4,400 satellites in total.<sup>312</sup> Starlink is seeking authorisation to launch an additional 30,000 satellites, which would include the launch of satellites which are more technologically advanced than the current version of its satellites.<sup>313</sup> Starlink told us that it has received a partial licence from the FCC to launch an additional 7,500 satellites,<sup>314</sup> with its application for the launch of the remaining satellites still pending with the FCC.<sup>315</sup>

8.115 Starlink told us that it expects to launch around an additional [REDACTED] satellites in both 2023 and 2024 under its existing licences from the FCC.<sup>316</sup> While the number of satellites Starlink will launch in 2025 and 2026 is uncertain, it currently plans to continue increasing the number of satellites in its constellation in each of these years.

## **Shares of supply for commercial aviation**

### ***Our approach***

8.116 We consider that shares of supply have limited evidentiary value in assessing suppliers' current competitive strength in this case, given that suppliers'

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<sup>306</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 8 December 2022, paragraph 16.5.

<sup>307</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 8 December 2022, paragraph 16.5.

<sup>308</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 3 November 2022, paragraph 15.2 and Competitor, [REDACTED] Response to Phase 2 RFI, 8 December 2022, paragraph 16.5.

<sup>309</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, paragraph 9.5.

<sup>310</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, paragraph 2.2; Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI 2, paragraph 1.1; and Competitor, [REDACTED] Response to follow-up questions to call with a Third Party, 1 December 2022, paragraph 9.1.

<sup>311</sup> Competitor, [REDACTED] Response to phase 2 RFI, 21 March 2023, question 4.

<sup>312</sup> Competitor, [REDACTED] Response to Phase 1 competitor questionnaire, Table 8.1.

<sup>313</sup> Competitor, [REDACTED] Response to s.109 notice, Annex 5.

<sup>314</sup> Competitor, [REDACTED] Note of call, Phase 1, 16 June 2022, paragraph 5.

<sup>315</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, paragraph 1.1.

<sup>316</sup> Competitor, [REDACTED] Note of call, 1 December 2022, paragraph 1(a).

<sup>316</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, paragraphs 1.1 to 1.3.

offerings are differentiated and that the IFC market is primarily a bidding market and shares of supply may be the result of contracts awarded many years ago.<sup>317</sup> Furthermore, in the context of a dynamic market in which new suppliers are entering and existing suppliers are changing their capabilities, shares of supply are uninformative as to suppliers' future competitive strength. While high shares of supply may indicate a positive track record or reputation, we consider that other evidence (including evidence from airlines and recent tender data as set out in other sections) is more informative of a supplier's current and future competitive strength.

8.117 We have therefore used the shares of supply primarily to understand how IFC suppliers' relative market positions have changed over time and whether particular IFC suppliers are growing, losing or maintaining their market position.

8.118 We estimated shares of supply of broadband IFC services using data from Valour Consultancy on the number of connected aircraft using each supplier's IFC service.<sup>318</sup> The Parties submitted Valour Consultancy data for each quarter between Q4 2017 and Q1 2022,<sup>319,320</sup> with the Parties' own aircraft numbers adjusted to be consistent with internal figures.<sup>321</sup> We have estimated shares of supply based on 'active' aircraft (aircraft that currently have IFC equipment installed) between 2017 and 2022, using the first quarter of each year.<sup>322</sup> We also comment on shares based on 'backlog' aircraft (aircraft for which IFC has been procured but not yet installed) for the most recent available quarter (Q1 2022), which can reflect relatively more recent outcomes of competition, although we do not place significant weight on this data given its limitations.<sup>323</sup> We estimated shares of supply of broadband IFC

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<sup>317</sup> MAGs, paragraph 4.15.

<sup>318</sup> We consider the data produced by Valour Consultancy to be a robust source given that the data has been used by both the Parties and their competitors in internal documents to analyse trends in the IFC market.

<sup>319</sup> For some years the Parties only had data from Valour Consultancy available for the third quarter of the year and not also the fourth quarter. Active aircraft figures were reported in the quarter the data was published in and up to four quarters before. Backlog aircraft figures were only reported for the quarter the report was published in.

<sup>320</sup> In their response to our Provisional Findings Report the Parties provided updated figures reflecting the most recent data from Valour Consultancy (2022 Q4). We have not updated our analysis given that it would not impact the conclusions of our analysis.

<sup>321</sup> As explained in paragraph 8.119(e), the Parties have included aircraft which are serviced by their respective VARs in their shares of supply using internal figures. Where appropriate, the Parties have also made adjustments to the Valour Consultancy data so the Parties own aircraft numbers are more in line with internal figures.

<sup>322</sup> Due to data limitations, the shares of supply between 2017 - 2022 could only be compared based on active aircraft. Active aircraft includes only contracts which have been won once they start to generate revenue and is therefore a more historical measure as it represents the results of contracts which may have been won several years before.

<sup>323</sup> Although backlog aircraft can include relatively more recent outcomes of competition in comparison to active aircraft, we note the shares based on backlog aircraft could also include historical tenders which have been won in the past and have not become active (eg, due to delays in installation) or include contracts which do not materialise (eg, due to financial issues or fleet retirement). The Parties estimate that over [X] of Inmarsat's backlog relate to contracts that were concluded in 2019 or before. (Parties, Response to Phase 1 Issues Statement, 15 September 2022, Annex A). While the shares of supply based on backlog have been attached low weight, we note that they are broadly consistent with other evidence considered in this investigation.

services at a global level, and for European short-haul flights and for long-haul flights to/from the UK (see paragraph 8.120).

8.119 To estimate the shares of supply, we adopted the Parties' methodology, as follows:<sup>324</sup>

- (a) Shares exclude aircraft where IFC is provided through L-band (narrowband) only;<sup>325</sup>
- (b) Shares include aircraft where IFC is provided through ATG;
- (c) European shares include all aircraft operated by airlines headquartered in the EEA or the UK;
- (d) Regional jets are included under short-haul narrowbody aircraft, and
- (e) Aircraft supplied by VARs are allocated to the underlying service provider eg, SITAONAIR to Inmarsat using the Parties' internal data.

8.120 As we are most interested in assessing the impact of the Merger on UK customers, in addition to looking at shares of supply for all aircraft globally, we have also estimated shares of supply for the following sets of routes:

- (a) European short-haul flights: proxied by narrowbody aircraft for airlines headquartered in Europe; and
- (b) Long-haul flights from/to the UK: proxied by widebody aircraft for all airlines.

8.121 We have estimated shares of supply for short-haul and long-haul flights using the proxies outlined above as Valour Consultancy does not provide data by length of flight and airlines generally use narrowbody aircraft for short-haul flights and widebody aircraft for long-haul flights.<sup>326</sup>

8.122 Our analysis of shares of supply shows that both Parties' market position across all aircraft globally has strengthened since 2017. We note that the Parties have a significantly higher combined share of backlog aircraft than of active aircraft, as of Q1 2022, which is consistent with other evidence,

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<sup>324</sup> Parties, Merger Notice, 8 August 2022, Annex 018, Market Shares Methodology Annex.pdf.

<sup>325</sup> L-band (narrow-band) is not used for passenger IFC services due to its low bandwidth, but rather for safety reasons for cabin use.

<sup>326</sup> Although these proxies are not perfect, we consider them to be reasonable estimates. For example, shares for widebody aircraft globally are likely to include aircraft that do not fly to/from the UK, whereas shares for narrowbody aircraft owned by European airlines will exclude narrowbody aircraft owned by non-European airlines that fly to/from the UK such as, for example, Turkish Airlines.

discussed in subsequent sections, that the Parties' competitive positions have improved recently (see paragraphs 8.124 to 8.130).

8.123 The shares of supply also show that the relative market position of IFC suppliers can change fairly significantly within a few years and that it is possible for some suppliers to grow their market position rapidly, and for others to lose ground.

### **Shares of supply estimates**

8.124 Table 2 shows the global shares of supply of broadband IFC services to all aircraft – by active aircraft in each year 2017-2022 and by backlog aircraft in 2022.

**Table 2: Global shares of supply of broadband IFC services to all aircraft (as of Q1 in each year)**

IFC suppliers	Active aircraft (%)						Backlog (%) 2022
	2017	2018	2019	2020	2021	2022	
Inmarsat	[0-5%]	[0-5%]	[5-10%]	[5-10%]	[5-10%]	[5-10%]	[20-30%]
Viasat	[5-10%]	[5-10%]	[10-20%]	[10-20%]	[10-20%]	[20-30%]	[20-30%]
Anuvu	[10-20%]	[10-20%]	[10-20%]	[10-20%]	[10-20%]	[10-20%]	[0-5%]
Intelsat	[50-60%]	[40-50%]	[30-40%]	[30-40%]	[30-40%]	[30-40%]	[10-20%]
Panasonic	[20-30%]	[20-30%]	[20-30%]	[20-30%]	[20-30%]	[20-30%]	[10-20%]
Thales	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]
Other	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[5-10%]
Total aircraft	[5,000-6,000]	[6,000-7,000]	[7,000-8,000]	[8,000-9,000]	[8,000-9,000]	[9,000-10,000]	[3,000-4,000]

Source: CMA analysis of third-party data from Valour consultancy. For consistency, the Parties have used internal figures to adjust the data (see footnote 321).

8.125 Based on the global shares of supply presented in Table 2, we note:

- (a) The supply of broadband IFC services is concentrated globally with five large suppliers. The Parties, Panasonic, Intelsat and Anuvu had a combined share of supply by active aircraft of [90-100%] in 2022.
- (b) Since 2017, the number of aircraft with broadband IFC equipment installed has grown by [50-60%] ([3,000-4,000] aircraft). All suppliers have grown their installed base during this period, although the rate of growth varies substantially.
- (c) Since 2017, both Parties have strengthened their position. Inmarsat's share of supply by active aircraft grew from [0-5%] in 2017 to [5-10%] in 2022, and Viasat's share grew from [5-10%] to [20-30%]. Data submitted by the Parties shows that the vast majority of Viasat's global share comes from domestic North American IFC.<sup>327</sup>

<sup>327</sup> Parties, [Response to the Provisional Findings](#), 21 March 2023 annex 9.

- (d) Over the same period, Intelsat’s and Anuvu’s shares by active aircraft declined from [50-60%] to [30-40%] and from [10-20%] to [10-20%], respectively. Panasonic’s share has stayed largely stable at around [20-30%]. Evidence submitted by Intelsat suggests that [REDACTED].<sup>328</sup>
- (e) The Parties each have a significant share of backlog aircraft in 2022. Inmarsat’s share is [20-30%] and Viasat’s share is [30-40%]. Intelsat and Panasonic have smaller shares of backlog aircraft at [10-20%] and [10-20%] respectively. This was followed by Anuvu and Thales, each with a share of [0-5%].

8.126 The European shares of supply of broadband IFC services for narrowbody aircraft – by active aircraft in each year 2017-2022 and by backlog aircraft in 2022 – are presented Table 3.

**Table 3: European shares of supply of broadband IFC services to narrow-body aircraft (as of Q1 in each year)**

IFC suppliers	Active aircraft (%)						Backlog (%)
	2017	2018	2019	2020	2021	2022	2022
Inmarsat	[5-10%]	[50-60%]	[50-60%]	[50-60%]	[60-70%]	[50-60%]	[60-70%]
Viasat	[0-5%]	[0-5%]	[10-20%]	[10-20%]	[10-20%]	[10-20%]	[20-30%]
Anuvu	[60-70%]	[30-40%]	[30-40%]	[20-30%]	[20-30%]	[20-30%]	[0-5%]
Intelsat	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[10-20%]
Panasonic	[10-20%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]
Other	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]
Total aircraft	[0-500]	[0-500]	[0-500]	[500-1,000]	[500-1,000]	500-1,000]	[0-500]

Source: CMA analysis of third-party data from Valour consultancy. For consistency, the Parties have used internal figures to make adjustments to the data (see footnote 321).

8.127 Based on the shares of supply presented in Table 3, we note:

- (a) The three largest players for narrowbody aircraft at the European level are the Parties and Anuvu, which together had a combined share by active aircraft of [90-100%] in 2022.
- (b) Since 2017, the European narrowbody segment has grown by [400-500%] ([600-700] aircraft). All three of the main suppliers have added aircraft to their installed base during this period, albeit to varying degrees.
- (c) In 2022 Inmarsat had the biggest share of active aircraft [50%-60%]. Viasat also had a significant share [10%-20%]. Both Parties’ shares have grown rapidly since 2017 but remained largely stable since 2019. Anuvu’s share of supply has declined from [70%-80%] in 2017 to [20-30%] in 2022.

<sup>328</sup> Competitor, [REDACTED] Response to s.109 request, Board presentation.

(d) The Parties have the highest share of backlog in 2022. Inmarsat's share is [60-70%] and Viasat's share is [20-30%]. This is followed by Intelsat which has a share of [10-20%]. In contrast, Anuvu has a low share of backlog aircraft of [0-5%].

8.128 The global shares of supply of broadband IFC services for wide-body aircraft – by active aircraft in each year 2017-2022 and by backlog aircraft in 2022 – are presented in Table 4.

**Table 4: Global shares of supply of broadband IFC services for wide-body aircraft (as of Q1 in each year)**

IFC suppliers	2017	2018	Active aircraft (%)				Backlog (%)	
			2019	2020	2021	2022	2022	2022
Inmarsat	[0-5%]	[0-5%]	[5-10%]	[5-10%]	[10-20%]	[10-20%]	[30-40%]	
Viasat	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	
Anuvu	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	
Intelsat	[10-15%]	[10-15%]	[10-20%]	[10-20%]	[20-30%]	[20-30%]	[10-20%]	
Panasonic	[80-90%]	[80-90%]	[70-80%]	[60-70%]	[60-70%]	[60-70%]	[30-40%]	
Others	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[0-5%]	[10-20%]	
Total aircraft	[1,000-2,000]	[1,000-2,000]	[2,000-3,000]	[2,000-3,000]	[2,000-3,000]	[2,000-3,000]	[500-1,000]	

Source: CMA analysis of third-party data from Valour consultancy. For consistency, the Parties have used internal figures to make adjustments to the data (see footnote 321).

8.129 Based on the shares of supply presented in Table 4, we note:

- (a) The three largest players globally in the supply of IFC services to widebody aircraft are Inmarsat, Panasonic and Intelsat which account for [90-100%] of supply.
- (b) Since 2017, the global widebody segment has grown by [100-200%] ([1,000-2,000] aircraft). Each of the three main players has added aircraft to its installed base during this period, although to varying degrees.
- (c) Panasonic is a historically strong player in the widebody segment with a share by active aircraft of [60-70%] in 2022. Between 2017 and 2022, Panasonic's share has steadily declined, by [10-20 percentage points] over the period, whilst Inmarsat and Intelsat have strengthened their position with their shares growing by [10-20 percentage points] and [5 -10 percentage points], respectively. Viasat is a historically small player in this segment, with a share in 2022 of around [0-5%].
- (d) In terms of backlog aircraft, Inmarsat has a high share of [30-40%] in 2022, followed by Panasonic and Intelsat with a share of [30-40%] and [10-20%] respectively.

8.130 The Parties submitted that while they have been growing faster than other established IFC suppliers at the global level, they have not at the more

relevant UK/EU level.<sup>329</sup> The Parties submitted data showing that the vast majority of Viasat wins relate to domestic North American IFC.<sup>330</sup> The Parties also submitted an alternative set of volume trend estimates for active aircraft between 2017-2022, based on filtering Valour data for airlines that operate flights to/from the UK (without distinguishing between narrowbody and widebody or short-haul and long-haul). They submitted that these estimates capture trends in the CMA's areas of interest (flights with a UK nexus).<sup>331</sup>

8.131 The Parties did not explain their methodology for identifying airlines with a UK nexus, which limits our ability to assess the relevance of the Parties' estimates. Our share of supply estimates, as set out above, show that the Parties have both grown at the global level, have maintained a stable position in European narrowbody and have both grown in global widebody. While we recognise that most of Viasat's growth at a global level is attributable to domestic North American wins, we consider that the European narrowbody and global widebody figures (which exclude North American domestic) are reasonable proxies for the segments of interest to us (see paragraphs 8.120 and 8.121). Given that we consider that in this case shares of supply have limited evidentiary value in assessing suppliers' current or future competitive strength, relying on the figures provided by the Parties would not materially change our competitive assessment.

## Evidence from tender data

8.132 Contracts to supply IFC services are often awarded following a competitive tender process.<sup>332</sup> We therefore gathered evidence on recent tenders for IFC services by commercial airlines from:

- (a) a sample of airlines, who we asked to identify all competing suppliers invited to bid on their tenders, as well as the winners and runners up; and

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<sup>329</sup> Parties, Response to Phase 2 Working Papers and Annotated Issues Statement, 27 January 2023, section 1.4 and Parties, [Response to the Provisional Findings](#), 21 March 2023, paragraph 40(ii).

<sup>330</sup> Parties, Response to Phase 2 Working Papers and Annotated Issues Statement, 27 January 2023, section 1.4 and Parties, [Response to the Provisional Findings](#), 21 March 2023 Paragraph 41 and annex 9.

<sup>331</sup> Parties, Response to Phase 2 Working Papers and Annotated Issues Statement, 27 January 2023, paragraphs 65 and 66.

<sup>332</sup> We have gathered evidence that, in some cases, contracts can also be awarded without a competitive tender process, for example through informal agreements or direct awards where the airline has only considered one IFC supplier (see paragraph 8.4 for more details). We note that, as submitted by the Parties, tenders awarded without a formal process could in part reconcile the larger number of net gains in committed aircraft with a UK-nexus between Q4 2019 and Q2 2022 by Panasonic, Intelsat and Anuvu (based on Valour Consultancy data which the market shares are based on) compared to the smaller number of wins from these IFC suppliers which we found in our tender analysis of the airlines data: Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, 27 January 2023, paragraph 82.

- (b) the Parties, who were able to provide details on their full bidding history, but who did not know which suppliers they were competing with.

8.133 This section outlines our assessment of this data and when viewed alongside other evidence, what it shows about closeness of competition between the Parties and rival suppliers.

***Closeness of competition between the Parties and rival IFC suppliers in tender data submitted by airlines***

8.134 As part of our Phase 2 evidence gathering, we requested information on tenders that were concluded in the period from January 2020 to September 2022 from airlines serving a wide range of short, medium, and long-haul routes both within and outside of the UK (see Appendix C for more detail on our approach to gathering evidence from airlines).<sup>333</sup>

8.135 Within the tender information we received, we identified 13 tenders, from 10 airlines, as most relevant for our assessment, having excluded a number of tenders for the following reasons:

- (a) The tender was concluded prior to January 2020, on the basis that it does not represent recent competition (7 tenders excluded). We note that extending the period we consider to start from January 2018 would increase our sample of tenders by two, one won by Panasonic, and one won by Anuvu. This would not materially change our assessment.
- (b) The tender was still ongoing, since a winner had not been selected (13 tenders excluded). We have considered overlaps between the Parties and other suppliers in these tenders, and they are broadly in line with our conclusions on how often the Parties and other suppliers bid against one another in completed tenders.
- (c) The airline invited only one supplier to submit a proposal, meaning no competition took place (5 tenders excluded). We have considered these wins as part of our overall competitive assessment, in particular as part of our evidence on suppliers' competitive strength in paragraphs 8.367 to 8.503. Specifically, we have excluded:

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<sup>333</sup> We also asked airlines to submit details on future tenders which they expect to run in the period October 2022 to December 2024. For the discussion on future tenders see paragraphs 2.35 to 2.43. Ongoing tenders were excluded from the analysis. We asked airlines to provide details on the number and type (ie model/variant) of aircraft, type of installation (ie line-fit/retro-fit/switching), which IFC suppliers were invited to bid, the winner and the runner-up (including reasons for their selection), contract length, contract award date, length of contract, and start of service date.

- (i) Three wins for Viasat awarded by the same airline. This airline told us that it had selected Viasat to supply some of its aircraft in previous tenders (outside the period we consider), and that for two of the three direct awards Viasat offered to provide the IFC hardware ‘on loan’, which it considered a good deal.<sup>334</sup> In addition, Viasat is the sole supplier of IFC services across its fleet.<sup>335</sup>
- (ii) One win for Panasonic due to the airline abandoning a switching opportunity because it was not ‘commercially feasible’ to switch.<sup>336</sup>
- (iii) One win for Starlink where the airline conducted market research on the various suppliers and concluded that only SpaceX/Starlink could meet its requirements in terms of high-speed Wi-Fi on board.<sup>337</sup>
- (d) The airline only invited Inmarsat and its resellers/partners to bid (6 tenders excluded).<sup>338</sup> We do not consider Inmarsat and its partners (who resell solely Inmarsat’s services) to be independent competitors (see Table 5).<sup>339</sup> As explained in paragraph 8.135(c), we exclude tenders where only one bidder was considered.
- (e) The airline had no flights to and from the UK in 2022 with the type and model of aircraft tendered for (11 tenders excluded). We excluded these tenders to focus on competition that is most relevant to UK consumers.<sup>340</sup> The wider sample of tenders, including those not relevant for UK travel, is included in Appendix E Table 8. Appendix E tables 9 and 10 show that using this full sample of tenders would not materially alter our assessment.
- (f) The tender was for L-band (ie narrowband) technology (3 tenders excluded) or insufficient details were provided (4 tenders excluded).<sup>341</sup>

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<sup>334</sup> Customer, [REDACTED] Response to the Phase 2 RF1, 21 November 2022, question 8(a).

<sup>335</sup> Customer, [REDACTED] Response to the Phase 2 RF1, 21 November 2022, question 17.

<sup>336</sup> Customer, [REDACTED] Response to the Phase 2 RF1, 15 November 2022, question 6.

<sup>337</sup> Customer, [REDACTED] email received 31 January 2023.

<sup>338</sup> [REDACTED] (see Table 5).

<sup>339</sup> Other resellers such Thales which resells both Inmarsat (worldwide) and Viasat (in North America), as well as its own solution (in North America) is considered a separate competitor given we do not have information on which solution it submitted an RFP for each tender.

<sup>340</sup> We used flight data from the CAA in the period 1 January 2022 to 31 October 2022 to check whether each airline in our full sample operated flights to and from the UK using the aircraft type (ie narrowbody/widebody) they tendered for. Given that we obtained the CAA data early in our Phase 2 evidence gathering, the data only covers the period up until 31 October 2022. As explained in Appendix C (Airline sample) we consider it extremely unlikely that using a 10-month period to exclude irrelevant tenders as opposed to a full calendar year in 2022 would impact our results.

<sup>341</sup> We sent several follow-ups for the four incomplete tenders but received no response.

8.136 The final sample of 13 tenders we used to assess closeness of competition between the Parties and rival suppliers is shown in Table 5 below.<sup>342</sup>

**Table 5: The final sample of tenders we use for our analysis, after excluding tenders not relevant to recent UK competition (paragraphs 8.135(a) to 8.135(f))**

<i>Airline</i>	<i>Aircraft type</i>	<i>In-service or ordered aircraft</i>	<i>Line-fit, retro-fit, or switching opportunity</i>	<i>Number of aircraft</i>	<i>Contract award date</i>	<i>Winner</i>	<i>Runner-up</i>
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Source: CMA analysis of third-party response to the Phase 2 RF11, question 6. For the purposes of our assessment, and in line with our approach to calculating market shares (see paragraphs 8.116 to 8.130) we do not consider Inmarsat and its VARs which sell solely Inmarsat products (eg, SITAONAIR) or hardware partners (Safran) as independent competitors, as such wins by Inmarsat’s partners have attributed to Inmarsat.

8.137 Table 6 shows how often IFC suppliers were invited to bid on the tenders in Table 5, as well as how often they submitted a bid and how often they won.

**Table 6: Frequency of invitations to bid, bids submitted, and wins by IFC suppliers in our final tender sample (out of 13 tenders)**

	Invited to bid		Submitted a bid		Won	
	Frequency	%	Frequency	%	Frequency	%
Anuvu	3	23%	3	23%	0	0%
Inmarsat	13	100%	12	92%	4	31%
Intelsat	6	46%	5	38%	0	0%
Panasonic	12	92%	12	92%	3	23%
Starlink	3	23%	1	8%	0	0%
Thales	9	69%	7	54%	0	0%
Viasat	9	69%	9	69%	6	46%

Source: CMA analysis of third-party responses to the Phase 2 RF11, question 6.

8.138 Table 6 shows that the Parties and Panasonic were invited to bid most frequently, and that several other suppliers were often invited to bid:

<sup>342</sup> Appendix E, Table 7 also includes the other bidders in the tenders in Table 5.

- (a) Inmarsat was invited to bid on all 13 tenders in our sample and submitted bids in 12;<sup>343</sup>
- (b) Panasonic (12 invitations out of 13, 12 bids) and Viasat (nine invites out of 13, nine bids) were the second and third most frequently invited suppliers respectively; and
- (c) The next most frequently invited supplier was Thales who was invited to the same number of tenders as Viasat (nine), although it submitted a bid on slightly fewer occasions (seven). The next most frequently invited supplier was Intelsat (six invitations out of 13, five bids).<sup>344</sup>
- (d) Both Anuvu and Starlink were invited to bid on three occasions. Anuvu submitted a bid on all three tenders, and Starlink bid on only one.

8.139 In terms of tender outcomes, Viasat (which won the most, six out of nine bids), Inmarsat (four out of 12 bids) and Panasonic (three out of 12 bids) account for all the tender wins in our sample:

- (a) Airlines that selected Viasat as the winner told us they did so due to quality of service ([REDACTED]) and/or price ([REDACTED]).<sup>345</sup> Two airlines ([REDACTED] and [REDACTED]) further noted Viasat's future capacity as a reason for selecting it as their supplier, and one airline highlighted Viasat's line-fit capabilities.<sup>346</sup> Of the six tenders Viasat won, the runner-up was mentioned in five. Inmarsat was reported as the runner-up in three of these, Panasonic in one, and Intelsat in one.
- (b) Airlines that selected Inmarsat as the winner told us they did so due to price and overall value.<sup>347</sup> Of the two tenders Inmarsat won and a runner-up was mentioned, Viasat and Panasonic were the runner-up in one tender each.
- (c) Panasonic won the remaining tenders in our sample (three of 12 it bid on), however the airlines did not provide runners-up for these tenders.
- (d) No other suppliers won any of the tenders in our sample.

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<sup>343</sup> This includes two wins for Safran, a hardware partner of Inmarsat as we are not treating Safran and Inmarsat as independent competitors in our assessment. See Table 5. Based on the information it submitted to us, Inmarsat also appears to have considered the relevant tenders as wins for itself, Inmarsat, Response to the Phase 2 s.109, 2 November 2022, question 7.

<sup>344</sup> SITAONAIR is a reseller of Inmarsat's satellite capacity.

<sup>345</sup> Customers, [REDACTED] Responses to Phase 2 RFI 1, question 6.

<sup>346</sup> Customers, [REDACTED] Responses to Phase 2 RFI 1, question 6.

<sup>347</sup> Customers, [REDACTED] Responses to the Phase 2 RFI 1, question 6.

8.140 In terms of overlap in bidding activity (and hence head-to-head competition for the same contracts) we found that, in line with Table 6, the Parties and Panasonic commonly bid on the same tenders in our sample, and that a few other suppliers overlapped with the Parties less frequently. In particular, Table 7 below shows that:

- (a) Inmarsat and Panasonic bid in eight of the 9 tenders Viasat bid on.
- (b) Viasat bid on eight and Panasonic bid on 11 of the 12 tenders Inmarsat bid on.
- (c) Intelsat overlapped less with the Parties than the Parties did with each other and Panasonic. It submitted bids in five of the nine tenders Viasat bid on and four of the 12 Inmarsat bid on.
- (d) Thales submitted a bid in seven of the 12 tenders Inmarsat bid on and three of the 9 Viasat bid on.
- (e) Anuvu and Starlink overlapped with the Parties to a much lesser extent. Anuvu submitted bids in three of the 12 tenders Inmarsat bid on and the 9 tenders Viasat bid on, and Starlink submitted only one bid that was for a tender that both Parties bid on.

**Table 7: Overlap between IFC suppliers and each of the Parties in invitations to bid and bids submitted for the same tenders in our final sample**

	Inmarsat		Viasat	
	Invited to bid	Submitted a bid	Invited to bid	Submitted a bid
Anuvu	23%	25%	33%	33%
Inmarsat	-	-	100%	89%
Intelsat	46%	33%	67%	56%
Panasonic	92%	92%	89%	89%
Starlink	23%	8%	33%	11%
Thales	69%	58%	56%	33%
Viasat	69%	67%	-	-
Total bids	13	12	9	9

Source: CMA analysis of third-party responses to the Phase 2 RF11, question 6.

8.141 We also asked airlines for details of ongoing tenders. We received information on 10 ongoing tenders with a UK nexus (see Appendix E, Table 11 for the details of ongoing tenders). Although we cannot fully assess closeness of competition in ongoing tenders as we do not have information on the winner (and runner-up), as shown in Table 8, the Parties and other suppliers overlap in these tenders to a broadly similar extent as in the completed tenders discussed above. However, we note that:

- (a) Intelsat overlaps with both Parties to a greater extent, primarily because all three (as well as Panasonic) are invited to the same six tenders for one airline [REDACTED].<sup>348</sup>
- (b) Starlink bid on two tenders the Parties bid on compared with only one in our analysis of concluded tenders. These two tenders related to one airline group [REDACTED].<sup>349</sup> However, this airline group told us that, based on its submissions in response to its RFP, Starlink is currently not a viable option for these two tenders because of its commercial model and lack of clarity regarding when Starlink will obtain STCs.<sup>350</sup>
- (c) Anuvu and Thales overlap with the Parties to a lesser extent as neither has been invited to the ongoing tenders in our sample.

**Table 8: Overlap between IFC suppliers and each of the Parties in invitations to bid and bids submitted for the 11 relevant ongoing tenders submitted by airlines**

	Inmarsat		Viasat	
	Invited to bid	Submitted a bid	Invited to bid	Submitted a bid
Anuvu	0%	0%	0%	0%
Inmarsat	-	-	100%	100%
Intelsat	100%	100%	100%	100%
Panasonic	100%	100%	100%	100%
Starlink	20%	20%	20%	20%
Thales	0%	0%	0%	0%
Viasat	100%	100%	-	-
Total bids	10	10	10	10

Source: CMA analysis of third-party responses to the Phase 2 RF11, question 6.

### ***The Parties' submission on our analysis of airlines' tender data***

8.142 The Parties submitted that the CMA has focussed on an unduly narrow set of tenders, which provides a distorted picture of the competitive dynamics in the market for IFC services.<sup>351</sup> In particular, in response to our Phase 2 working papers and Annotated Issues Statement, the Parties submitted that our analysis omitted recent wins of competitors with a clear UK-nexus and makes Viasat seem implausibly strong.<sup>352</sup> To support this submission, the Parties

<sup>348</sup> Customer, [REDACTED] Response to the Phase 2 RF11, question 6.

<sup>349</sup> Customer, [REDACTED] Email received 3 February 2023.

<sup>350</sup> Customer, [REDACTED] Response to Provisional Findings, 20 March 2023, paragraphs 10(a) and 21 to 43.

<sup>351</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraph 67.

<sup>352</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraphs 69(i) to 69(iii).

provided us with a list of tenders that they said were recently won by rival suppliers.<sup>353</sup>

8.143 We have considered the list of tenders provided by the Parties. These tenders were already captured in our analysis or, for the reasons set out in Appendix E, Table 7, were outside its scope, for example because they were concluded outside the time period covered by our analysis or were for airlines with a very limited UK-nexus. Where relevant, we have taken into account some of these tenders within our competitive assessment.<sup>354</sup>

8.144 The Parties also submitted that their data, which included [REDACTED] tenders for Viasat and [REDACTED] for Inmarsat over the relevant period, shows our tender sample is unreasonably small.<sup>355</sup> However, as we discuss in the next section, the Parties' data contains many tenders from airlines with no or very few flights to and from the UK in 2022.

8.145 Moreover, we followed up on several tenders in the data submitted by Inmarsat for airlines with a significant number of flights to/from the UK in 2022 and the majority of airlines we contacted told us they did not launch or conclude any tenders during the relevant time period.<sup>356</sup> The information provided by the Parties was therefore not confirmed by the airlines (we discuss the Parties' methodology for submitting tender data in more detail below). One airline [REDACTED] told us it had had four relevant tenders in the relevant period, and we have therefore included these in our analysis.<sup>357</sup>

8.146 In addition, in order to assess whether focusing on tenders with a UK nexus affected our findings, we have also considered closeness of competition between the Parties and other competitors using a wider sample of tenders, including those for aircraft that are not flown to and from the UK (paragraph 8.135(e) above), on the basis that the results of these tenders are informative of competition at a global level and as set out in Chapter 7 we consider that global dynamics of competition are relevant to some extent to our assessment. As shown in Appendix E Tables 9 and 10, while widening the sample in this way results in some small changes in the overlaps between the

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<sup>353</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, Table 5 and Parties, Response to Provisional Findings. The Parties provided further examples in their response to our Provisional Findings.

<sup>354</sup> For example, we have considered one direct award to a supplier with no certification [REDACTED] (paragraph 8.453), and a win for an incumbent [REDACTED] (paragraph 8.411).

<sup>355</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraphs 70 to 72. <sup>356</sup> Customer, [REDACTED] Email received 31 January 2023; Customer, [REDACTED] Email received 30 January 2023; Customer, [REDACTED] Email received 3 February 2023; Customer, [REDACTED] Email received 27 January 2023. Customer, [REDACTED] Email received 26 January 2023; Customer, [REDACTED] Email received 27 January 2023. We did not hear from two customers [REDACTED] we contacted regarding potential tenders.

<sup>357</sup> We identified a further eight tenders in the data submitted by Inmarsat that are not in our sample from airlines/ aircraft which had at least one commercial UK flight in 2022. However, all of the airlines have significantly fewer UK flights per week than the minimum in our final sample (27 flights per week).

Parties and their competitors, it has no material impact on our findings based on the tender analysis as set out above.

8.147 We do not have comprehensive data of all UK-relevant tenders that took place between January 2020 and September 2022. However, given that we have collected tender information from airlines that accounted for over three-quarters of UK flights in 2022 (including LCCs), we consider the final sample we have used for our analysis (Table 5) to represent a significant proportion of the tenders most relevant for the UK that took place in that period.

8.148 The Parties also submitted that:

- (a) An analysis of airlines' tenders, even in the period our analysis covers, is backward looking and is not informative of what might happen in the IFC market in the next few years;<sup>358</sup> and
- (b) Although also backward looking (see paragraphs 8.124 to 8.130), data from Valour Consultancy on market shares based on active and committed aircraft provides an objective and comprehensive view of the IFC market given it covers the entire market as opposed to a subsample and shows Viasat is small.<sup>359</sup>

8.149 We recognise that the tender data is backward looking (although less so than market share data) and may not be comprehensive, but for the reasons above we consider that it is a robust source of evidence on recent competitive interactions and closeness of competition between the Parties and their rivals. Moreover, we have not analysed the tender data submitted by airlines in isolation. Rather, we have considered this evidence alongside other evidence from the Parties and third parties regarding competition in the supply of IFC, both currently and in the next few years. We have also considered shares of supply in paragraphs 8.124 to 8.130.

### ***Our assessment of the Parties' tender data***

8.150 We also asked the Parties to submit details of tenders they participated in and were concluded between January 2020 and September 2022. The Parties submitted tender data using different methodologies:

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<sup>358</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraphs 76 to 78.

<sup>359</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraph 75.

- (a) Viasat told us its response was based on the date it received an RFP from airlines and included a total of [REDACTED] tenders to which it had submitted a bid, two of which were abandoned by the airlines.<sup>360</sup>
- (b) Inmarsat told us it provided details of all tenders it considered participating in - including tenders for which it did not submit a bid - based on the expected contract award date, because it does not record the date it receives an RFP in the ordinary course of business.<sup>361</sup> This resulted in a total of [REDACTED] opportunities.

8.151 RFPs are typically issued well in advance of the expected contract award date (see paragraphs 8.4 to 8.9). As a result, Inmarsat's data is likely to include tenders for which the RFP was received before January 2020, meaning the Parties' datasets likely cover different time periods.<sup>362</sup>

8.152 In addition, we note that both Parties, and in particular Inmarsat, submitted significantly more tenders than we consider in our final sample of tenders (Table 5). Some of this discrepancy may be because we received information on tenders from a sample of airlines (albeit they make up a significant proportion of UK flights, see Appendix C).

8.153 However, we consider there to be two main reasons for this difference:

- (a) Both Parties provided data for all tenders, not just those that are most relevant to flights to/from the UK. In particular, many of the airlines in Inmarsat's data have no or very few flights to and from the UK in 2022.<sup>363</sup>
- (b) We consider it likely that Inmarsat's data records interactions with airlines that are not necessarily related to formal tenders. As described in paragraph 8.145 above, several airlines we contacted regarding tenders in Inmarsat's data told us they did not have knowledge of the tender we asked about and have not recently launched or concluded a tender.<sup>364</sup> As

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<sup>360</sup> Viasat, Response to Phase 2 s.109 (1), 23 November 2022 methodology note, 23 November 2022, question 8 and 9. If the date of receipt of the RFP was not available, Viasat used the date the first bid was submitted. As a result, Viasat submitted [REDACTED] tenders that took place over the course of 2019. Two tender opportunities provided by Viasat were withdrawn by the airlines so have been excluded from the analysis.

<sup>361</sup> Inmarsat, Response to Phase 2 s.109 (1), 2 November 2022, question 7 and 8. Inmarsat's response also included [REDACTED] tenders with an expected contract award date after September 2022, [REDACTED] of which it bid on.

<sup>362</sup> For example, it appears as though Inmarsat's sample included [REDACTED] tenders from the airlines who responded to our questionnaire. However, fewer than half of these matched with tender information provided by the airlines themselves. We note that matching tenders between the airlines' data and the Parties' data is imprecise given tender details are often recorded slightly differently across the two sources.

<sup>363</sup> Excluding tenders which do not cover aircraft that fly to and from the UK (in line with paragraph 8.135) reduces the number of tenders for Viasat to [REDACTED] and Inmarsat to [REDACTED]. However, the majority of these airlines still have very few flights to and from the UK.

<sup>364</sup> Customer, [REDACTED] Email received 31 January 2023; Customer, [REDACTED] Email received 30 January 2023; Customer, [REDACTED] Email received 3 February 2023; Customer, [REDACTED] Email received 27 January 2023; Customer, [REDACTED] Email received 26 January 2023; Customer, [REDACTED] Email received 27 January 2023. In addition, even considering only

a result, it is not clear whether Inmarsat's data is limited to formal tenders for IFC services, or whether it covers a broader set of opportunities/contacts with airlines, for example exploratory conversations.

8.154 Based on the above, we do not consider that the Parties' data can be relied upon to assess closeness of competition between the Parties in tenders. The data cannot be combined to assess how often the Parties competed against one another in tenders on a reliable basis.<sup>365</sup> As a result, we have not used the Parties' data for this purpose and have relied on the tender information provided to us by airlines.

## Analysis of Parties' Internal Tender Documents

8.155 In order to inform our assessment of closeness of competition between the Parties and the constraints other suppliers exert on each of them, we reviewed internal documents that the Parties submitted<sup>366</sup> relating to recent tenders for IFC.<sup>367</sup> These included:

- (a) the 13 tenders referred to in the evidence from tender analysis section above;<sup>368</sup>
- (b) other recent tenders (including ongoing tenders) for IFC that are likely to have a UK nexus that either one or both of the Parties submitted bids for;
- (c) other recent tenders for IFC identified by the Parties as examples where they faced competition from a supplier offering a LEO or LEO/GEO hybrid service.

8.156 In our assessment of these documents, and of the weight that can be attached to them, we have taken into account the fact that the scope and granularity of information in these documents may differ depending on the circumstances of each tender and may also provide only a partial overview of

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the tenders in our final sample of airlines there are discrepancies between the tender information provided by the Parties and the tender information provided by airlines where we could not reconcile two tenders airlines told us both of the Parties participated in: [REDACTED] a retro-fit tender for [REDACTED] aircraft, or line-fit tender for [REDACTED] aircraft in the Parties' data.

<sup>365</sup> We also note that the Parties' tender data does not contain information on the other participants in tenders, nor does it include information on the runners-up. This data is therefore less complete than the tender data provided by airlines to assess closeness of competition.

<sup>366</sup> The Parties submitted internal documents in response to the first s.109 Notice dated 2 November 2022 (question 5 for Inmarsat, question 6 for Viasat) as well as the second s.109 Notice dated 21 December 2022. The Parties also submitted additional tender documents to support submissions made during the Main Party Hearing.

<sup>367</sup> The Parties' internal documents considered in this section include internal documents assessing upcoming tenders and each Party's proposed bid strategy.

<sup>368</sup> See the evidence from tender analysis chapter above for an explanation as to how we determined which tenders were most likely to have a UK-nexus. We did not receive internal documents relating to all of these tenders from both Parties.

internal discussions relating to each tender. We also took into account the fact that the Parties' behaviour and views expressed about each other and their rivals in internal documents might have been influenced by the fact that, for most of the period to which these documents relate, the Merger was in contemplation or had been announced. However, in the specific circumstances of this Merger, given the rapidly evolving competitive landscape and the need to take account of the future evolution of competitive conditions (see Chapter 6), we consider it important to focus on recent tenders for IFC in our assessment and the related internal documents. The content of the internal documents is also consistent with other evidence that we have gathered during our investigation such as evidence from tender data and evidence from airlines and the Parties' rivals. We therefore consider that we can place weight on these documents in our assessment.

### ***Analysis of documents***

8.157 Inmarsat's internal documents typically identify a small number of expected bidders for a tender – usually between three to five rivals per bid. These almost always include Viasat with Intelsat and Panasonic also referred to in most cases. There are less frequent references to Anuvu (and only for narrowbody opportunities). OneWeb and Starlink are also typically referred to (in particular in more recent documents since 2022). The documents sometimes identify a frontrunner in a tender and generally provide an overview of the strengths and weaknesses of potential bidders.

8.158 By contrast, fewer of Viasat's internal documents relating to upcoming tenders refer to expected rivals. Where they do, they also typically identify a small number of expected bidders for a tender – as with Inmarsat, usually between three to five rivals per bid. These are generally a combination of Inmarsat, Panasonic, Intelsat and (less frequently) Anuvu (for narrowbody opportunities). There are also numerous references to OneWeb and Starlink, in particular in more recent documents. In some cases, Viasat's internal documents relating to upcoming tenders make limited reference to the strengths and weaknesses of potential bidders.

8.159 We have also seen a small number of documents from both Parties recording feedback from airlines which show that each Party has, in some tenders, modified its offer in response to competitive pressure (which includes at least one revised offer which may have been made in response to competitive pressure from a LEO operator).

8.160 The rest of this section is structured as follows:

- (a) To inform our assessment of closeness of competition between the Parties, we first look at how the Parties assess each other in the internal documents.
- (b) To inform our assessment of the constraint that other suppliers exert on each of the Parties, we then look at how each of the Parties assess the main established and emerging rivals in the internal documents.

*The Parties' assessment of each other in the internal documents*

*Inmarsat's assessment of Viasat*

8.161 In almost all cases, Inmarsat's internal documents refer to Viasat as an expected bidder in upcoming tenders alongside a small number of others (see paragraph 8.157 above in relation to the other expected bidders).<sup>369</sup>

8.162 In many of these internal documents, Inmarsat indicates that Viasat will be [REDACTED]. For example:

- (a) In an internal document from [REDACTED] relating to a tender for narrowbody aircraft by [REDACTED], Inmarsat notes that the competition is [REDACTED].<sup>370</sup>
- (b) In an internal document from [REDACTED] relating to a tender by [REDACTED] for narrow and widebody aircraft, Inmarsat notes that it is [REDACTED].<sup>371</sup> In relation to the tender for widebody aircraft, Inmarsat refers [REDACTED]<sup>372</sup> [REDACTED].<sup>373</sup>
- (c) In an internal document from [REDACTED] relating to a tender by [REDACTED] for widebody aircraft, Inmarsat notes that the [REDACTED].<sup>374</sup>
- (d) In an internal document from [REDACTED] relating to a tender by [REDACTED] for narrowbody aircraft, Inmarsat notes that the [REDACTED].<sup>375</sup>

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<sup>369</sup> See for example Inmarsat, Response to s.109 Notice, 21 December 2022, Annex 2.2, 29 October 2020 relating to [REDACTED], slide 4; Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.42, 30 August 2022 relating to [REDACTED], slide 14; Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04, 5 January 2023 relating to [REDACTED], slide 6; Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.70, 24 August 2022 relating to [REDACTED], slide 13; Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.6, 10 May 2022 relating to [REDACTED], slides 2 and 6; Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.17, 11 January 2022 relating to [REDACTED], slides 2 to 4; Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.45, 25 February 2022 relating to [REDACTED], slide 2.

<sup>370</sup> Inmarsat, Response to s.109 Notice, 21 December 2022, Annex 2.1, 20 May 2021 relating to [REDACTED], page 3.

<sup>371</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.17, 11 January 2022 relating to [REDACTED], slide 2.

<sup>372</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.17, 11 January 2022 relating to [REDACTED], slide 2.

<sup>373</sup> Inmarsat, Response to s.109 Notice, 21 December 2022, Annex 2.5, 31 January 2020 relating to [REDACTED], slide 2.

<sup>374</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.45, 25 February 2022 relating to [REDACTED], slide 2.

<sup>375</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.62, 10 May 2022 relating to [REDACTED], slide 2.

- (e) In an internal document from [REDACTED] relating to a tender by [REDACTED] for multiple types of narrow and widebody aircraft, Inmarsat notes [REDACTED].<sup>376</sup>
- (f) In an internal document from [REDACTED] relating to a tender by [REDACTED] for narrowbody aircraft, Inmarsat notes [REDACTED].<sup>377</sup>

8.163 Inmarsat's internal documents often provide a brief overview of Viasat's strengths and weaknesses.<sup>378</sup> These are largely consistent across documents, although there is some variation in the list of weaknesses across tenders. In terms of Viasat's strengths, the documents often identify [REDACTED]. In terms of weaknesses, the documents often refer to [REDACTED].<sup>379</sup> Some documents also note as a weakness that Viasat is [REDACTED] and [REDACTED].<sup>380</sup>

8.164 We consider that these documents show that Inmarsat regards Viasat as a significant [REDACTED] rival in tenders.

#### *Viasat's assessment of Inmarsat*

8.165 We did not receive as many documents from Viasat referring to potential competitors in upcoming tenders. However, where documents do refer to anticipated bidders, Inmarsat is mentioned in most cases as an expected competitor alongside a small number of others (see paragraph 8.158) above in relation to the other expected bidders). In a small number of these Viasat identifies Inmarsat as its key rival. For example:

(a) [REDACTED].<sup>381</sup>

(b) [REDACTED].<sup>382</sup>

8.166 In general, Viasat's internal tender documents do not include an assessment of Inmarsat's perceived strengths and weaknesses. However, where they do

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<sup>376</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51, 8 June 2022 relating to [REDACTED], slides 3 and 19.

<sup>377</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.70, 24 August 2022 relating to [REDACTED], slide 13.

<sup>378</sup> For example, Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.50, 29 October 2020 relating to [REDACTED], slide 12; Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.42, 30 August 2022 relating to [REDACTED], slide 14; Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.76, 12 July 2022 relating to [REDACTED], slide 6; Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.03, 6 December 2022 relating to [REDACTED], slide 16.

<sup>379</sup> For example, Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.03, 6 December 2022 relating to [REDACTED], slide 16.

<sup>380</sup> For example, Inmarsat, Response to s.109 Notice, 21 December 2022, Annex 2.2, 29 October 2020 relating to [REDACTED], slide 4.

<sup>381</sup> Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00065480, 3 February 2022 relating to [REDACTED], slide 2.

<sup>382</sup> Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00050886, 7 September 2022 relating to [REDACTED], slide 6.

refer to its capabilities, Inmarsat's [REDACTED] is often identified as a strength. Conversely, in one internal tender document [REDACTED].<sup>383</sup>

8.167 We consider that these documents show that Viasat regards Inmarsat as a rival in most tenders and the key rival in a few of these.

### *The Parties' assessment of other rivals in the internal documents*

#### *The Parties' assessment of Intelsat*

8.168 In most of the internal documents, Inmarsat refers to Intelsat as a possible bidder in upcoming tenders, typically alongside a small number of others.<sup>384</sup> However, [REDACTED].

8.169 Where these internal documents refer to Intelsat they often include a brief overview of Intelsat's strengths and weaknesses.<sup>385</sup> The list of weaknesses vary slightly by tender, but generally include [REDACTED]. The strengths identified again vary by tender, but often include [REDACTED].<sup>386</sup>

8.170 A small number of recent internal documents also refer to Intelsat's hybrid LEO/GEO service. For example, in an internal document from [REDACTED] relating to a tender [REDACTED], Inmarsat refers to Intelsat's partnership with OneWeb which will provide a [REDACTED]<sup>387</sup> although it notes [REDACTED].<sup>388</sup> [REDACTED] are identified as the frontrunners in the tender. In an internal document from [REDACTED] relating to a tender by [REDACTED]<sup>389</sup> [REDACTED].<sup>390</sup>

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<sup>383</sup> Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00051965, 26 July 2021 relating to [REDACTED], slide 13.

<sup>384</sup> See for example Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.76, 12 July 2022 relating to [REDACTED], slide 6 and Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.45, 25 February 2022 relating to [REDACTED], slide 4.

<sup>385</sup> Inmarsat's internal documents that often provide a brief overview of Viasat's strengths and weaknesses, see paragraph 8.163, also refer to Intelsat.

<sup>386</sup> For example, Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51, 28 June 2022 relating to [REDACTED], slide 33.

<sup>387</sup> For example, Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51, 28 June 2022 relating to [REDACTED], slide 56.

<sup>388</sup> For example, Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51, 28 June 2022 relating to [REDACTED], slide 33.

<sup>389</sup> Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04, 5 January 2023 relating to [REDACTED], Slide 2.

<sup>390</sup> Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04, 5 January 2023 relating to [REDACTED], Slide 6.

8.171 Where Viasat's internal tender documents refer to potential competitors, Intelsat is mentioned in most of these<sup>391</sup> alongside Panasonic, Inmarsat, OneWeb and Starlink (and less frequently Anuvu). [REDACTED]<sup>392</sup> [REDACTED]<sup>393</sup> [REDACTED].

8.172 We consider that these documents show that both Parties regard Intelsat as a rival in most tenders but [REDACTED].

#### *The Parties' assessment of Panasonic*

8.173 In most of the internal documents, Inmarsat refers to Panasonic as a possible bidder in upcoming tenders. In some of these, Panasonic is identified as the main competitor.<sup>394</sup> For example:

(a) in an internal document from November 2021 relating to a tender by [REDACTED] for widebody aircraft, Inmarsat notes that [REDACTED].<sup>395</sup>

(b) in an internal document from [REDACTED] relating to a tender by [REDACTED] for narrowbody and widebody aircraft, Inmarsat refers to [REDACTED]<sup>396</sup> suggesting [REDACTED].

(c) in an internal document from [REDACTED] relating to a tender by [REDACTED] for multiple types of aircraft, Inmarsat notes that [REDACTED].<sup>397</sup>

(d) in an internal document from [REDACTED] relating to a tender by [REDACTED], Inmarsat notes that [REDACTED].<sup>398</sup>

8.174 A number of these internal Inmarsat documents provide a brief overview of Panasonic's strengths and weaknesses.<sup>399</sup> Weaknesses vary slightly by

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<sup>391</sup> See for example: Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00051965, 26 July 2021 relating to [REDACTED], slide 13; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00050886, 7 September 2022 relating to [REDACTED]; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00065480, 3 February 2022 relating to [REDACTED]; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00055277, 18 August 2022 relating to [REDACTED], slide 6.

<sup>392</sup> Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00055809, 18 January 2021 relating [REDACTED], slide 3.

<sup>393</sup> Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00065121, 2022 (there is no precise date shown in the document) relating to [REDACTED], slide 2.

<sup>394</sup> For example, Panasonic is referred to as the [REDACTED] for the [REDACTED], see Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.11, 9 November 2021 relating to [REDACTED], slide 5 and as the [REDACTED] on the narrowbody part of the [REDACTED], see Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51, 28 June 2022 relating to an [REDACTED], slide 3.

<sup>395</sup> Inmarsat, Response to s.109 Notice dated 9 November 2021, Annex 5.14, 6 January 2022 relating to [REDACTED], slide 5.

<sup>396</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.14, 6 January 2022 relating to [REDACTED], slide 10.

<sup>397</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51, 28 June 2022 relating [REDACTED], slide 3.

<sup>398</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.70, 24 August 2022 relating to [REDACTED], slide 13.

<sup>399</sup> Inmarsat's internal documents that often provide a brief overview of Viasat's strengths and weaknesses, see paragraph 8.163, also refer to Panasonic.

tender, but typically include [REDACTED]. Strengths also vary by tender, but often include [REDACTED].<sup>400</sup>

8.175 Where Viasat's documents for upcoming tenders refer to competitors Panasonic is mentioned as a potential rival in most of these.<sup>401</sup> Where Viasat includes an assessment of Panasonic's capabilities it refers to Panasonic's [REDACTED] as strengths.

8.176 We consider that these documents show that, for most tenders, both Parties regard Panasonic as a significant rival (and a key rival in some of these).

#### *The Parties' assessment of Anuvu*

8.177 Anuvu is referred to as a possible rival in the Parties' internal tender documents [REDACTED] less frequently compared to other established rivals (ie Intelsat and Panasonic and each other).

8.178 Both Parties refer to Anuvu as a potential competitor in a number of internal documents relating to narrowbody opportunities.<sup>402</sup> They generally do not include any detailed assessment of Anuvu's capabilities.

8.179 We consider that these documents show that both Parties often regard Anuvu as a rival in tenders, [REDACTED] for narrowbody aircraft [REDACTED].

#### *The Parties' assessment of Starlink*

8.180 Inmarsat's recent internal tender documents (from early 2022 onwards) typically refer to LEO operators, including Starlink. These documents show a greater tendency to refer to the competitive threat posed by LEO operators in the more recent documents than in the earlier documents. However, Starlink is [REDACTED]. For example:

(a) as referred to above in relation to Intelsat, in a recent internal document from [REDACTED] relating to a tender by [REDACTED] for widebody aircraft, Inmarsat refers

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<sup>400</sup> See for example Inmarsat, Response to s.109 Notice dated 2 November 2022, Annex 5.51, 28 June 2022 relating to [REDACTED], slide 33.

<sup>401</sup> See for example: Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00051965, 26 July 2021 relating to [REDACTED], slide 13; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00065480, 3 February 2022 relating to [REDACTED], slide 2; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00055277, 18 August 2022 relating to [REDACTED], slide 6; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00062991, March 2022 relating to [REDACTED].

<sup>402</sup> See for example Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.03, 6 December 2022 relating to [REDACTED], Slide 16; Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00062991, March 2022 relating to [REDACTED], slide 2.

to [REDACTED]<sup>403</sup> showing that the LEO operators (which may include Starlink) are treated as credible competitors on certain tenders.

- (b) in a number of Inmarsat's tender documents, OneWeb and Starlink are grouped together under a general 'LEO' category rather than separately. This is the case, for example, in internal documents [REDACTED]. In each of these internal documents, the following are identified by Inmarsat as weaknesses of LEO solutions: [REDACTED],<sup>404</sup> with the following noted as strengths: [REDACTED].<sup>405</sup>
- (c) in an internal document from [REDACTED], where Inmarsat considers the threat from Starlink in more detail, Inmarsat notes that [REDACTED] but that [REDACTED].<sup>406</sup>
- (d) in some documents Starlink (or LEOs generally) are not referred to. For example, in documents relating to tender opportunities by [REDACTED], there is no reference to Starlink (or other LEO alternatives).

8.181 We have identified a small number of examples where Inmarsat identifies a LEO solution (including Starlink) as a key threat and [REDACTED] proposes to adjust its commercial offer in response to a LEO offer. For example:

- (a) an internal document from [REDACTED] relating to [REDACTED] tender for narrowbody aircraft<sup>407</sup> (for routes mainly between [REDACTED]) notes that [REDACTED].<sup>408</sup> The document notes that Inmarsat plans to [REDACTED].<sup>409</sup>
- (b) an internal document from [REDACTED] relating to an opportunity by [REDACTED]<sup>410</sup> for narrowbody and widebody aircraft references [REDACTED].<sup>411</sup>

8.182 Viasat's documents (from early 2022 onwards) that refer to potential competitors in upcoming tenders also typically refer to LEOs, including Starlink. However, in general, Starlink is [REDACTED] and is sometimes combined with OneWeb where competitors are referenced. For example:

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<sup>403</sup> Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04, 5 January 2023 relating to [REDACTED], Slide 2.

<sup>404</sup> The exact language used varies in some of the documents.

<sup>405</sup> [REDACTED].

<sup>406</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51, 28 June 2022 relating to [REDACTED], slide 57.

<sup>407</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.33, 19 October 2022 relating to [REDACTED].

<sup>408</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.33, 19 October 2022 relating to [REDACTED], slide 2.

<sup>409</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.33, 19 October 2022 relating to [REDACTED], slide 4.

<sup>410</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.25, 7 December 2021 relating to [REDACTED].

<sup>411</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.25, 7 December 2021 relating to [REDACTED], slide 6.

- (a) in internal documents from [REDACTED], Viasat refers to potential competition from Starlink as well as other established players. [REDACTED].<sup>412</sup> [REDACTED].
- (b) in an internal document from [REDACTED], Viasat identifies Starlink as a main competitor alongside Inmarsat, Intelsat, Panasonic and OneWeb, but [REDACTED].
- (c) in an internal document from [REDACTED], Viasat's competitive assessment refers to Panasonic, Intelsat, Inmarsat, Anuvu, SpaceX, Thales & SPI and OneWeb. The assessment refers to SpaceX as [REDACTED].<sup>413</sup>

8.183 Viasat identified a number of tenders where it said that it had received feedback from the airline that its offer was not competitive compared to Starlink and responded by adjusting its offer to make it more competitive.

8.184 For example, Viasat provided various internal documents relating to the tender opportunity by [REDACTED]. An internal email from [REDACTED] includes Viasat's notes of a meeting with [REDACTED] where [REDACTED]. The document states that Viasat's offer had

[REDACTED]

- [REDACTED]

- [REDACTED].<sup>414</sup>

8.185 [REDACTED].<sup>415</sup> The documents show that Viasat sent [REDACTED] a revised commercial proposal with discounts [REDACTED].<sup>416</sup> [REDACTED].<sup>417</sup>

8.186 Following the main party hearing Viasat identified a number of other examples where it submitted that it had reduced its pricing in response to competitive pressure from a LEO alternative during a bid (including for tenders by [REDACTED]). Although Viasat's internal documents show that Viasat adjusted its prices during the tender, there is no reference in these documents to [REDACTED].

8.187 We consider that overall the internal documents show that both Parties often identify Starlink as a potential competitor in bids, [REDACTED]. However, the

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<sup>412</sup> See for example, Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00065480, 3 February 2022 relating to [REDACTED], slide 2; Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00057300, 11 July 2022 relating to [REDACTED], slide 3; Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00050886, 7 September 2022 relating to [REDACTED], slide 8.

<sup>413</sup> Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00051965, 26 July 2021 relating to [REDACTED], slide 13.

<sup>414</sup> Viasat, Follow up material from MPH (consolidated version), 10 February 2023, Supplemental Annex MPH.28, 26 October 2021 relating to [REDACTED], page 1.

<sup>415</sup> Viasat, Follow up material from MPH (consolidated version), 10 February 2022, Supplemental Annex MPH.29, 1 November 2021 relating to [REDACTED], page 2.

<sup>416</sup> Viasat, Follow up material from MPH (consolidated version), 10 February 2022, Supplemental Annex MPH.29, 1 November 2021 relating to [REDACTED], page 1.

<sup>417</sup> Viasat, Follow up material from MPH (consolidated version), 10 February 2022, Supplemental Annex MPH.32, 24 January 2022 relating to [REDACTED], pages 1 and 2.

documents indicate that the Parties are becoming increasingly concerned by Starlink and there are a small number of tenders where the documents indicate that Starlink has exerted a significant constraint on the Parties.

## **Strategic plans of the Parties and their main rivals**

- 8.188 We have obtained evidence from the Parties and their main rivals on their competitive strategy and future plans in IFC (for the Parties we obtained evidence on their plans absent the Merger). This evidence includes internal documents, responses to our questionnaires, evidence obtained on calls and other submissions made by the Parties and their main rivals as part of our investigation.
- 8.189 Given the rapidly evolving competitive landscape, evidence on the competitive strategy and future plans of the Parties and their main rivals has been an important source of information in our assessment.
- 8.190 However, in our assessment of this evidence and of the weight that can be attached to it, we have taken into account the fact that the sector is developing fast and that suppliers' plans are also evolving (and have evolved during the course of our investigation). We were alert to the fact that submissions made in relation to future plans relate to plans existing at a specific point in time and subject to change.
- 8.191 We have also taken into account that some of the evidence we gathered from the Parties was produced after the Merger was in contemplation (and some of the evidence we gathered from third parties was produced after we announced our Provisional Findings). See further paragraph 6.22.

### ***Strategic plans of the Parties***

- 8.192 We have found that the Parties are following different strategies over the next few years to improve their competitive position in IFC. In particular:
- (a) While the Parties both plan to launch additional GEO satellites in the next few years to improve their capacity and coverage, these launches will improve their satellite networks in different ways and reflect the differences in their current positions. ViaSat-3 will improve Viasat's global coverage (which it currently lacks) and Inmarsat-7 (see paragraph 8.206) will improve Inmarsat's capacity in high demand areas, particularly in Europe (which it currently lacks).
  - (b) Although both Parties are exploring ways to make use of LEO satellite capacity in IFC over the next few years to offer multi-orbit connectivity,

[REDACTED] and [REDACTED]. Inmarsat does intend to use some NGSO satellite capacity for IFC once it launches two HEO satellites as part of Inmarsat-7, which will provide coverage over the Arctic Circle.

- (c) While the Parties are the only significant SSPs that rely on VARs to supply IFC to commercial airlines, the use of VARs and other third parties are a greater focus in Inmarsat's future plans in IFC than in Viasat's. Inmarsat expects [REDACTED]. Inmarsat is also looking to secure [REDACTED].

## *Viasat*

### *Future plans*

8.193 An internal document obtained from Viasat (dated October 2022) which sets out Viasat's strategic plans for its global enterprise and mobility business segment (which includes IFC) estimates that earnings from its commercial aviation activities will [REDACTED].<sup>418</sup> [REDACTED].<sup>419</sup>

8.194 This document also sets out Viasat's [REDACTED] over the next few years. These include:

(a) [REDACTED];<sup>420</sup> and

(b) [REDACTED].<sup>421</sup> [REDACTED].<sup>422</sup>

### *GEO satellite capacity plans*

8.195 As set out at paragraph 8.67, Viasat is planning to launch three additional GEO satellites, with one each over the Americas, the EMEA region, and the APAC region, known collectively as its ViaSat-3 constellation.<sup>423</sup> On 1 May 2023, Viasat announced that the first satellite covering the Americas had been successfully launched.<sup>424</sup>

8.196 ViaSat-3, once in service, will allow Viasat to offer near to global Ka-band coverage (other than at the poles) using its own satellites rather than needing to lease capacity from third parties.<sup>425</sup> It is expected that ViaSat-3 will provide approximately eight times the current capacity of Viasat's satellite fleet.

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<sup>418</sup> Viasat, Response to s.109 Notice, Appendix VA\_S.109.I\_002, page 15.

<sup>419</sup> Viasat, Response to s.109 Notice, Appendix VA\_S.109.I\_002, pages 12 to 14.

<sup>420</sup> Viasat, Response to s.109 Notice, Appendix VA\_S.109.I\_002, pages 8 and 9.

<sup>421</sup> Viasat, Response to s.109 Notice, Appendix VA\_S.109.I\_002, pages 23.

<sup>422</sup> Viasat, Response to s.109 Notice, Appendix VA\_S.109.I\_002, pages 24 and 34.

<sup>423</sup> Parties, Merger Notice, 8 August 2022, paragraph 424.

<sup>424</sup> <https://news.viasat.com/newsroom/press-releases/viasat-3-americas-successfully-launched>

<sup>425</sup> Parties, Merger Notice, 8 August 2022, paragraph 425. [REDACTED].

8.197 Viasat expects that the complete ViaSat-3 constellation will start to support its IFC activities [REDACTED].<sup>426</sup> As set out in paragraph 8.67, ViaSat-3A is expected to enter into service in mid 2023, with ViaSat-3B and ViaSat-3C expected to enter into service [REDACTED]. [REDACTED].

8.198 Viasat is also currently in the early design stage of its next-generation ViaSat-4 satellite network, [REDACTED].<sup>427</sup> [REDACTED].<sup>428</sup>

#### *NGSO satellite capacity plans*

8.199 In addition to launching additional GEO satellite capacity, [REDACTED].<sup>429</sup>

8.200 Viasat currently has the regulatory approvals to serve customers in the United States with an NGSO satellite system consisting of 20 MEO satellites operating in Ka-band.<sup>430</sup> Viasat is also seeking a modification to this licence to deploy 288 LEO satellites.

8.201 Viasat also told us that, [REDACTED].<sup>431</sup> [REDACTED].<sup>432</sup>

8.202 [REDACTED].<sup>433</sup>

#### *Inmarsat*

##### *Future plans*

8.203 An internal document obtained from Inmarsat (dated December 2022) which [REDACTED] shows that Inmarsat expects to [REDACTED].<sup>434</sup> This is expected to result from growth in passenger use of Inmarsat's IFC services and a greater number of active aircraft connected to its IFC services. The document notes that Inmarsat plans to [REDACTED] despite increased competitive intensity from existing suppliers and newer suppliers of connectivity services in mobility applications (eg Starlink and OneWeb) but that [REDACTED].<sup>435</sup>

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<sup>426</sup> Parties, Merger Notice, 8 August 2022, paragraph 428.

<sup>427</sup> Parties, Merger Notice, 8 August 2022, paragraph 429.

<sup>428</sup> Viasat, Response to s.109 Notice, Appendix VA\_S.109.I\_196, page 1.

<sup>429</sup> Parties, Merger Notice, 8 August 2022, paragraph 320, and Viasat, Main Party Hearing transcript, page 19, lines 13 – 23. Viasat currently operates LEO satellites for a customer in the US government.

<sup>430</sup> Parties, Merger Notice, 8 August 2022, paragraph 321.

<sup>431</sup> Viasat, Main Party Hearing transcript, page 19, lines 13 – 23.

<sup>432</sup> Viasat, Response to s.109 Notice, Appendix VA\_S.109.I\_348, page 22.

<sup>433</sup> Viasat, Response to s.109 Notice, Appendix VA\_S.109.I\_196, page 1.

<sup>434</sup> Inmarsat, Response to additional Information request, 26 Jan 2023, 2023 Budget presentation (Final), page 2.

<sup>435</sup> Inmarsat, Response to additional Information request, 26 Jan 2023, 2023 Budget presentation (Final), page 3.

8.204 Another internal document that sets out Inmarsat's business plan and budget in aviation highlights a number of initiatives Inmarsat views as key to growing its IFC activities over the next few years.<sup>436</sup>

- (a) Inmarsat describes IFC as a [REDACTED] in capacity, certainty, and coverage.
- (b) Inmarsat's goals for the year include [REDACTED], which are mainly [REDACTED], and [REDACTED]. Inmarsat also notes that the competitive environment is becoming more challenging due to increased competition now from LEO operators (e.g. Starlink and OneWeb) and others (e.g. resurgent Intelsat and Panasonic).
- (c) Inmarsat's roadmap for achieving these goals includes [REDACTED].

#### *Satellite capacity plans*

8.205 As noted in paragraph 8.77, Inmarsat plans to launch three more GEO satellites [REDACTED] and two HEO satellites to provide coverage over the Arctic Circle [REDACTED].<sup>437</sup> All satellites and their associated ground networks are [REDACTED].

8.206 These satellites are collectively referred to as Inmarsat-7.<sup>438</sup> [REDACTED]. An internal document obtained from Inmarsat (dated May 2022) notes [REDACTED].<sup>439</sup>

8.207 The launch of two HEO satellites will allow Inmarsat to serve a new geographic area over the Arctic Circle [REDACTED].<sup>440</sup> An internal document obtained from Inmarsat (dated May 2022) notes [REDACTED].<sup>441</sup>

#### *ORCHESTRA*

8.208 In addition to Inmarsat-7, Inmarsat announced in July 2021 its plans to combine GEO and NGSO satellites with 5G ATG services to provide both multi-orbit and multi-network connectivity services as part of its project ORCHESTRA.<sup>442</sup> This project plans to integrate Inmarsat's existing GEO Ka-band capacity with its ATG services (eg EAN) and LEO satellite capacity. This LEO satellite capacity would provide an additional layer of satellite capacity over high demand areas (eg oceanic flight corridors).

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<sup>436</sup> Inmarsat, Response to additional Information request, 26 Jan 2023, 2023 Budget presentation (ABU), pages 3 and 4.

<sup>437</sup> Parties, Merger Notice, 8 August 2022, paragraph 431.

<sup>438</sup> Parties, Merger Notice, 8 August 2022, paragraphs 434 and 435.

<sup>439</sup> Inmarsat, Response to Phase 2 S.109 Notice, Annex 2.001, page 17.

<sup>440</sup> Parties, Merger Notice, 8 August 2022, paragraph 437.

<sup>441</sup> Inmarsat, Response to Phase 2 S.109 Notice, Annex 2.001, page 17.

<sup>442</sup> Parties, Merger Notice, 8 August 2022, paragraph 311.

8.209 An internal document obtained from Inmarsat (dated May 2022) notes that [REDACTED].<sup>443</sup> Another internal document (dated May 2022) sets out a number of benefits of ORCHESTRA for IFC, including [REDACTED].<sup>444</sup>

8.210 Inmarsat told us [REDACTED].<sup>445</sup>

### *Participation in Airbus' HBCplus programme*

8.211 As set out in paragraph 2.49, Inmarsat was announced in June 2022 as the first IFC supplier available to commercial airlines as part of Airbus' HBCplus programme.<sup>446</sup> As set out in paragraph 2.48, Airbus' HBCplus programme will offer a supplier agnostic user terminal (initially in Ka-band) [REDACTED] on all Airbus aircraft.

8.212 An internal document that sets out [REDACTED] indicates that HBCplus is [REDACTED].<sup>447</sup> However, this document also notes that [REDACTED].<sup>448</sup>

### **Strategic plans of the Parties' main rivals**

8.213 We have found that the Parties' main rivals have plans to improve their competitive position in IFC over the next few years. In particular:

- (a) Intelsat, Panasonic, and Anuvu have all secured access to at least some GEO satellite capacity to support their IFC activities over the next few years. Intelsat has recently launched an additional GEO satellite with HTS connectivity capacity [REDACTED]. Intelsat and Panasonic have both secured access to Eutelsat's 10B satellite that will provide coverage over Europe. Anuvu has plans to launch two GEO micro-satellites that will provide it with a small, assured base of Ku-band capacity for IFC in North America.
- (b) Intelsat, Panasonic, and Anuvu have plans to offer multi-orbit connectivity as part of their IFC activities over the next few years. Both Intelsat and Panasonic have agreed distribution agreements with OneWeb to utilise their GEO satellite capacity and OneWeb's LEO satellite capacity once OneWeb's network is able to support IFC in early 2024. Anuvu does not have a distribution agreement in place with a LEO SNO but is currently

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<sup>443</sup> Inmarsat, Response to Phase 2 S.109 Notice, Annex 2.001, page 23.

<sup>444</sup> Inmarsat, Response to Phase 2 S.109 Notice, Annex 2.013, page 1.

<sup>445</sup> Inmarsat, Main Party Hearing transcript, [REDACTED], and [REDACTED]. An internal document obtained from Inmarsat (dated May 2022) [REDACTED]. See: Inmarsat, Response to Phase 2 S.109 Notice, Annex 2.013, page 1.

<sup>446</sup> [Inmarsat selected as first connectivity provider for new Airbus Airspace Link HBCplus solution](#) (accessed on 14 February 2023).

<sup>447</sup> Inmarsat, Response to additional Information request, 26 Jan 2023, 2023 Budget presentation (ABU), page 47.

<sup>448</sup> Inmarsat, Response to additional Information request, 26 Jan 2023, 2023 Budget presentation (ABU), page 50.

considering a number of options in relation to sourcing LEO capacity to offer multi-orbit connectivity in IFC.

- (c) Starlink will be able to offer IFC to an increasing number of commercial aircraft, including on intercontinental routes to and from Europe, as it launches more ISL-enabled satellites which will improve the capacity and coverage of its network. Starlink has been awarded contracts to supply IFC across a variety of aircraft models. The evidence shows that Starlink intends to continue its efforts to expand its presence in IFC in the next few years, [REDACTED].

8.214 The evidence we have obtained from the Parties' main rivals shows that a number of them are actively considering a wide range of acquisitions, mergers, and other commercial partnerships with SNOs, SSPs, and VARs to improve their competitive position in IFC in addition to those set out below.<sup>449</sup> However, these are all at an exploratory stage and, as no agreement had been reached by the time of our final report, we did not consider that any specific agreement should be taken into account in our competitive assessment of the Merger. We note, however, that this ongoing activity supports our view that satellite connectivity is a dynamic sector (see paragraph 5.5).

## *Intelsat*

### *Current position and future plans*

8.215 [REDACTED].<sup>450</sup> [REDACTED].

8.216 [REDACTED].<sup>451</sup> [REDACTED].<sup>452</sup>

8.217 Intelsat told us that it is enhancing its offering by introducing a new IFC solution.<sup>453</sup> While its GEO only '2Ku' IFC solution will remain available to airlines, Intelsat will supply an IFC service that uses an ESA developed by Stellar Blu that will utilise both its GEO capacity (either self-supplied or sourced from third parties) and OneWeb's LEO capacity once its satellite network is able to support IFC. The terminal developed by Stellar Blu has a

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<sup>449</sup> See: Competitor, Response to s.109 Notice, Annex IS SA (2022-05-24 and 25); Competitor, Response to Phase 2 SSP and SNO RFI, question 29; Competitor, Response to Phase 2 SSP and SNO RFI 2, questions 7 to 9; Competitor, Response to s.109 notice, Documents 6, 7, 8 and 15; and Competitor, Response to s.109 notice, Annex 4, Competitor [REDACTED], Response to RFI, 22 April 2023.

<sup>450</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 29.

<sup>451</sup> Competitor, [REDACTED] Response to s.109 Notice, Annex IS SA (2022-05-24 and 25) and Competitor, Response to s.109 Notice, Annex IS SA (2022-08-31). [REDACTED].

<sup>452</sup> Competitor, [REDACTED] Response to s.109 Notice, Annex IS SA (2022-05-24 and 25).

<sup>453</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 9.

single antenna and two modems (one for LEO and one for GEO) to provide multi-orbit connectivity.<sup>454</sup>

8.218 Intelsat recently won its first customer (Alaska Airlines) for its multi-orbit IFC service.<sup>455</sup> [REDACTED].<sup>456</sup>

### *Satellite capacity plans*

8.219 In April 2023, Intelsat launched an additional satellite with HTS connectivity capacity.<sup>457</sup> As set out in paragraph 8.88, [REDACTED].<sup>458</sup> [REDACTED].

8.220 In addition, Intelsat told us that it may source more satellite capacity from third parties in the next five years to ensure it can meet its customers' demands.<sup>459</sup> Intelsat told us that it is not particularly difficult to source satellite capacity from third parties in high demand areas where there are capacity constraints (eg the North Atlantic flight corridor), it is just expensive.<sup>460</sup>

### *Commercial partnerships with OneWeb and Eutelsat*

8.221 In August 2022, Intelsat entered into a distribution agreement with OneWeb.<sup>461</sup> In March 2023, Intelsat signed a seven-year multi-orbit agreement with Eutelsat that will provide access to Eutelsat's satellites including the recently launched 10B satellite as well as OneWeb's constellation.<sup>462</sup> As noted in Appendix D, Eutelsat 10B will provide satellite capacity from the second half of 2023 and OneWeb told us that it expects to start supplying satellite capacity for IFC in early 2024.

8.222 [REDACTED].<sup>463</sup> [REDACTED].

8.223 [REDACTED].<sup>464</sup> [REDACTED].

8.224 [REDACTED].<sup>465</sup>

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<sup>454</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 9; and Competitor, Response to s.109 request, Board presentation.

<sup>455</sup> [Alaska Airlines picks Intelsat for E175 streaming WiFi upgrade | PaxEx.Aero.](#)

<sup>456</sup> Competitor, [REDACTED] Email received 16 March 2023.

<sup>457</sup> [Intelsat 40e High-Throughput Satellite Successfully Launched | Intelsat](#)

<sup>458</sup> Competitor, [REDACTED] Response to Phase 1 competitor questionnaire, question 4.

<sup>459</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 7.

<sup>460</sup> Competitor, [REDACTED] Note of call, 17 January 2023, paragraph 16.

<sup>461</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 29.

<https://www.intelsat.com/newsroom/intelsat-and-oneweb-partnership-brings-multi-orbit-connectivity-to-airlines-worldwide/>.

<sup>462</sup> <https://www.eutelsat.com/en/news/press.html#/pressreleases/eutelsat-and-intelsat-sign-multi-orbit-contract-enhancing-connectivity-with-oneweb-services-3238563>.

<sup>463</sup> Competitor, [REDACTED] Response to Phase 1 competitor questionnaire, question 9.

<sup>464</sup> Competitor, [REDACTED] Response to s.109 Notice, Annex IS SA (2022-05-24 and 25).

<sup>465</sup> Competitor, [REDACTED] Response to s.109 Notice, Annex IS SA (2022-05-24 and 25).

8.225 As noted above, Intelsat plans to use an IFC solution with an ESA developed by Stellar Blu to provide multi-orbit connectivity to its IFC customers. On 28 February 2023, Intelsat announced that it had successfully completed inflight testing of the ESA on a regional jet (the Bombardier CRJ-700).<sup>466</sup> [REDACTED].<sup>467</sup> [REDACTED].<sup>468</sup> [REDACTED].<sup>469</sup> [REDACTED].<sup>470</sup>

## *Panasonic*

### *Current position and future plans*

- 8.226 An internal document obtained from Panasonic (dated December 2021) sets out its financial forecasts for its IFC activities both with and without its distribution agreement with OneWeb.<sup>471</sup> This analysis shows that Panasonic expects [REDACTED].
- 8.227 [REDACTED].<sup>472</sup> Panasonic told us that, while satellite capacity is expected to increase in the coming years, [REDACTED] this capacity is increasingly controlled by its competitors.<sup>473</sup> However, as noted in paragraphs 8.57 to 8.115, Panasonic expects to source the majority of its satellite capacity globally from third parties which are not active in the supply of IFC (and are therefore not competitors to Panasonic).
- 8.228 Internal documents obtained from Panasonic are consistent with its submissions in relation to its current position and that it considers it has a competitive disadvantage from relying on third parties for satellite capacity to support its IFC activities.<sup>474</sup>
- 8.229 Another internal document (dated September 2022) indicates that Panasonic considers that its lack of vertical integration is not the only challenge it faces in winning new IFC contracts with its current offering, citing challenges in relation to its IFC solution as [REDACTED].<sup>475</sup>

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<sup>466</sup> [Intelsat Completes Multi-Orbit Inflight Wi-Fi Tests | Intelsat](#).

<sup>467</sup> Competitor, [REDACTED] Email received 16 March 2023.

<sup>468</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, question 3.

<sup>469</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 31.

<sup>470</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, question 3.

<sup>471</sup> Competitor, [REDACTED] Response to s.109 notice, Document 11.

<sup>472</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 6; and Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, question 1.

<sup>473</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 21.

<sup>474</sup> Competitor, [REDACTED] Response to s.109 notice, Documents 2, 6 and 11.

<sup>475</sup> Competitor, [REDACTED] Response to s.109 notice, Document 12.

### *Distribution agreement with Eutelsat*

8.230 As set out in paragraph 8.96, Panasonic expects to source the large majority ([REDACTED]) of its European capacity from Eutelsat from the second half of 2023 once Panasonic's agreement with Eutelsat for satellite capacity from its 10B satellite begins. Panasonic's agreement with Eutelsat to source capacity from the 10B satellite is expected to continue until [REDACTED].

### *Distribution agreement with OneWeb*

8.231 Panasonic entered into a distribution agreement with OneWeb in October 2022 to use OneWeb's LEO satellite capacity to supply IFC to commercial airlines.<sup>476</sup> As set out in Appendix D, OneWeb told us that it expects to start supplying satellite capacity for IFC in early 2024.

8.232 An internal document obtained from Panasonic (dated May 2022) states that Panasonic expects OneWeb's satellite capacity to be ready to support the supply of IFC in 'Q4 2023 [with] homogeneous global coverage [and] low latency'.<sup>477</sup>

8.233 Another internal document obtained from Panasonic (dated December 2021) provides an overview of Panasonic's anticipated agreement with OneWeb and describes its IFC offering as a distribution partner for OneWeb's LEO satellite capacity.<sup>478</sup> Panasonic will offer three packages of satellite capacity to commercial airlines: OneWeb LEO only, Panasonic's Ku-band GEO capacity sourced from third party SNOs, and a combination of OneWeb's LEO with Panasonic's Ku-band GEO.

8.234 Panasonic told us that it expects to use an ESA supplied by Stellar Blu to supply LEO only and hybrid LEO/GEO solutions using OneWeb's satellite capacity.<sup>479</sup> This will allow Panasonic to offer an IFC solution which utilises both its GEO capacity sourced from third parties and OneWeb's LEO capacity once its satellite network is able to support IFC.

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<sup>476</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 7. [OneWeb and Panasonic Avionics Corporation to deliver low Earth orbit \(LEO\) connectivity to airlines worldwide.](#)

<sup>477</sup> Competitor, [REDACTED] Response to s.109 notice, Document 20.

<sup>478</sup> Competitor, [REDACTED] Response to s.109 notice, Document 11.

<sup>479</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 31; and Competitor, Response to Phase 2 SSP and SNO RFI 2, question 11.

## Anuvu

### *Current position and future plans*

8.235 Anuvu told us the importance of IFC continues to grow and it expects its revenues from IFC to grow in the next five years.<sup>480</sup>

8.236 An internal document obtained from Anuvu (dated October 2021) assesses its current position in IFC and sets out its future plans in IFC.<sup>481</sup>

(a) [REDACTED].

(b) Anuvu plans to launch GEO micro-satellites in early 2023,<sup>482</sup> and expects [REDACTED].

(c) Anuvu considers that a source of competitive strength for its IFC solution is [REDACTED].

(d) Anuvu notes that the outsourcing of [REDACTED].

### *Satellite capacity plans*

8.237 As noted in paragraph 8.106, Anuvu is currently planning to launch two GEO micro-satellites in the second half of 2023.<sup>483</sup> These two micro-satellites will provide Anuvu with a small, assured base of Ku-band capacity for IFC. Anuvu told us it intends to use this capacity to supplement the capacity it sources from third parties in geographic regions where satellite capacity is constrained (ie North America).

8.238 [REDACTED].<sup>484</sup>

8.239 An internal document obtained from Anuvu (dated October 2021) shows that launching GEO micro-satellites will [REDACTED].<sup>485</sup>

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<sup>480</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 6.

<sup>481</sup> Competitor, [REDACTED] Response to s.109 notice, Annex 4.

<sup>482</sup> Micro-geostationary satellites are a tenth the size of traditional geostationary satellites – typically one cubic metre. See footnote 303.

<sup>483</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 5.

<sup>484</sup> Competitor, [REDACTED] Note of call, 8 June 2022, paragraph 17.

<sup>485</sup> Competitor, [REDACTED] Response to s.109 notice, Annex 4.

## *Plans for offering multi-orbit connectivity in IFC*

- 8.240 Anuvu has stated publicly its plans to offer multi-orbit connectivity as part of its IFC solution in the coming years.<sup>486</sup> Anuvu told us it currently expects to have access to [REDACTED].<sup>487</sup>
- 8.241 [REDACTED].<sup>488</sup> [REDACTED].
- 8.242 [REDACTED].<sup>489</sup> [REDACTED].<sup>490</sup> [REDACTED].<sup>491</sup>
- 8.243 In order to offer multi-orbit connectivity as part of its IFC offering to customers, Anuvu intends to have an ESA that switches between its GEO satellite capacity sourced from third party SNOs and LEO satellites as part of its IFC solution. [REDACTED].<sup>492</sup> [REDACTED].
- 8.244 An internal document obtained from Anuvu (dated October 2021) provides an overview of Anuvu's internal thinking on its partnership with LEO SNOs and its assessment of multi-orbit IFC relative to standalone GEO and LEO networks.<sup>493</sup> [REDACTED].

## *Starlink*

### *Current position*

- 8.245 Starlink has been awarded contracts to supply IFC services to a number of commercial airlines.<sup>494</sup>
- (a) In March 2022, Starlink was awarded a contract by JSX to supply IFC on [REDACTED] its regional jet aircraft (ERJ-135 and ERJ-145 airframes).<sup>495</sup> Starlink told us that JSX's routes are in North America and its flights typically last less than three hours.<sup>496</sup> Starlink has installed Starlink equipment on JSX's fleet of 20 ERJ-145s.<sup>497</sup> Starlink [REDACTED] STC for the ERJ-135.<sup>498</sup>
- (b) In April 2022, Starlink was awarded a contract by Hawaiian Airlines to supply IFC on [REDACTED] of its aircraft (including the narrowbody A321neo, and

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<sup>486</sup> See: [Home | Anuvu Constellation](#).

<sup>487</sup> Competitor, [REDACTED] Note of call, 28 April 2022, paragraph 20.

<sup>488</sup> Competitor, [REDACTED] Note of call, 12 January 2023, paragraphs 26 to 29.

<sup>489</sup> Competitor, [REDACTED] Note of call, 12 January 2023, paragraphs 30 to 38.

<sup>490</sup> Competitor, [REDACTED] Note of call, 18 January 2023, paragraph 31.

<sup>491</sup> Competitor, [REDACTED] Note of call, 18 January 2023, paragraph 34.

<sup>492</sup> Competitor, [REDACTED] Note of call, 8 June 2022, paragraph 13.

<sup>493</sup> Competitor, [REDACTED] Response to s.109 notice, Annex 4.

<sup>494</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, question 8.

<sup>495</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, question 8.

<sup>496</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, paragraphs 13.2, 13.6, and 13.7.

<sup>497</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>498</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023 and Competitor, [REDACTED] Email, 2 May 2023.

the widebody A330-200 and 787-9 airframes).<sup>499</sup> Hawaiian Airlines flies globally with all flights starting or ending in Hawaii.<sup>500</sup> [REDACTED].<sup>501</sup> [REDACTED].<sup>502</sup>

- (c) In June 2022, Starlink entered into an agreement to supply IFC services to [REDACTED] Aero Technologies regional ERJ-135 aircraft.<sup>503</sup> As noted above (paragraph 8.245(a)), Starlink [REDACTED] the STC for the ERJ-135.<sup>504</sup> Starlink told us that for this contract [REDACTED].<sup>505</sup>
- (d) In July 2022, Starlink was awarded a contract by [REDACTED] to supply IFC services to [REDACTED] (regional) aircraft.<sup>506</sup> [REDACTED].<sup>507</sup> Starlink told us that it is currently working with De Havilland to obtain an STC [REDACTED].<sup>508</sup>
- (e) In July 2022, Starlink was awarded a contract to supply IFC services to [REDACTED].<sup>509</sup> [REDACTED].<sup>510</sup> [REDACTED].<sup>511</sup> [REDACTED].<sup>512</sup>
- (f) In November 2022, Starlink entered into an agreement to supply IFC services to [REDACTED] ZipAir [REDACTED] aircraft.<sup>513</sup> [REDACTED].<sup>514</sup> As noted above (paragraph 8.245(b)), Starlink told us that [REDACTED].<sup>515</sup>
- (g) In December 2022, Starlink entered into an agreement to supply IFC services to [REDACTED] airBaltic aircraft, all A220-300 (narrowbody) airframes. airBaltic serves over 70 destinations in Europe, the Middle East, and the Eurasian region.<sup>516</sup> Starlink and airBaltic will work together to obtain the STC to install Starlink's IFC equipment on this type of aircraft. Starlink told us that [REDACTED].<sup>517</sup> [REDACTED].<sup>518</sup>

8.246 Starlink told us that it has had discussions with various airlines that operate in various locations around the world about the possibility of Starlink providing IFC services [REDACTED].<sup>519</sup> Starlink also told us it has had discussions about the

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<sup>499</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, question 8.

<sup>500</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, paragraphs 13.2 and 13.7.

<sup>501</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>502</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>503</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 28 March 2023.

<sup>504</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023 and Competitor, [REDACTED] Email, 2 May 2023.

<sup>505</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 28 March 2023.

<sup>506</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>507</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>508</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>509</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>510</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>511</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>512</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annex 5.1.

<sup>513</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, question 8.

<sup>514</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>515</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>516</sup> [airBaltic to equip entire fleet with SpaceX's Starlink.](#)

<sup>517</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>518</sup> Customer, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>519</sup> Competitor, [REDACTED] Note of call with competitor, 1 December 2022, paragraphs 28 – 30.

possibility of providing IFC services to [REDACTED] for a mix of widebody and narrowbody opportunities.<sup>520</sup> This is reflected in a recent internal document [REDACTED].<sup>521</sup>

8.247 Starlink has also tested its IFC solution on Delta Airlines aircraft.<sup>522</sup> Starlink told us that, [REDACTED].<sup>523</sup> Starlink told us that [REDACTED].<sup>524</sup> Starlink told us [REDACTED].<sup>525</sup>

8.248 Following the publication of our Provisional Findings Report, Starlink told us it faced [REDACTED]. This is reflected in recent Starlink internal documents.<sup>526</sup>

8.249 Starlink said that [REDACTED].<sup>527</sup>

8.250 Starlink told us that the cost per aircraft to maintain IFC contracts (on both the technical and the business account management side) [REDACTED].<sup>528</sup>

8.251 Starlink told us this has [REDACTED].

### *Satellite capacity plans*

8.252 As set out in paragraph 8.113, Starlink has 3,745 active LEO satellites in orbit.<sup>529</sup> It expects to launch around [REDACTED] additional satellites in both 2023 and 2024, and plans to continue increasing the number of satellites in its constellation in 2025 and 2026.<sup>530</sup>

8.253 Starlink told us that its ability to provide IFC will depend [REDACTED].<sup>531</sup> Starlink explained that, while it is actively deploying new satellites, [REDACTED] across all its end-use applications and, [REDACTED].<sup>532</sup> Starlink expects to provide more capacity and offer better connectivity services [REDACTED] as it launches satellites [REDACTED].<sup>533</sup> Starlink also told us that the capacity that aircraft use for IFC is [REDACTED] that Starlink is launching.<sup>534</sup>

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<sup>520</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 30 March 2023, question 9.

<sup>521</sup> An internal document from March 2023 identifies all of these opportunities plus an additional potential opportunity. Competitor, [REDACTED] Response to the phase 2 RFI, 30 March 2023, Annex 5.1

<sup>522</sup> See: [Delta Air Lines Tested SpaceX's Starlink Internet for Planes, Delta CEO Says - WSJ](#)

<sup>523</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, paragraphs 15.1 to 15.3.

<sup>524</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 30 March 2023, Annex 6, [REDACTED].

<sup>525</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 8 December 2022, paragraph 15.3.

<sup>526</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annex 1 and Annex 4.

<sup>527</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 1.2.

<sup>528</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 43.

<sup>529</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023, question 4.

<sup>530</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, paragraph 2.2; Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, paragraphs 1.1 to 1.3; and Competitor, [REDACTED] Response to follow-up questions to Phase 2 call, 1 December 2022, paragraph 9.1.

<sup>531</sup> Competitor, [REDACTED] Note of call, 1 December 2022, paragraph 6.

<sup>532</sup> Competitor, [REDACTED] Response to follow-up questions to Phase 2 call, 1 December 2022, paragraph 1.1.

<sup>533</sup> Competitor, [REDACTED] Response to follow-up questions to Phase 2 call, 1 December 2022, paragraphs 2.1 and 2.2.

<sup>534</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 48.

8.254 Starlink believes it is currently able to provide sufficient capacity for IFC services [REDACTED] in countries where it is licensed to do so, including on intracontinental routes in Europe.<sup>535</sup> Starlink told us it has a sufficient number of ISL-enabled satellites to provide some IFC services to aircraft on intercontinental routes to and from Europe, but that the number of flights and/or quality of service on such routes will be limited until more ISL-enabled satellites are brought into service and required [REDACTED]. Starlink told us that [REDACTED] be able to offer reliable transoceanic IFC services to aircraft on intercontinental routes to and from Europe [REDACTED].<sup>536</sup>

8.255 Starlink told us that around [REDACTED]% of its satellite constellation has been equipped with ISLs since the end of 2022 and that it expects around [REDACTED].<sup>537</sup> [REDACTED].<sup>538</sup>

### *Future plans*

8.256 The evidence received from Starlink (including internal documents) shows that it has adjusted its plans for IFC (including [REDACTED]) over time, as it adapts to [REDACTED] circumstances [REDACTED], and that Starlink will continue to re-evaluate its plans.

8.257 [REDACTED]<sup>539</sup>[REDACTED].<sup>540</sup>

8.258 [REDACTED].<sup>541</sup> [REDACTED].<sup>542</sup> [REDACTED]<sup>543</sup> [REDACTED].

8.259 Based on Starlink's submissions and the evidence we received to support

those submissions:

(a) [REDACTED]<sup>544</sup>[REDACTED].<sup>545</sup>

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<sup>535</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, paragraphs 3.1, 3.2 and 3.4.

<sup>536</sup> Competitor, [REDACTED] Response to Phase 2 RFI 4, 3 April 2023, paragraph 1.2.

<sup>537</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI2, paragraph 4.2.

<sup>538</sup> Competitor, [REDACTED] Response to s.109 notice.

<sup>539</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, paragraph 5.2.

<sup>540</sup> Competitor, [REDACTED] Response to Phase 2 SSP and SNO RFI, paragraph 5.2; Competitor, [REDACTED] Response to s.109 notice, 4 November 2022, Annexes 9, 11, 12, 15 and 17; Competitor, [REDACTED] Note of call, 1 December 2022, paragraphs 28 to 33.

<sup>541</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 15.2 and Annex 4.

<sup>542</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annexes 4.

<sup>543</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 3.1.

<sup>544</sup> Competitor, [REDACTED] Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annex 1 and Annex 4.

<sup>545</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 1.3.

(b) Starlink intends to continue its efforts to expand its presence in IFC in the next few years [REDACTED].<sup>546</sup>

(c) [REDACTED].<sup>547</sup>

(d) Starlink's satellite launch plans have not changed since the publication of our Provisional Findings Report.<sup>548</sup>

8.260 Starlink told us that, [REDACTED] projections currently anticipate that income from aviation customers in 2023 [REDACTED] will be [REDACTED].<sup>549</sup> Starlink told us this reflects that [REDACTED].<sup>550</sup> Starlink told us that it [REDACTED].<sup>551</sup>

8.261 We consider in more detail below [REDACTED] Starlink's [REDACTED] plans for its provision of IFC to commercial airlines based on Starlink's submissions and the internal documents provided to support them (including evidence regarding the steps taken by Starlink to implement its plans) in terms of:

- (a) the level of resources committed;
- (b) Starlink's approach to existing customers;
- (c) Starlink's engagement with potential customers; and
- (d) Starlink's approach to getting certifications.

- *Resources committed to IFC*

8.262 [REDACTED].

8.263 Starlink told us that the allocation of resources to the aviation business [REDACTED].<sup>552</sup> Starlink told us staff [REDACTED].<sup>553</sup> Starlink told us that [REDACTED]:

(a) [REDACTED].<sup>554</sup>

(b) [REDACTED].<sup>555</sup>

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<sup>546</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annexes 2, 3, 4 and 5.1. Competitor, [REDACTED] Response to the Phase 2 RFI 3, 30 March 2023, Annex 5.1.

<sup>547</sup> Competitor, [REDACTED] Competitor [REDACTED] Note of call, 23 March 2023, paragraphs 16, 17 and 29.

<sup>548</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 49.

<sup>549</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 19.1.

<sup>550</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 41.

<sup>551</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 19.1.

<sup>552</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 15.1.

<sup>553</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 23.

<sup>554</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 15.4.

<sup>555</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 56.

(c) [REDACTED].<sup>556</sup>

(d) [REDACTED].<sup>557</sup> [REDACTED].<sup>558</sup>

(e) [REDACTED].<sup>559</sup>

8.264 Starlink's internal documents do not provide detail on [REDACTED] resourcing [REDACTED], although some internal documents show that [REDACTED].<sup>560</sup>

- *Existing customers*

8.265 Overall, the evidence from Starlink shows that, [REDACTED].<sup>561</sup> As part of fulfilling these commitments Starlink will continue to gain experience providing IFC and gain more certifications.

8.266 Starlink provided a limited number of internal documents detailing its approach to existing customers [REDACTED]. As well as [REDACTED], Starlink told us [REDACTED].<sup>562</sup> Two internal documents show Starlink [REDACTED] existing IFC customers [REDACTED].<sup>563</sup> One of these documents suggests [REDACTED].<sup>564</sup> More generally, it shows that [REDACTED], including getting a number of STCs over the next few years.

- *Potential customers*

8.267 Overall, the evidence from Starlink shows that in the immediate future Starlink plans to [REDACTED] new customers. [REDACTED]. One of the internal documents provided by Starlink indicates that within the next few years [REDACTED] potential customers [REDACTED].

8.268 Starlink told us [REDACTED] potential customers [REDACTED].<sup>565</sup>

8.269 Starlink told us that decisions on whether to [REDACTED].<sup>566</sup> Starlink told us that it would likely consider [REDACTED].<sup>567</sup> [REDACTED].<sup>568</sup>

8.270 Starlink told us that its [REDACTED]. An internal document suggests, in relation to ongoing opportunities, that Starlink [REDACTED].<sup>569</sup> Starlink also told us that [REDACTED] (see

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<sup>556</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 56.

<sup>557</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 6(b).

<sup>558</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 15.4.

<sup>559</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 15.6.

<sup>560</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annexes 7.1 and 7.2.

<sup>561</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annexes 4 and 5.1.

<sup>562</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 7.1.

<sup>563</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 8.1 and Annexes 4 and 5.1.

<sup>564</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annex 5.1.

<sup>565</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 36.

<sup>566</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 38.

<sup>567</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraphs 36 and 40.

<sup>568</sup> Competitor, [REDACTED] Response to the phase 2 RFI 3, 30 March 2023, paragraph 10.2. Starlink also submitted that [REDACTED].

<sup>569</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annex 5.1.

paragraph 8.111).<sup>570</sup> Consistent with this, an internal document setting out [REDACTED] current prospects [REDACTED].<sup>571</sup>

8.271 Starlink also told us that it [REDACTED] trials with customers.<sup>572</sup> Starlink told us [REDACTED].<sup>573</sup> Starlink told us it intends to [REDACTED].<sup>574</sup> Two internal documents suggest Starlink [REDACTED].<sup>575</sup>

8.272 Two internal documents suggest that Starlink [REDACTED].<sup>576</sup> One internal document setting out Starlink's general messaging on its strategy / roadmap suggests that Starlink plans to [REDACTED]. The document notes:

(a) For [REDACTED];

(b) For [REDACTED]; and

(c) For [REDACTED].<sup>577</sup>

- *Certifications*

8.273 Overall, we consider that the evidence from Starlink shows that it will progress its certification work. We note [REDACTED] that this will happen [REDACTED]. Starlink will work on [REDACTED] STCs [REDACTED]. One of the internal documents provided by Starlink suggests that within the next few years [REDACTED].

8.274 [REDACTED], Starlink told us it is [REDACTED].<sup>578</sup>

8.275 Starlink already has an STC for the ERJ-145 and has [REDACTED] the STC for the ERJ-135 aircraft.<sup>579</sup> Given its contractual obligations Starlink told us [REDACTED].<sup>580</sup> See further paragraph 8.245 above which sets out Starlink's submissions on what work it is currently carrying out [REDACTED].

8.276 Starlink told us that [REDACTED]. Given that it takes around [REDACTED] months to do the work, [REDACTED].<sup>581</sup>

8.277 An internal document (see paragraph 8.272 above) describes:

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<sup>570</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 34.

<sup>571</sup> Competitor, [REDACTED] Response to the Phase 2 RFI 3, 30 March 2023, Annex 5.1.

<sup>572</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 32.

<sup>573</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 13.1.

<sup>574</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 13.1.

<sup>575</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annexes 5.1 and 5.2.

<sup>576</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annexes 2 and 4.

<sup>577</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annex 5.1.

<sup>578</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 14 and Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 22.1.

<sup>579</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 21 March 2023.

<sup>580</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, paragraph 22.1.

<sup>581</sup> Competitor, [REDACTED] Note of call, 23 March 2023, paragraph 47.

- (a) For its [REDACTED] as ‘strategic’ airframes;
- (b) For its [REDACTED] as ‘strategic’ airframes [REDACTED]; and
- (c) For its [REDACTED] as ‘strategic’ airframes [REDACTED].<sup>582</sup>

8.278 Starlink told us that it is [REDACTED] obtain [REDACTED] certification for [REDACTED], and [REDACTED].<sup>583</sup> [REDACTED] told us in late March 2023 that [REDACTED].<sup>584</sup>

8.279 Internal documents obtained from Starlink indicate that Starlink [REDACTED].<sup>585</sup> Starlink confirmed that it had [REDACTED].<sup>586</sup> Since publication of our Provisional Findings Report, Starlink told us [REDACTED].<sup>587</sup> [REDACTED] told us that, [REDACTED].<sup>588</sup> [REDACTED] told us that based on the timeframe for [REDACTED] best estimate is that [REDACTED].<sup>589</sup>

## Evidence from airlines

8.280 As part of our evidence gathering, we collected airlines’ views on the competitive strength of established and emerging suppliers of IFC through questionnaires (see appendix C), calls and submissions in response to our Provisional Findings Report. This section sets out this evidence.

8.281 As noted in paragraph 8.9, airlines generally told us they keep up to date with industry developments in various ways (including through regular conversations with IFC providers), both during and outside of tender processes. As such, while we note the IFC market is fast moving and dynamic, we consider airlines to be generally well-informed on IFC suppliers’ offerings and market developments. In addition, a significant number of airlines that responded to our questionnaire have tendered for IFC services, trialled new NGSO satellite technology, and/or held exploratory discussions with emerging suppliers in the last 12 months. We note though that there have been significant market developments since we sent our first questionnaire to airlines in October 2022. We have viewed the evidence from airlines in this context.

8.282 In our questionnaire, we asked respondents to rate the strength of a range of suppliers of IFC as ‘very strong’, ‘strong’, ‘moderate’, or ‘weak’, taking into

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<sup>582</sup> Competitor, [REDACTED] Response to Phase 2 RFI 3, 30 March 2023, Annex 5.1.

<sup>583</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 29 March 2023, paragraph 1.1 and 3.2.

<sup>584</sup> [REDACTED] Response to Phase 2 RFI email received 29 March 2023.

<sup>585</sup> Competitor, [REDACTED] Response to s.109 notice, Annexes 11 and 12.

<sup>586</sup> Competitor, [REDACTED] Note of call, 1 December 2022, paragraphs 25 and 26.

<sup>587</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 29 March 2023, paragraph 1.2.

<sup>588</sup> [REDACTED] Response to Phase 2 RFI email received 30 March 2023.

<sup>589</sup> [REDACTED] Response to Phase 2 RFI email received 30 March 2023.

account the factors they considered important when choosing an IFC supplier.<sup>590</sup> We also asked respondents to provide reasons for their ratings.

8.283 Some respondents either did not provide a rating (ie by leaving the relevant response blank) or answered 'don't know' for some suppliers, meaning some suppliers have more ratings than others. From the commentary provided by some respondents, it is evident that they have adopted a more forward-looking view of suppliers' strength than others. We have taken both of these factors into account in our assessment of this evidence.

### ***Airlines' views on the competitive strengths of the Parties***

8.284 The Parties were both rated strong or very strong by all but one of the respondents (17 of 18) who rated them.<sup>591</sup> Both were rated moderate by one (different) respondent each.

8.285 Respondents gave the following reasons for their ratings of Viasat:

- (a) Five respondents mentioned Viasat's capability, capacity, speed, or service levels more generally as a strength.<sup>592</sup>
- (b) Four respondents referred to Viasat's vertical integration or ownership of satellite capacity.<sup>593</sup>
- (c) Four respondents told us that Viasat's future capacity and coverage with ViaSat-3 was a strength, with two specifically noting Pacific coverage as a positive.<sup>594</sup>
- (d) Three respondents noted Viasat's Ka capacity.<sup>595</sup>
- (e) Three respondents referred to Viasat's good reputation or track record.<sup>596</sup>

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<sup>590</sup> Each respondent was asked 'Taking into account the factors you rated as important when choosing an IFC supplier in questions 11 and 12, how would you rate the following suppliers of IFC to be?' Please rate the strength of suppliers ... as either 'very strong', 'strong', 'moderate', 'weak', or 'don't know', and provide your reasoning for each rating' as part of our Phase 2 airline RFI, which was issued in November 2022. Questions 11 and 12 referenced in this question asked respondents about their key considerations and choice factors when choosing an IFC supplier respectively. We received at least one rating for a supplier from 20 respondents representing 25 airlines.

<sup>591</sup> For Viasat ten rated it as very strong and seven strong. For Inmarsat nine rated it as very strong and eight rated it as strong.

<sup>592</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>593</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>594</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>595</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>596</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

- (f) One respondent mentioned Viasat's line-fit offerability on a range of aircraft.<sup>597</sup>
- (g) One respondent said that Viasat's solution was heavy for narrowbody aircraft.<sup>598</sup>

8.286 For Inmarsat:

- (a) Seven respondents mentioned Inmarsat's coverage as a strength, with five specifically referring to its global coverage.<sup>599</sup>
- (b) Six respondents referred to Inmarsat's vertical integration or ownership of satellite capacity.<sup>600</sup>
- (c) Three respondents mentioned Inmarsat's Ka capacity.<sup>601</sup>
- (d) Three respondents referred to Inmarsat's reliability, consistency, or track record.<sup>602</sup>
- (e) One respondent mentioned Inmarsat's speed.<sup>603</sup>
- (f) One respondent referred to Inmarsat's line-fit offerability as a positive,<sup>604</sup> while another told us the fact it had a range of solutions for long and short-haul aircraft was a positive.<sup>605</sup>
- (g) One respondent told us that Inmarsat's EAN solution was the lightest weight solution for narrowbody aircraft, and that its lower cost and portal integration were positives.<sup>606</sup>
- (h) On the other hand, two respondents told us it was a disadvantage that Inmarsat had to go through resellers in order to supply its GX solution.<sup>607</sup>

8.287 Three respondents identified the Parties as the two major operators that operate in the Ka-band frequency. One respondent told us this would mean the Parties would have a monopoly post-Merger,<sup>608</sup> and another that the Merger would reduce competition and limit the Merged Entity's incentive to

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<sup>597</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>598</sup> Customer, [REDACTED] Response to Phase 2 RF11, 16 November 2022, question 14.

<sup>599</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 17.

<sup>600</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>601</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>602</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>603</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>604</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>605</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>606</sup> Customer, [REDACTED] Response to Phase 2 RF11, 16 November 2022, question 14.

<sup>607</sup> Customers, [REDACTED] Responses to Phase 2 RF11, 16 November 2022, question 14.

<sup>608</sup> Customer, [REDACTED] Response to Phase 2 RF11, 11 November 2022, question 15.

innovate.<sup>609</sup> The other respondent added that the Merger would allow the strongest current Ka players in the market to consolidate their position and put Ku band suppliers further behind in the market.<sup>610</sup>

8.288 In response to our Provisional Findings Report, one airline told us that the Parties were the only real options for long haul flights and widebody aircraft [REDACTED] and so its upcoming tenders would be affected by the Merger.<sup>611</sup>

### ***Airlines' views on the competitive strengths of the Parties' main rivals***

#### *Intelsat*

8.289 Intelsat was rated strong or very strong by 11 of the 13 respondents that rated it,<sup>612</sup> the other two rating it moderate:

- (a) Three respondents described Intelsat's potential future coverage as a reason for its strength.<sup>613</sup>
- (b) Three respondents referenced Intelsat's current coverage as a positive.<sup>614</sup>
- (c) Three respondents told us Intelsat's integration of satellite ownership with the provision of IFC services made it a strong supplier.<sup>615</sup>
- (d) Two respondents also told us that Intelsat has a good track record/reputation.<sup>616</sup>
- (e) One respondent told us that Intelsat's relationship with OneWeb puts it in a good place for the future.<sup>617</sup>
- (f) Another respondent told us that Intelsat was one of its current providers and that it provided 'limited performance', and that it has an older 2Ku system. The same respondent did note that Intelsat had a new system in development.<sup>618</sup>

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<sup>609</sup> Customer, [REDACTED] Response to Phase 2 RF11, 8 February 2023, paragraph 4.

<sup>610</sup> Customer, [REDACTED] Note of Call, 21 December 2022, paragraph 51.

<sup>611</sup> Customer, [REDACTED] Note of call, 8 March 2023.

<sup>612</sup> Four rated it as very strong and seven rated it as strong.

<sup>613</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>614</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>615</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>616</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>617</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 15.

<sup>618</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 15.

## Panasonic

8.290 Panasonic was rated strong or very strong by 12 of the 19 respondents that rated it.<sup>619</sup> Six respondents considered Panasonic moderate, one rated it weak. Respondents noted several of Panasonic's strengths:

- (a) Four respondents noted that Panasonic supplies Ku band IFC services,<sup>620</sup> with one describing it as the Ku market leader.<sup>621</sup>
- (b) Four respondents considered Panasonic's ability to offer IFC *and* IFE a positive.<sup>622</sup>
- (c) Two respondents mentioned its partnership with OneWeb as a positive move for its competitive standing.<sup>623</sup>
- (d) One respondent said Panasonic had a proven history, good speeds, and good coverage. The same respondent noted that Panasonic was a line-fit option.<sup>624</sup>

8.291 However, some airlines also noted Panasonic had some weaknesses:

- (a) Three respondents noted that Panasonic's solution was technologically inferior.<sup>625</sup>
- (b) Two other respondents considered Panasonic's need to contract capacity from others to be a weakness.<sup>626</sup>

8.292 Based on their responses, airlines appear to rate Panasonic and Intelsat as the next strongest IFC suppliers behind the Parties. It is difficult to compare directly the relative perceived strength of Panasonic and Intelsat – fewer airlines rated Intelsat (13) than Panasonic (19) at all, but those who did were more likely to rate it as strong or very strong (11 of 13 for Intelsat compared to 12 of 19 for Panasonic). We note that, of the 13 respondents who rated both Panasonic and Intelsat, eight rated them the same strength, three rated Intelsat stronger, and two rated Panasonic stronger.

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<sup>619</sup> Six rated it as very strong and six rated it as strong.

<sup>620</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 15.

<sup>621</sup> Customer, [REDACTED] Response to Phase 2 RF11, 11 November 2022, question 15.

<sup>622</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 15.

<sup>623</sup> Customers, [REDACTED] Responses to Phase 2 RF11, 19 November 2022, question 14 and Customer, [REDACTED] Response to Phase 2 RF11, 16 November 2022, question 15.

<sup>624</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>625</sup> Customer, [REDACTED] Phase 2 Note of call, 2 December 2022, paragraph 39; Customers, Responses [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>626</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

## Anuvu

8.293 Anuvu was not rated very strong by any respondent but was rated strong by three of the 13 that provided a rating. Seven respondents rated Anuvu moderate, and three rated it weak.

- (a) One respondent told us Anuvu has strong potential in Ka technology combined with a long history of providing a Ku-based IFC solution with STCs.<sup>627</sup>
- (b) Another respondent also mentioned Anuvu's new technology as a positive.<sup>628</sup>
- (c) On the other hand, two respondents pointed to Anuvu's lack of a track record as an issue,<sup>629</sup> and three further respondents expressed concerns about capability/capacity and coverage.<sup>630</sup>
- (d) One respondent told us that not owning satellite capacity was a weakness of Anuvu, and that Anuvu has lost momentum since entering Chapter 11 bankruptcy.<sup>631</sup>
- (e) One respondent said that Anuvu's lack of certification on widebody aircraft was a weakness.<sup>632</sup>

## Starlink

8.294 Starlink was rated strong or very strong by nine of the 14 respondents that rated it.<sup>633</sup> Four respondents rated Starlink as moderate, and one rated it weak:

- (a) Two respondents mentioned Starlink's speeds as a strength.<sup>634</sup>
- (b) Three respondents told us Starlink's coverage was a positive.<sup>635</sup>
- (c) Three respondents said that Starlink's vertical integration or satellite ownership was a strength.<sup>636</sup>

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<sup>627</sup> Customer, [REDACTED] Response to Phase 2 RF11, 22 November 2022, question 14.

<sup>628</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>629</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>630</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>631</sup> Customer, [REDACTED] Response to Phase 2 RF11, 8 February 2023, question 14.

<sup>632</sup> Customer, [REDACTED] Response to Phase 2 RF11, 10 November 2022 question 14.

<sup>633</sup> Four rated it as very strong and five as strong.

<sup>634</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>635</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>636</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

8.295 Several respondents rated Starlink based on its future potential across these factors. For example:

- (a) One respondent said Starlink is ‘expected to be very strong in future’, another respondent said it is ‘growing and may soon become established’, and two further respondents told us Starlink is a ‘potential future choice/supplier’.<sup>637</sup>
- (b) One respondent described Starlink as ‘quickly becoming a competitive LEO solution’, telling us that it is ‘evaluating to understand its capabilities and product offerings’.<sup>638</sup>
- (c) One respondent also mentioned that while Starlink is unproven for IFC, its scale and capacity makes it a ‘strong’ competitor.<sup>639</sup>

8.296 Five respondents told us that Starlink is either unproven, not ready, or has some way to go in order to supply IFC services to commercial airlines.<sup>640</sup> The remaining 9 respondents who rated Starlink did not comment on its readiness to supply.

8.297 In response to our Provisional Findings Report, one of these five respondents submitted that any entry by Starlink would not be timely, likely and sufficient, in particular for line-fit offerability and in the widebody segment, given lack of certain certifications and certain issues with its commercial model.<sup>641</sup> A similar view was also expressed by another of these respondents.<sup>642</sup>

8.298 We outline further evidence on airlines’ views on the readiness of Starlink, and LEO operators more broadly, to supply IFC for their aircraft in the next section.

## *Thales*

8.299 Thales was rated as strong or very strong by five of the 13 respondents that rated it.<sup>643</sup> Five rated Thales as moderate, and three rated it as weak:

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<sup>637</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>638</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>639</sup> Customer, [REDACTED] Response to Phase 2 RF1, 18 November 2022, question 14.

<sup>640</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>641</sup> Customer, [REDACTED] Response to Provisional Findings, 20 March 2023, paragraphs 2 to 6, 7 to 11 and 18 to 43. According to this airline Starlink is targeting the business aviation market instead of the commercial aviation market. This customer also mentioned that Starlink offers a commercial model which is unattractive ([REDACTED]). There was also some concern about Starlink’s antennae being suitable for use on large aircraft.

<sup>642</sup> Customer, [REDACTED] Response to Provisional Findings, 21 March 2023.

<sup>643</sup> One rated it as very strong and four rated it as strong.

- (a) One respondent said Thales has good capacity over its relevant routes,<sup>644</sup> and another respondent said that Thales is developing a new Ka technology and has a strong maintenance network.<sup>645</sup> Both are US-based airlines, where, unlike in Europe, Thales acts as an SSP and a VAR, as opposed to only a VAR (see paragraphs 8.57 to 8.115).
- (b) Another respondent noted its Ka-band offering as a positive.<sup>646</sup>
- (c) Two respondents told us Thales' ability to supply IFC and IFE was a positive.<sup>647</sup>
- (d) However, another respondent told us that Thales is a reseller of Inmarsat's capacity and that the 'only compelling factor [of its service] is offerability on Airbus'.<sup>648</sup> Another respondent also said Thales is a VAR but does not add value that it finds relevant,<sup>649</sup> and a further respondent, which rated it 'moderate' described Thales as an Inmarsat reseller.<sup>650</sup>

## SITAONAIR

8.300 SITAONAIR was rated strong or very strong by 3 of the 10 respondents that rated it. Three considered SITAONAIR moderate, and four rated it weak:

- (a) One respondent rated SITAONAIR as 'very strong' as it supplies Inmarsat's narrowband solution, Swift Broadband, which is typically used for low capacity applications such as safety services in the cockpit, rather than for cabin IFC services for passengers.<sup>651</sup> Another respondent also mentioned SITAONAIR's capabilities in providing safety services in the cockpit, but rated it as a 'weak' supplier in the provision of cabin IFC services for passengers.<sup>652</sup>
- (b) Another respondent said SITAONAIR would be appropriate for an airline with minimal IFC experience given it offers a connected cabin service, but that its solution does not meet its needs.<sup>653</sup>

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<sup>644</sup> Customer, [REDACTED] Response to Phase 2, 18 November 2022, RF11, question 14.

<sup>645</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>646</sup> Customer, [REDACTED] Response to Phase 2 RF11, 22 November 2022, question 14.

<sup>647</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

<sup>648</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>649</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>650</sup> Customer, [REDACTED] Response to Phase 2 RF11, 10 November 2022, question 14.

<sup>651</sup> Customer, [REDACTED] Response to Phase 2 RF11, 22 November 2022, question 14.

<sup>652</sup> Customer, [REDACTED] Response to Phase 2 RF11, 8 February 2023 question 14.

<sup>653</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

- (c) Another respondent said that SITAONAIR does not have capacity over relevant routes,<sup>654</sup> and another described its solution as ‘high cost’ and heavy for narrowbody aircraft.<sup>655</sup>
- (d) One respondent described SIATONAIR’s service as poor and unreliable.<sup>656</sup>

### *OneWeb*

8.301 Although it was not in the list of IFC suppliers we asked airlines to rate, four respondents chose to provide a rating for OneWeb (we included an option to rate ‘Other’ suppliers). One rated it strong, and the other three rated it moderate. One respondent told us OneWeb is growing and may soon be an established IFC provider, but said that it still has a ‘way to go’.<sup>657</sup> Another respondent [REDACTED] noted its partnership with Panasonic,<sup>658</sup> and one other respondent said it had potential to offer future hybrid solutions.<sup>659</sup> We note that OneWeb does not supply IFC services directly to airlines. It has agreed distribution agreements with Intelsat and Panasonic and will supply them with LEO satellite capacity for IFC once its network is able to support IFC.<sup>660</sup> As noted above, we outline further evidence on airlines’ views on the readiness of LEO operators to supply IFC for their aircraft in the next section.

### *Other suppliers*

8.302 Three other suppliers received very few ratings from respondents:

- (a) Two respondents chose to provide a rating for Amazon’s Kuiper, which was not included in the list of suppliers we asked respondents to rate. One told us Kuiper’s capacity over its routes was a strength, and another respondent told us that, although it is still deploying satellites, Kuiper’s flexible business model and tie in with Amazon Web services could lead to ‘radical pricing’.<sup>661</sup>
- (b) Aircom Pacific, and Taqnia Space received ratings from three and two respondents respectively, and no respondents provided qualitative views on their strengths/weaknesses. Aircom Pacific was rated strong by one

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<sup>654</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>655</sup> Customer, [REDACTED] Response to Phase 2 RF11, 16 November 2022, question 14.

<sup>656</sup> Customer, [REDACTED] Response to Phase 2 RF11, 6 February 2023, question 14.

<sup>657</sup> Customer, [REDACTED] Response to Phase 2 RF11, 15 February 2023, question 14.

<sup>658</sup> Customer, [REDACTED] Response to Phase 2 RF11, 16 November 2022, question 14.

<sup>659</sup> Customer, [REDACTED] Response to Phase 2 RF11, 18 November 2022, question 14.

<sup>660</sup> See Appendix D for more on OneWeb’s distribution agreements with IFC suppliers.

<sup>661</sup> Customers, [REDACTED] Responses to Phase 2 RF11, question 14.

respondent, and weak by two; and Taqnia Space was rated weak by both respondents that rated it.

- (c) SES was not included in the list of suppliers we asked respondents to rate, and no respondent provided a rating.

### ***Airlines' views on the entry and expansion of NGSO/LEO based IFC services***

8.303 One major industry development that many airlines identified was the emergence of LEO satellite constellations. As set out above, in response to our request for supplier ratings:

- (a) Starlink – currently the largest emerging LEO constellation – was rated strong or very strong by nine of the 14 respondents that rated it.
- (b) OneWeb – another emerging LEO constellation – received four ratings, with one respondent rating it strong and three rating it moderate.
- (c) Amazon's Kuiper LEO constellation was also mentioned by two respondents as an emerging LEO competitor, with one rating it strong and the other moderate.

8.304 Given the relevance of the emergence of NGSO/LEO satellite operators to our assessment, we gathered further evidence from six respondents (representing [REDACTED] airlines) flying a range of long and short-haul routes to and from the UK regarding their views on NGSO/LEO suppliers' readiness to supply their aircraft/routes. We also received further submissions from two of these companies in response to our Provisional Findings Report and some relevant details from these submissions are included below.

8.305 The airlines we spoke with thought that the potential offering of Starlink and/or other LEOs could be attractive:

- (a) Although it identified technical challenges, one of the six respondents described LEOs as a future option that 'may well change the game'.<sup>662</sup>
- (b) Another respondent told us that Starlink/LEO solutions were, in theory, very interesting and that their benefits were low latency and polar coverage.<sup>663</sup> This respondent also told us that proposed hardware solutions it has seen for LEO antennae are much smaller and likely easier to install.<sup>664</sup> Latency was mentioned by another respondent as a

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<sup>662</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraph 32.

<sup>663</sup> Customer, [REDACTED] Note of call, 15 December 2022, paragraphs 48 and 50.

<sup>664</sup> Customer, [REDACTED] Note of call, 15 December 2022, paragraph 52.

significant advantage of LEO-based IFC solutions,<sup>665</sup> as was polar coverage.<sup>666</sup>

- (c) Another respondent told us it thought that there will be airlines that will pick Starlink and that Starlink will provide a very good service, but Starlink will also ask for a premium price and decisive technical and commercial issues remain to be solved.<sup>667</sup>
- (d) Another respondent told us that, if the LEO plans come to fruition, then the capacity LEOs could offer could be considered extensive. The respondent added that this would allow airlines to provide full streaming capacity to all passengers on an aircraft, which could be game changing based on what is currently available to airlines.<sup>668</sup> While this respondent acknowledged there would be reluctance from within its organisation to take what it considers a considerable risk in contracting with a LEO, it told us it intends to invite LEOs to forthcoming tenders in order to consider all the different permutations of what is going to be available and to understand the commercial propositions.<sup>669</sup> In data this respondent submitted to us, it indicated it has in fact invited Starlink to bid on two currently ongoing tenders for narrowbody aircraft.<sup>670</sup> It also invited OneWeb to its 2022 RFP process but OneWeb declined as it proposes to use VARs.

8.306 However, for either practical or commercial reasons, all six respondents told us there was a degree of uncertainty about if and when they might be willing to award a contract to Starlink or a LEO based solution.

- (a) Four of the six respondents we spoke with told us that LEOs, including Starlink, face the challenge of supplying IFC over hub airports.<sup>671</sup> Three of these respondents told us they thought Starlink/LEOs would overcome this issue, with one saying it thought a LEO/GEO or LEO/ATG hybrid solution would be more viable.<sup>672</sup> Another respondent told us that it believes Starlink's services will become congested given aircraft will have to compete with households for capacity, but while it would be a challenge for Starlink, it does not necessarily exclude them as a potential supplier.<sup>673</sup> The same respondent also noted that airlines are still

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<sup>665</sup> Customer, [REDACTED] Note of call, 6 December 2022, paragraph 34.

<sup>666</sup> Customer, [REDACTED] Note of call, 7 December 2022, paragraphs 42 and 43.

<sup>667</sup> Customer, [REDACTED] Note of call, 21 December 2022, paragraphs 28 to 39.

<sup>668</sup> Customer, [REDACTED] Note of call, 2 December 2022, paragraph 35.

<sup>669</sup> Customer, [REDACTED] Note of call, 2 December 2022, paragraph 36.

<sup>670</sup> Customer, [REDACTED] Email received 3 February 2023.

<sup>671</sup> Customers, [REDACTED] Note of calls, December 2022.

<sup>672</sup> Customers, [REDACTED] Note of calls, December 2022.

<sup>673</sup> Customer, [REDACTED] Note of call, 21 December 2022, paragraph 32 and 35.

evaluating the technical capabilities of Starlink,<sup>674</sup> and another respondent told us that it is not clear whether Starlink’s antennae is suitable for use on larger, widebody aircraft.<sup>675</sup> One respondent told us that LEOs also face a challenge in enabling dynamic switching between satellites, but told us it thought it was just a matter of time before LEOs resolved this issue.<sup>676</sup> Another respondent told us that it considered the lack of ISLs, and therefore coverage over oceans, as a limitation of Starlink’s offering.<sup>677</sup>

- (b) Four of the six respondents told us that Starlink’s commercial model is currently not in line with what airlines typically expect, including [REDACTED].<sup>678</sup> One respondent said that Starlink’s model prevented it from generating revenues from selling IFC to passengers, or from creating other revenue generating opportunities (such as advertising). This respondent said moving to a fully free service is not commercially viable at this time.<sup>679</sup> The same respondent said that Starlink’s approach to its recent tenders, in which it submitted a standard RFP response and resubmitted the same response [REDACTED], was reflective of Starlink’s approach being ‘take it or leave it’ as regards the basis on which it will provide IFC to commercial airlines.<sup>680</sup> However, one respondent said that it would expect Starlink to resolve issues relating to its commercial model as it tries to build its market share,<sup>681</sup> and another said that it would expect Starlink to revisit its contractual approach to adapt to airline needs (although this will take time).<sup>682</sup> One of the six respondents also said that it already offers passengers free IFC, one said it plans to do so and a third said that it is aware some airlines are offering free IFC, and that it might move towards free IFC in the future.<sup>683</sup>
- (c) Three of the respondents that we spoke with said that Starlink does not have certifications (ie TCs and STCs) for Boeing and Airbus airframes.<sup>684</sup> One of these customers said that the timings for obtaining STCs are

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<sup>674</sup> Customer, [REDACTED] Response to Provisional Findings, 21 March 2023.

<sup>675</sup> Customer, [REDACTED] Response to Provisional Findings, 21 March 2023, Paragraphs 16 and 17. [REDACTED].

<sup>676</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraphs 34 and 35.

<sup>677</sup> Customer, [REDACTED] Note of call, 21 December 2022, paragraph 28.

<sup>678</sup> Customers, [REDACTED] Note of calls. December 2022. See also Customer, [REDACTED] Response to Provisional Findings, 21 March 2023.

<sup>679</sup> Customer, [REDACTED] Response to Provisional Findings, 20 March 2023, paragraphs 25 to 29.

<sup>680</sup> Customer, [REDACTED] Response to Provisional Findings, 20 March 2023, paragraphs 26 and 28.

<sup>681</sup> Customer, [REDACTED] Note of call, 15 December 2022, paragraph 49.

<sup>682</sup> Customer, [REDACTED] Note of call, 21 December 2022, paragraph 37.

<sup>683</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraphs 50 to 51; Customer, [REDACTED] Note of call, 6 December 2022, paragraph 33 and Customer, [REDACTED] Note of call, 15 December 2022, paragraphs 1 to 6.

<sup>684</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraph 32; Customer, [REDACTED] Note of call, 21 December 2022, paragraph 7; Customer, [REDACTED] Note of call, 2 December 2022, paragraph 24.

unclear and, based on its experience with other IFC programmes, delays are likely.<sup>685</sup>

- (d) One of the six respondents we spoke with recently ran a trial with Starlink (on aircraft it does not use for travel to and from the UK) and told us the trials showed Starlink's IFC solution is 'technically capable' of offering services [REDACTED].
- (e) The other five respondents all told us they would either like to see the performance of Starlink or a LEO-based IFC solution in live/real-life commercial flights or see the results of rigorous testing before considering Starlink/LEOs as a supplier or committing to using their systems.<sup>686</sup> One respondent told us it would typically need to see proof that the technology works on the routes it covers, including data on in-flight performance.<sup>687</sup> One of these airlines is currently seeking internal approval to conduct its own trial on Starlink's solution on [REDACTED].<sup>688</sup>
- (f) One of the six respondents [REDACTED].<sup>689</sup> Another of the six respondents said it expects that there will be a [REDACTED].<sup>690</sup> One respondent said that it thinks LEOs/Starlink could be ready to supply IFC services from two to five years from the time we spoke with it (December 2022),<sup>691</sup> and another told us Starlink's solution might be considered a mature product for the aviation industry [within] anywhere from 18 months to five years.<sup>692</sup>

8.307 One of the six respondents told us that the participation of LEO constellations in its most recent tender had created significant competitive pressure [REDACTED].<sup>693</sup> [REDACTED].<sup>694</sup>

8.308 Three of the six respondents also told us that they expect developments in multi-orbit solutions to affect the market:

- (a) One respondent told us it found the prospect of a LEO supplier partnering with an existing supplier interesting. In particular, this respondent told us that OneWeb partnering with Panasonic would potentially be exciting as such a partnership would give OneWeb access to aircraft, the necessary experience of jumping through compliance hoops, and an understanding

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<sup>685</sup> Customer, [REDACTED] Response to Provisional Findings, 20 March 2023, paragraphs 18 and 19.

<sup>686</sup> Customers, [REDACTED] Note of calls, December 2022.

<sup>687</sup> Customer, [REDACTED] Note of call, 7 December 2022, paragraphs 33(a) to 33(c).

<sup>688</sup> Customer, [REDACTED] Note of call, 21 December 2022, paragraph 29.

<sup>689</sup> Customer, [REDACTED] Note of call, 6 December 2022, paragraph 27.

<sup>690</sup> Customer, [REDACTED] Note of call, 15 December 2022, paragraph 54.

<sup>691</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraph 39.

<sup>692</sup> Customer, [REDACTED] Note of call, 21 December 2022, paragraph 39.

<sup>693</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraphs 52 to 56.

<sup>694</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraph 55.

of the commercial aviation market. Overall, this respondent told us OneWeb's partnership with Panasonic would give it more confidence that OneWeb would be able to get its equipment onto an aircraft.<sup>695</sup>

- (b) Another respondent told us that multi-orbit solutions could be the best approach since they could potentially make use of the best features from both LEO and GEO solutions. This respondent also told us that, based on its research, it concluded that all IFC suppliers are currently busy looking to develop multi-orbit solutions.<sup>696</sup>
- (c) Another respondent told us that while at the time of our call it did not consider OneWeb's equipment ready, it was in the meantime having further discussions with OneWeb. This respondent told us it has also recently had conversations with OneWeb about the partnerships it is forming, in particular [REDACTED] and to supply capacity through Panasonic and Intelsat. Overall, this respondent told us that while there are practical uncertainties about how a contract with OneWeb and its partners might be structured, it thought OneWeb would be a credible alternative for it in future tenders (given its next RFP is due to be issued in 2024). It also noted that OneWeb's merger with Eutelsat, a GEO satellite owner, will most likely result in a multi-orbit system that could help overcome the congestion issues at high density airport areas.<sup>697</sup> However, this respondent subsequently noted that OneWeb had not yet reached a state where it could be considered to exert competitive pressure in the next few years.<sup>698</sup>

8.309 We also contacted another airline that recently awarded Starlink a contract to install IFC services on its entire fleet, which comprises narrowbody aircraft that fly to and from the UK. This respondent told us that it chose Starlink because:

- (a) LEO satellites provide substantially better connectivity in terms of capacity and latency that GEO satellites cannot match, making GEO satellites a pure legacy product for the purposes of IFC; and
- (b) although Starlink did not have the necessary certifications, it was confident Starlink would obtain them during 2023.<sup>699</sup>

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<sup>695</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraphs 47 and 48.

<sup>696</sup> Customer, [REDACTED] Note of call, 15 December 2022, paragraphs 43 to 45.

<sup>697</sup> Customer, [REDACTED] Note of call, 21 December 2022, paragraphs 40 to 45.

<sup>698</sup> Customer, [REDACTED] Response to Provisional Findings, 21 March 2023.

<sup>699</sup> Customer, [REDACTED] Email received 31 January 2023.

## Evidence from competitors

8.310 We asked all SSPs and VARs currently active in the supply of IFC to commercial airlines to rate the competitive strength of the Parties and their main rivals as part of our questionnaire.<sup>700</sup> We also asked SSPs and VARs to provide reasons for their ratings of each supplier. We also received submissions from competitors in response to our Provisional Findings Report.

8.311 We note that the market for broadband IFC services is fast moving, and that there have been significant market developments since we sent our first questionnaire to SNOs and SSPs in October 2022. We have viewed the evidence from the Parties' competitors in this context.

8.312 This section sets out our assessment of this evidence and what it shows about closeness of competition between the Parties as well as between the Parties and rival suppliers.

8.313 Consistent with the evidence from the commercial airlines set out above, the Parties were seen as the strongest suppliers of IFC by their competitors and many considered that they will strengthen in future as a result of their satellite launch plans. However, competitors considered that Intelsat, Panasonic, and Starlink would also grow in strength over the next few years as a result of their future plans in IFC.

### ***Competitors' views on the Parties***

8.314 The Parties were rated as 'strong' or 'very strong' by SSPs/VARs for a variety of reasons and many considered that they will become stronger as a result of the Merger and their satellite launch plans.

#### *Viasat*

8.315 All respondents to our questionnaire rated Viasat as either strong or very strong.<sup>701</sup> The five respondents [redacted] who identified one supplier as the strongest supplier of IFC identified that supplier as Viasat.<sup>702</sup>

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<sup>700</sup> Each respondent was asked 'How strong do you consider suppliers of IFC to be? Please rate the strength of suppliers ... as either 'very strong', 'strong', 'moderate', 'weak', or 'don't know', and to provide your reasoning for each rating' as part of our Phase 2 SNO and SSP RFI, which was issued in November 2022. We received at least one rating for each of the Parties and their main rivals from six respondents.

<sup>701</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

<sup>702</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

8.316 Viasat's ability to self-supply satellite capacity, its position as a strong Ka provider, and the future launch of ViaSat-3 were commonly raised as key reasons for the ratings provided by respondents:

- (a) Four out of six respondents suggested Viasat's strength will increase in the future with the launch of ViaSat-3, providing global coverage.<sup>703</sup>
- (b) Three respondents indicated that Viasat's ability to self-supply satellite capacity is a key factor that makes it strong.<sup>704</sup>
- (c) Three respondents emphasised Viasat's major presence in North America as a source of competitive strength.<sup>705</sup>
- (d) Two respondents pointed to Viasat being a strong Ka provider.<sup>706</sup>

### *Inmarsat*

8.317 Five [X] out of the six respondents to our questionnaire that rated Inmarsat, rated Inmarsat as strong.<sup>707</sup> The sixth respondent [X] rated Inmarsat as moderate to strong.<sup>708</sup>

8.318 Inmarsat's global coverage, strong IFC legacy and large installed base were commonly raised as key reasons behind respondents' rankings.

- (a) Four out of six respondents pointed to Inmarsat's global coverage as a key reason behind its strength.<sup>709</sup> With one respondent describing Inmarsat as the '*only global Ka-Band IFC*' supplier.<sup>710</sup>
- (b) Three respondents pointed to Inmarsat's strong legacy in IFC and large installed base as a factor that makes it strong.<sup>711</sup>
- (c) Two respondents suggested Inmarsat will remain strong or become even stronger in the future due to its satellite launch plans.<sup>712</sup>
- (d) One respondent suggested that Inmarsat has strong relationships with OEMs, and this helps add to its strength.<sup>713</sup>

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<sup>703</sup> Competitors, Responses [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>704</sup> Competitors, Responses [X] to Phase 2 SNO and SSP RFI, question 19

<sup>705</sup> Competitors, Responses [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>706</sup> Competitors, Responses [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>707</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

<sup>708</sup> Competitor, Response to Phase 2 SNO and SSP RFI, question 19.

<sup>709</sup> Competitors, Responses [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>710</sup> Competitor, Response [X] to Phase 2 SNO and SSP RFI, question 19

<sup>711</sup> Competitors, Responses [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>712</sup> Competitors, Responses [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>713</sup> Competitor, Response [X] to Phase 2 SNO and SSP RFI, question 19.

- (e) Another respondent pointed to Inmarsat being the only contracted supplier of IFC to Airbus for Airbus' HBCplus programme.<sup>714</sup>
- (f) One respondent rated Inmarsat as 'moderate to strong', due to its reliance on resellers in IFC (eg Thales and SITAONAIR).<sup>715</sup>

### **Competitors' views on the Parties' main rivals**

8.319 The Parties' main rivals all generally saw each other as weaker constraints than the Parties, for several reasons. However, the Parties' main rivals expected Intelsat, Panasonic, and Starlink to grow in strength over the next few years. SSPs and VARs expect Starlink will likely grow stronger in the future as its satellite capacity and coverage improves and it gains experience working with commercial airlines. Both Intelsat and Panasonic have multi-orbit strategies with OneWeb which were seen by SSPs and VARs as likely to enhance their strength in the future.

#### *Intelsat*

8.320 Intelsat's strength as an IFC supplier was rated as moderate by three respondents [X] strong by one respondent [X] and weak by one respondent [X].<sup>716</sup> However one of the moderate ratings was a strong/moderate.<sup>717</sup> Overall, Intelsat was seen as stronger than Anuvu and Starlink currently, but not as strong as the Parties. Intelsat was the competitor that saw the most variation in how it was rated by its competitors.

8.321 Intelsat's large Ku-band network and vertical integration (ie ownership of the satellite capacity it uses to supply IFC) were raised as key reasons behind Intelsat's rating.

- (a) Two respondents pointed to Intelsat being a significant Ku-band provider.<sup>718</sup> One respondent considered Intelsat to have the '*largest Ku-Band IFC installed base*'.<sup>719</sup>
- (b) One respondent also told us that Intelsat's vertical integration and multi-orbit strategy with OneWeb are key factors behind its rating.<sup>720</sup>

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<sup>714</sup> Competitor, Response [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>715</sup> Competitor, Response [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>716</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

<sup>717</sup> Competitor, Response to Phase 2 SNO and SSP RFI, question 19.

<sup>718</sup> Competitors, [X] Responses to Phase 2 SNO and SSP RFI, question 19.

<sup>719</sup> Competitor, [X] Response to Phase 2 SNO and SSP RFI, question 19.

<sup>720</sup> Competitor, [X] Response to Phase 2 SNO and SSP RFI, question 19.

## Panasonic

8.322 Two SSPs/VARs [X] rated Panasonic as a strong IFC supplier and three [X] rated it as moderate.<sup>721</sup> Panasonic is viewed as generally stronger than Anuvu and Starlink currently, although not as strong as the Parties.

8.323 Panasonic's strong legacy in IFC was commonly raised as a key reason behind respondents' rating of Panasonic as strong. However, its lack of vertical integration (self-supply of satellite capacity) and inferior IFC offering were also raised as weaknesses.

- (a) Three of five respondents pointed to Panasonic's strong legacy in IFC and large installed base, particularly in widebody aircraft,<sup>722</sup> as a key strength.<sup>723</sup>
- (b) Two respondents suggested that Panasonic has an inferior IFC offering and as such rated it moderate.<sup>724</sup>
- (c) Two respondents suggested the fact its capacity is leased from third parties (who are sometimes IFC competitors) reduces its strength.<sup>725</sup>
- (d) One respondent suggested Panasonic's global network makes it strong.<sup>726</sup>
- (e) One respondent also pointed to Panasonic having a strong IFE position. This respondent noted, however, that while some airlines see offering both IFC and IFE as an advantage, others prefer to source IFE and IFC from different suppliers.<sup>727</sup>
- (f) Panasonic's multi-orbit strategy with OneWeb was also raised by one respondent as something that could be of interest to the IFC market.<sup>728</sup>

## Anuvu

8.324 Three competitors [X] rated Anuvu as a moderate supplier of IFC and three [X] rated it as a weak supplier.<sup>729</sup>

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<sup>721</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

<sup>722</sup> Competitor, Response [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>723</sup> Competitors, Responses [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>724</sup> Competitors, Responses [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>725</sup> Competitors, Responses [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>726</sup> Competitor, Response [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>727</sup> Competitor, Response [X] to Phase 2 SNO and SSP RFI, questions 19 and 21.

<sup>728</sup> Competitor, Response [X] to Phase 2 SNO and SSP RFI, question 19.

<sup>729</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

8.325 Anuvu's small customer base, regional coverage, and lack of vertical integration (ie self-supply of satellite capacity) were all raised as key reasons for viewing Anuvu as weaker.

- (a) Two respondents raised Anuvu's dependence on third parties for satellite capacity as a reason for their ranking.<sup>730</sup>
- (b) Two respondents pointed to Anuvu's strong business with Southwest airlines (by fleet size the world's largest LCC<sup>731</sup>), as a key strength of Anuvu.<sup>732</sup> However, one respondent said that whilst Anuvu has strong business with Southwest, overall Anuvu has a small number of customers.<sup>733</sup>
- (c) One respondent said Anuvu's strength is impacted by only offering regional coverage, mostly in North America. This limits Anuvu's ability to serve airlines with a fleet flying to global destinations.<sup>734</sup>
- (d) One respondent told us that Anuvu's financial position is weak and that it needs to secure funding, potentially impacting its competitive strength.<sup>735</sup>

### *Starlink*

8.326 Three respondents [redacted] rated Starlink as a moderate supplier of IFC and one [redacted] rated it as weak.<sup>736</sup>

8.327 Current lack of coverage and capacity and lack of IFC experience were commonly raised as key reasons behind respondents viewing Starlink as a currently weaker competitor.

- (a) Three respondents pointed to Starlink's lack of experience in IFC as a potential weakness.<sup>737</sup>
- (b) Two respondents pointed to Starlink's current lack of coverage or capacity as a reason why Starlink is not currently as strong.<sup>738</sup>

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<sup>730</sup> Competitors, Responses [redacted] to Phase 2 SNO and SSP RFI, question 19.

<sup>731</sup> [A Look At The World's 5 Largest Low-Cost Carriers By Fleet Size \(simpleflying.com\)](https://simpleflying.com/southwest-lcc-model/)<https://simpleflying.com/southwest-lcc-model/>.

<sup>732</sup> Competitors, Responses [redacted] to Phase 2 SNO and SSP RFI, question 19.

<sup>733</sup> Competitor, Response [redacted] to Phase 2 SNO and SSP RFI, question 19.

<sup>734</sup> Competitor, Response [redacted] to Phase 2 SNO and SSP RFI, question 19.

<sup>735</sup> Competitor, Response [redacted] to Phase 2 SNO and SSP RFI, question 19.

<sup>736</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

<sup>737</sup> Competitors, Responses [redacted] to Phase 2 SNO and SSP RFI, question 19.

<sup>738</sup> Competitors, Responses [redacted] to Phase 2 SNO and SSP RFI, question 19.

- (c) Two respondents raised the fact that Starlink does not offer SLAs or value-added services as reason why it is a weaker competitor.<sup>739</sup> One of these mentioned Starlink's *'one-price/ capability-fits-all service model'* as a reason why it is not as strong as other rivals to the Parties.<sup>740</sup>
- (d) A respondent also noted that Starlink's technology is unproven, and challenges remain such as anticipated capacity shortfalls in high-demand areas. This respondent suggested that this uncertainty creates risks for airlines in selecting Starlink as their IFC supplier.<sup>741</sup>

8.328 However, respondents expressed uncertainty with their rating of Starlink and noted that they expect Starlink to become stronger in the future.

- (a) One respondent noted that it is reported that Starlink will provide global coverage and good economics after ISLs are fully deployed.<sup>742</sup>
- (b) One respondent said Starlink is likely to lead the pack in terms of LEOs, but still has to complete its constellation. This respondent also claimed it is unclear how soon or how capable Starlink will be as a provider.<sup>743</sup>
- (c) Another respondent said Starlink is a disruptor that is attracting interest from commercial airlines.<sup>744</sup>
- (d) Another respondent said Starlink is getting stronger and said it is likely to continue to become stronger over the next few years.<sup>745</sup>
- (e) One respondent pointed to some challenges Starlink is facing, such as limited service capabilities and lack of coverage, but expects these problems to be addressed very quickly.<sup>746</sup>

8.329 In response to our Provisional Findings Report one of the three respondents that had rated Starlink moderate submitted that Starlink is already a strong competitor and its position is only expected to strengthen in the years to come.<sup>747</sup> It told us that this is primarily due to Starlink's plans to expand its ISL-enabled satellites; its strategy to improve its LEO-backed solution; its in-house launch capabilities; and its significant access to financing.<sup>748</sup>

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<sup>739</sup> Competitors, Responses [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

<sup>740</sup> Competitor, Response [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

<sup>741</sup> Competitor, Response [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

<sup>742</sup> Competitor, Response [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

<sup>743</sup> Competitor, Response [REDACTED] to Phase 2 SNO and SSP RFI, question 17.

<sup>744</sup> Competitor, Response [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

<sup>745</sup> Competitor, Response [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

<sup>746</sup> Competitor, Response [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

<sup>747</sup> Competitor, [REDACTED] Response to Provisional Findings, paragraph 14.

<sup>748</sup> Competitor, [REDACTED] Response to Provisional Findings, paragraph 14.

## Other SSPs and VARs

8.330 Other SSPs and VARs were generally viewed as weak by competitors.

- (a) Two competitors [REDACTED] rated Thales as a moderate supplier of IFC, and three [REDACTED] rated it as a weak supplier.<sup>749</sup> Two respondents said Thales has a regional and small customer base.<sup>750</sup> One respondent said it lacks coverage.<sup>751</sup> Another respondent also raised Thales' dependence on third parties for capacity and its historic focus on IFE rather than IFC.<sup>752</sup>
- (b) One competitor [REDACTED] rated SES as moderate, noting that its constellation has done well in the commercial and business aviation space and the upcoming addition of the mPower constellation could further strengthen its position.<sup>753</sup>
- (c) SITAONAIR was seen as weak by all three respondents [REDACTED] who provided a rating.<sup>754</sup> Two respondents noted that SITAONAIR is only active in IFC as a VAR as reasons for their rating.<sup>755</sup>
- (d) Taqnia Space was seen as weak by all four respondents [REDACTED] who provided a rating.<sup>756</sup> Respondents noted that it is only a regional provider of IFC.<sup>757</sup>
- (e) Aircom Pacific was seen as weak by the two respondents [REDACTED] who provided a rating.<sup>758</sup> One respondent noted that it has a limited regional presence and no established performance in IFC.<sup>759</sup>

## Competitive assessment for commercial aviation

### Introduction

8.331 This section sets out our assessment of whether the Merger may be expected to result in an SLC as a result of horizontal unilateral effects in the market for the supply of broadband IFC to commercial airlines, having regard to the

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<sup>749</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

<sup>750</sup> Competitors, Responses [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

<sup>751</sup> Competitor, Response [REDACTED] to Phase 2 SNO and SSP RFI, question 19

<sup>752</sup> Competitor, Response [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

<sup>753</sup> Competitor, Response to Phase 2 SNO and SSP RFI, question 19.

<sup>754</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

<sup>755</sup> Competitors, Responses [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

<sup>756</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

<sup>757</sup> Competitors, Responses [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

<sup>758</sup> Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

<sup>759</sup> Competitor, Response [REDACTED] to Phase 2 SNO and SSP RFI, question 19.

evidence set out in previous sections. For this assessment, we focus on competitive dynamics affecting routes to and from the UK.

8.332 Our assessment is structured as follows:

- (a) We consider whether the Parties are close competitors and whether this would have changed absent the Merger;
- (b) We consider the extent of the constraint that the Merged Entity would face from established suppliers; and
- (c) We consider the extent of the constraint that the Merged Entity would face from emerging suppliers.

8.333 As explained in Chapters 2 and 5, satellite connectivity is a dynamic sector, with supply and demand expected to grow rapidly in the next few years. The sector has recently seen entry by new players with innovative technologies and substantial resources, while established providers are also responding to these threats and opportunities in various ways. The evidence suggests that these trends are likely to continue and are taking place irrespective of the Merger.

8.334 As explained in Chapter 6, our assessment of mergers is forward-looking and we have therefore accounted for the future evolution of competitive conditions when assessing the Merger.<sup>760</sup> This includes developments in the Parties' competitive offering and the competitive offering of third parties. For the purposes of our competitive assessment, including both our assessment of closeness of competition between the Parties and the strength of the constraint from both established and emerging rivals, we have assessed the likely effects of the Merger over the next few years.

8.335 In our assessment, we considered the extent of competition between the Parties and their rivals over short-term competitive variables (price and non-price aspects of their offerings, which are typically flexed on an ongoing basis, eg in individual tenders) and longer-term variables (such as innovation/product development, which are set as part of long-term investment decisions).

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<sup>760</sup> MAGs, paragraph 4.16(b).

## ***Closeness of competition between the Parties***

### *The Parties' views*

- 8.336 Viasat told us that both Parties are strong competitors,<sup>761</sup> but 'do not compete in the same way' and that their 'approaches to the market have been very, very different'.<sup>762</sup>
- 8.337 The Parties submitted that Viasat's 'approach to IFC service has been to focus on depth of coverage, primarily in the US, and incrementally by region'.<sup>763</sup> Viasat told us that 'today until at least 2024 and maybe 2025, Viasat is purely a regional player'<sup>764</sup> that has [redacted].<sup>765</sup> Conversely, due to Inmarsat's history in maritime safety, Inmarsat has 'prioritised building global coverage with comparatively limited depth relative to Viasat'.<sup>766</sup> Viasat told us that 'Inmarsat is strong in global coverage and weak in regional bandwidth depth and density, including in Europe'.<sup>767</sup>
- 8.338 The Parties submitted that geographic coverage and capacity are 'key strategic parameters'<sup>768</sup> that drive how they compete, with capacity affecting both the service levels and prices a supplier can offer, and coverage affecting whether passengers can get online for all or most of an airline's flights.<sup>769</sup> At the main party hearing, Viasat also said that Inmarsat's satellites [redacted].<sup>770</sup>

### ***Our assessment***

- 8.339 We have considered a wide range of evidence to assess how closely the Parties compete today and would compete over the next few years absent the Merger. This includes evidence on recent tenders, the Parties' internal documents relating to tenders, evidence from airlines, evidence from SSPs and VARs and evidence on the Parties' offerings and their strategic plans.
- 8.340 For the reasons set out in paragraph 8.116, we consider that shares of supply provide limited insight into current and future competitive strength, as they reflect competition for contracts that were awarded many years ago. However, they do enable us to understand how IFC suppliers' relative market positions

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<sup>761</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 8, lines 8 and 9.

<sup>762</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 8, lines 6 to 11.

<sup>763</sup> Parties, [Parties submission, Part 1 – Commercial Aviation](#), paragraph 16.

<sup>764</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 8, line 14.

<sup>765</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 25, lines 7 to 13.

<sup>766</sup> Parties, [Parties submission, Part 1 – Commercial Aviation](#), paragraph 16.

<sup>767</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 9, lines 5 and 6.

<sup>768</sup> Parties, [Parties submission, Part 1 – Commercial Aviation](#), heading 4.

<sup>769</sup> Parties, [Parties submission, Part 1 – Commercial Aviation](#), paragraphs 71 and 73.

<sup>770</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 21, lines 16 - 20, page 43, lines 20 - 25, page 44, lines 1 - 3 and page 52, lines 4 - 12.

have changed over time and whether particular IFC suppliers are growing, losing or maintaining their market position. We have therefore looked at how shares of supply have evolved over time as part of our assessment (see paragraphs 8.116 to 8.130).

### *Shares of supply*

- 8.341 As set out in paragraph 8.125, both Parties' market position in the supply of IFC globally has improved over the last five years, whereas other established IFC suppliers have plateaued or lost share (as discussed in more detail below). Viasat's share of supply by active aircraft globally doubled from [5-10%] in 2017 to [20-30%] in 2022 (although most of this growth is attributable to North American domestic wins). Inmarsat's share also doubled from [0-5%] in 2018 to [5-10%] in 2022.
- 8.342 Both Parties have maintained a strong position in the supply of IFC to European narrowbody aircraft since 2019. In 2022, Inmarsat had the biggest share of active aircraft [50-60%] and Viasat also had a significant share [10-20%] (see paragraph 8.127).
- 8.343 In widebody aircraft globally, Inmarsat's share has steadily grown from [0-5%] in 2018 to [10-20%] in 2022. Viasat's share has historically been much smaller reflecting its lack of global coverage (in 2022 its share was [0-5%]) (see paragraph 8.129).
- 8.344 In response to our Provisional Findings Report, one airline submitted that the 'current market power of the Merged Entity' 'is also displayed in its combined share in the existing backlog'.<sup>771</sup> As noted in paragraph 8.125(e), the Parties each had a significant share of backlog aircraft in 2022. However, as noted at paragraph 8.118, although backlog aircraft may capture more recent outcomes of competition relative to active aircraft, shares based on backlog aircraft also include historic contract wins. For example, the Parties estimate that over [X] of Inmarsat's backlog relates to contracts that were awarded in 2019 or before. We have therefore attached limited weight to shares of backlog in assessing the current and future competitive strength of the Parties. However, we note that the backlog data is consistent with other evidence set out below on closeness of competition between the Parties.

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<sup>771</sup> Customer, [X] Response to Provisional Findings, 21 March 2023.

### *Evidence from tender data*

8.345 As set out in paragraph 8.132, contracts to supply IFC services are often awarded following a competitive tender process. We gathered evidence from commercial airlines on recent tenders for IFC services to understand how closely the Parties compete with each other and their rivals (see paragraphs 8.132 to 8.154). Our analysis of 13 tenders with a UK nexus that concluded between January 2020 and September 2022 shows significant head-to-head competition between the Parties:

- (a) Inmarsat, Viasat and Panasonic regularly bid against each other in tenders for a broad range of opportunities, including for narrowbody and widebody aircraft, and for line-fit and retro-fit installation. Inmarsat bid on eight of the nine tenders that Viasat bid on (Panasonic also bid on eight). Viasat bid on eight of the 12 tenders that Inmarsat bid on (Panasonic bid on 11). Other suppliers such as Intelsat, Anuvu and Starlink bid against the Parties (and Panasonic) less frequently.
- (b) Viasat won the most tenders in our sample (six), followed by Inmarsat (four) and Panasonic (three). No other suppliers won any of the tenders in our sample.
- (c) Where one Party won, the other was often the runner up. Of the six tenders Viasat won, Inmarsat was the runner-up in three, Panasonic in two, and Intelsat in one. Of the two tenders Inmarsat won where a runner-up was mentioned, Viasat and Panasonic were the runners-up in one each.

8.346 For the reasons set out in Appendix C, we consider that the sample we have used for our analysis represents a significant proportion of the tenders most relevant to the UK that took place in the past two years.

8.347 As well as analysing recent completed tenders with a UK nexus, we also asked airlines for details of ongoing tenders (see paragraph 8.141). We received details of ten ongoing tenders with a UK nexus. The Parties are currently bidding against each other in all ten.

### *Evidence from Internal documents relating to tenders*

8.348 As set out in paragraphs 8.161 to 8.167, internal documents prepared by the Parties relating to recent tenders for IFC show that, consistent with their actual participation in tenders, the Parties generally expect to bid against each other.

8.349 Inmarsat’s internal documents almost always refer to Viasat as an expected bidder in upcoming tenders alongside a small number of others (typically the documents refer to three to five expected rivals in total). In many of these internal documents, Inmarsat identifies Viasat [REDACTED]. For example, in internal documents from 2022 relating to tenders by [REDACTED], Inmarsat states that its [REDACTED] Viasat.

8.350 We did not receive as many documents from Viasat referring to potential competitors in upcoming tenders. However, where documents do refer to potential bidders, Inmarsat is often mentioned alongside a small number of others (as with Inmarsat’s documents, typically the documents refer to three to five expected rivals in total). In a small number of these documents, Viasat identifies Inmarsat as its key rival. For example, in internal documents from 2022 relating to tenders by [REDACTED], Viasat [REDACTED].

### *Evidence from airlines*

8.351 As explained in paragraphs 8.280 to 8.309, we asked airlines to rate the strength of IFC suppliers having regard to the factors they consider important when selecting a supplier of IFC and to provide reasons for those ratings. We considered the ratings and the reasons given for those ratings together. From the commentary provided by some airlines, it is evident that they have adopted a more forward-looking view of suppliers’ strength than others. We have taken this into account in our assessment of this evidence. Overall, airlines’ views on the strength of IFC suppliers are consistent with the other evidence we have gathered.

8.352 Both Viasat and Inmarsat were considered ‘strong’ or ‘very strong’ suppliers by all but one of the respondents to our airline questionnaire (17 out of 18) that rated each of them, and by considerably more respondents than any other suppliers.<sup>772</sup>

8.353 Respondents referred to Viasat’s capacity, speed or service levels more generally, vertical integration or ownership of satellite capacity, the future capacity and coverage of ViaSat-3, Ka capacity and good reputation or track record to explain their rating.

8.354 Inmarsat was considered to be strong by airlines for many of the same reasons. Respondents referred to Inmarsat’s global coverage, vertical

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<sup>772</sup> Not all respondents rated all IFC suppliers, meaning some suppliers had more ratings than others. We discuss the implications of this discrepancy in more detail in paragraph 8.283

integration or ownership of satellite capacity, Ka capacity, and reliability, consistency or track record to explain their rating.

#### *Evidence from SSPs/VARs*

- 8.355 As explained in paragraphs 8.310 to 8.330, we asked all SSPs and VARs currently active in the supply of IFC to commercial airlines to rate the competitive strength of the Parties and their main rivals and to provide reasons for those ratings. As with responses from airlines, we considered the ratings and the reasons given for those ratings together.
- 8.356 The views of SSPs and VARs were consistent with those of airlines. All SSPs/VARs described Viasat as either 'very strong' or 'strong' and most considered that Viasat was likely to grow in strength in the future. The reasons given by SSPs/VARs for their rating were similar to those given by airlines and included the expected impact of ViaSat-3 on the coverage Viasat can offer in IFC globally, its vertical integration or ownership of satellite capacity, Ka capacity and its major presence in North America.
- 8.357 Most SSPs/VARs described Inmarsat as 'strong' and a number thought it would remain strong or become stronger in the future. Some of reasons given by SSPs/VARs were the same as those given by airlines and included Inmarsat's global coverage, its large installed base and strong legacy in IFC, its relationship with OEMs including its participation in Airbus' HBCplus, and the expected impact of its planned satellite launches.

#### *Evidence on the Parties' offerings and their strategic plans*

- 8.358 As explained in paragraphs 8.17 to 8.23, IFC services are differentiated and airlines consider a wide range of factors when selecting an IFC supplier. These include route coverage, service reliability, technical support and maintenance, speed, certifications, supplier reputation/track record, the cost of the IFC service, capacity, whether a supplier is vertically integrated (ie owns the satellites it uses), whether it offers IFE and whether it operates in the Ka or Ku frequency band. We set out in more detail in paragraphs 8.17 to 8.23 the relative importance of these factors to airlines.
- 8.359 The Parties' offerings are comparable in relation to a number of these factors. In particular, both Parties offer global coverage (albeit that they rely on third party capacity in some regions), they are both vertically integrated (ie to a large extent they own the satellites that they use for IFC), both offer Ka band GEO satellite connectivity, both offer technical support and maintenance, both have a track record supplying IFC and both hold TCs and STCs for some of the most popular airframes used to fly routes to and from the UK (see

paragraphs 8.59 to 8.78 and Appendix B for more details on the Parties' offerings including the certifications they hold).

8.360 While, for the reasons set out in paragraphs 8.1 to 8.56, we do not consider that all of these are prerequisites to win contracts, each of these factors are important to at least some airlines and are regarded as sources of strength for the Parties by those airlines, as reflected in the feedback from airlines and the Parties' track record in recent tenders discussed above.

8.361 As noted at paragraphs 8.336 to 8.338, the Parties submitted that Viasat is currently a regional player (mainly active in North America) and that Inmarsat's capacity is limited and that these are important strategic differences between them.

8.362 Viasat does not currently offer global coverage through its own satellites, but will have global coverage (excluding the poles) in the next few years once it launches and deploys additional satellites known as ViaSat-3 (see paragraph 8.67).<sup>773</sup> As noted in paragraph 8.67, on 1 May 2023, Viasat announced that it had launched the first of the three ViaSat-3 satellites. The evidence shows that the planned launch and deployment of the ViaSat-3 satellites has already improved Viasat's competitive position and that Viasat is a strong competitor for contracts outside North America today. We do not therefore consider that Viasat's lack of global coverage through its own satellites prevents it from competing closely with Inmarsat today:

- (a) Six of the tenders in our tender analysis (see Table 5) were for widebody aircraft that will fly long-haul routes outside North America. Viasat won five of these. The other seven tenders were by European airlines for narrowbody aircraft. Viasat won one of these. These wins show that Viasat is already competing successfully for opportunities covering routes outside North America, and suggest that airlines have confidence that ViaSat-3 will be delivered. Two of the airlines whose tenders are included in our sample ([X] and [X]) referred to Viasat's future capacity as a reason for selecting Viasat as the winner.
- (b) A number of airlines that described Viasat as a strong or very strong supplier of IFC referred to ViaSat-3 as a reason for their view (see further paragraph 8.285).
- (c) A number of Inmarsat's recent internal documents relating to tenders show that Inmarsat expects Viasat to bid, and [X], for opportunities for

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<sup>773</sup> Viasat is planning to launch an additional three GEO satellites, with one each over the Americas (ViaSat-3A), the EMEA region (ViaSat-3B), and the APAC region (ViaSat-3C). [X].

aircraft that will fly long-haul routes outside North America (see paragraph 8.162). For example, internal documents from 2022 relating to tenders for widebody aircraft by [REDACTED] all [REDACTED].<sup>774</sup>

- (d) [REDACTED].<sup>775</sup> While we recognise that no satellite launch is risk free, we have seen no evidence to suggest that ViaSat-3 is likely to fail, or that any degradation of capacity would materially impair Viasat's ability to compete for global contracts. As noted above (see paragraph 8.67), the first of the three ViaSat-3 satellites launched successfully during our investigation.

8.363 Inmarsat's satellite constellation offers less total capacity than Viasat's. Although Inmarsat will have more capacity following the planned launch of additional satellites by the end of 2025, Inmarsat will continue to have substantially less capacity than Viasat.<sup>776</sup> While we consider that Viasat's capacity is a source of competitive strength for Viasat given the importance that airlines attach to capacity (see paragraph 8.18), there is evidence that Inmarsat competes closely with Viasat and would continue to do so notwithstanding its lesser capacity and any [REDACTED]:

- (a) Inmarsat is bidding for and winning tenders. As noted above, it won four of the 13 tenders in our sample of recent tenders with a UK nexus. Given the relatively long duration of contracts (5 to 7 years) and high switching costs (see paragraph 8.51), this indicates that airlines have confidence that Inmarsat will be able to provide high quality IFC services into the future.
- (b) Inmarsat's internal tender documents show that it believes it has sufficient capacity to fulfil large contracts taking into account future satellite launches.<sup>777</sup>
- (c) Inmarsat's long range business plan for 2022 to 2026 forecasts significant revenue growth in IFC from \$[REDACTED] in 2022 to \$[REDACTED] in 2026.<sup>778</sup>

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<sup>774</sup> See paragraph 8.162.

<sup>775</sup> Parties, Response to Phase 2 Working Papers and Annotated Issues Statement, 27 January 2023, paragraph 112.

<sup>776</sup> Parties, [Parties submission, Part 1 – Commercial Aviation](#), paragraph 18 and Table 1. Based on Euroconsult data, Viasat currently has 8 times more capacity than Inmarsat and will have 9 times more capacity at the end of 2025.

<sup>777</sup> See for example, Inmarsat, Response to s.109 Notice dated 2 November 2022, Annex 5.51, 28 June 2022 relating to an [REDACTED] narrowbody and widebody tender, slide 6. The document notes that [REDACTED].

<sup>778</sup> Inmarsat, Merger Notice, 8 August 2022, Annex 009.1, [REDACTED], slide 41.

- (d) Inmarsat told us that it will assess whether [REDACTED],<sup>779</sup> although Inmarsat told us that it was [REDACTED].<sup>780</sup> A number of Inmarsat's internal documents suggest that [REDACTED].<sup>781</sup>
- (e) As noted in paragraphs 2.15 to 2.17, satellite capacity across the sector as a whole is growing rapidly.<sup>782</sup> With the exception of Starlink, most of that capacity, both GEO (SES, Eutelsat) and LEO (OneWeb), will be owned by SNOs that are not active downstream as SSPs.<sup>783</sup> Inmarsat told us that it currently sources capacity from third parties and does not think that vertical integration, from a satellite operations aspect, is important.<sup>784</sup> Therefore, to the extent that Inmarsat faces capacity shortfalls, we see no reason why it could not supplement the capacity from its own satellites with additional capacity from third parties. Inmarsat told us that it could buy third party capacity if required in the future, including in Europe.<sup>785</sup>

### ***Conclusion on closeness of competition***

- 8.364 The evidence shows that both Parties have been growing faster than other established IFC suppliers at a global level, regularly bid against each other in tenders, identify each other in internal documents as likely rivals in upcoming tenders and are regarded as strong alternatives by airlines. Our tender analysis shows that both Parties have won more IFC contracts with a UK nexus than other IFC suppliers in the last few years.
- 8.365 Both Parties also have plans to launch additional satellites in the next few years that will significantly increase their capacity and, in Viasat's case, its geographic coverage.
- 8.366 We therefore decided that the Parties compete closely and would likely remain close competitors in the next few years absent the Merger.

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<sup>779</sup> Inmarsat, Transcript of Main Party Hearing, 30 January 2023, page 20 line 25 and page 21, lines 3 - 7.

<sup>780</sup> Inmarsat, Transcript of Main Party Hearing, 30 January 2023, page 21, lines 10 - 16.

<sup>781</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 1.198 [REDACTED], slides 2 and 3 where Inmarsat states that [REDACTED]. Further, in Inmarsat's, [REDACTED], date unknown, slide 52, Inmarsat states that its [REDACTED].

<sup>782</sup> See also Parties, [Parties submission, Part 1 – Commercial Aviation](#), paragraphs 4, 10 and 11.

<sup>783</sup> We note that SES has signed a letter of agreement with HBCplus to become the second managed service provider on the HBCplus programme and has announced that it is in discussions with Intelsat about a potential combination. See paragraphs 2.49 and 5.5(e).

<sup>784</sup> Inmarsat, Transcript of Main Party Hearing, 30 January 2023, page 31, lines 16 - 19.

<sup>785</sup> Inmarsat, Transcript of Main Party Hearing, 30 January 2023, page 38, lines 15 - 25, page 39, lines 1 - 25 and page 41, lines 1 - 14. Inmarsat told us that [REDACTED].

## Competitive constraints from established players

8.367 In this section we consider the extent of the constraint that the Merged Entity would face from other established suppliers in the next few years.

### *The Parties' views*

8.368 The Parties submitted that 'at least Intelsat and Panasonic are (very) strong competitors to the Parties across the board for UK-nexus tenders' and that, 'among numerous additional competitors Anuvu, in particular, is a strong competitor for narrowbody (short-haul) fleets in Europe'.<sup>786</sup>

### *Our assessment*

8.369 We consider the constraints that the Merged Entity would face from Intelsat, Panasonic, Anuvu and other established players in turn. We have considered the same range of evidence as we considered in our assessment of closeness of competition between the Parties.

8.370 For each of these competitors we have considered the constraint that the competitor provides today and also how that constraint is likely to evolve over the next few years. In particular, in our competitive assessment we have considered whether the constraint exerted by these competitors is likely to increase as a result of expansion including the likelihood of such expansion occurring within the relevant time-horizon of our competitive assessment (see above paragraph 6.11). We have assessed potential expansion which would have occurred irrespective of the Merger.<sup>787</sup> We have also considered whether the threat of any planned expansion is likely to exert a constraint within the next few years, even before it takes place.

### *Intelsat*

8.371 The Parties submitted that Intelsat has 'the ability, incentive and demonstrable commitment to expand and compete aggressively in IFC and will continue to be a significant competitive constraint on the Parties'.<sup>788</sup>

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<sup>786</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraph 9.

<sup>787</sup> In view of our decision that the Merger may not be expected to give rise to an SLC given the aggregate constraints the Merged Entity is likely to face having regard to entry and expansion that would likely have occurred irrespective of the Merger, it has not been necessary to consider whether the Merger is likely to trigger entry or expansion and the effect of any such entry or expansion.

<sup>788</sup> Parties, [Parties submission, Part 1 – Commercial Aviation](#), paragraph 138.

### *Shares of supply data*

- 8.372 As set out in Table 2, Intelsat has the largest number of active aircraft globally with IFC. However, Intelsat's market position has been in steady decline, with its share of supply by active aircraft globally declining from [50-60%] to [30-40%] between 2017 and 2022. This decline has largely been driven by a loss of share to Viasat for narrowbody aircraft in North America where Intelsat had historically been the market leader with an ATG solution.<sup>789</sup>
- 8.373 Although its overall share of supply has declined, Intelsat has increased its share of supply to widebody aircraft globally from [10-15%] to [20-30%] between 2017 and 2022 (see paragraph 8.129).
- 8.374 Intelsat has historically been a much smaller player in the supply of IFC to European narrowbody aircraft. Its IFC solution was installed on just [0-5%] of European narrowbody aircraft in 2022 (see paragraph 8.127).

### *Evidence from tender data*

- 8.375 Our analysis of recent concluded tenders with a UK nexus shows that Intelsat competed with the Parties less frequently than the Parties (and Panasonic) competed with each other (see paragraphs 8.132 to 8.140). Intelsat was invited to bid on six of the 13 tenders in our sample and bid on five. The contracts it bid on include a mix of narrowbody and widebody opportunities, for line-fit and retro-fit installation. It did not win any of these tenders, but was the runner up in one.
- 8.376 We note that Intelsat filed for Chapter 11 bankruptcy in May 2020 from which it emerged in May 2022. We therefore considered whether this may have impacted its competitiveness during the period covered by our tender sample (January 2020 and September 2022), for example, because airlines were reluctant to invite it to bid given the relatively long-term nature of contracts and that IFC is an important aspect of their service. Viasat told us that as a competitor it had 'not seen that' and that Intelsat 'had a lot of recent wins'.<sup>790</sup> Viasat highlighted Intelsat wins with Air France and Alaska Airlines, during the period it was in Chapter 11, or just emerging from it.<sup>791</sup> Viasat said it was seeing more of Intelsat since it emerged from Chapter 11.<sup>792</sup>

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<sup>789</sup> Competitor, Internal [REDACTED] document [REDACTED].

<sup>790</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 58, lines 3 - 7.

<sup>791</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 58, lines 5 - 12. The contract with Air France fell outside the time period covered by our tender sample.

<sup>792</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 57, lines 19 - 22.

- 8.377 In terms of recent performance, we note that that Intelsat recently won contracts with Air Canada (June 2022)<sup>793</sup> and [REDACTED] to install IFC.<sup>794</sup> These were excluded from our tender analysis as, based on data we received from the CAA, the aircraft covered by the contracts are not used by these airlines for flights to and from the UK.<sup>795</sup> However, we nevertheless consider that these demonstrate that Intelsat is capable of winning IFC contracts.
- 8.378 As noted at paragraph 8.218, Intelsat also won a contract with Alaska Airlines in January 2023 to retro-fit its hybrid GEO/LEO solution on some of its narrowbody fleet – the first contract of its kind. [REDACTED].
- 8.379 Intelsat is also competing against both Parties to a greater extent in the ongoing tenders covered by our tender sample (see paragraph 8.141). Intelsat bid on all 10 of the ongoing tenders that Inmarsat and Viasat have bid on with a UK nexus.

#### *Evidence from internal documents relating to tenders*

- 8.380 As set out in paragraphs 8.168 to 8.170, Inmarsat refers to Intelsat as a possible bidder in upcoming tenders in most of the internal documents that we have reviewed. However, it is rare for [REDACTED]. A number of these documents provide a brief overview of Intelsat's strengths and weaknesses. The list of weaknesses varies slightly by tender, but generally includes [REDACTED]. The strengths identified, again vary by tender, but often include [REDACTED].
- 8.381 Where Viasat's internal tender documents refer to potential competitors, Intelsat is mentioned in most of these alongside Panasonic, Inmarsat, OneWeb and Starlink (and less frequently Anuvu). Some of Viasat's tender documents refer to [REDACTED] (see paragraph 8.171).

#### *Evidence from airlines*

- 8.382 Most airlines that responded to our questionnaire and rated Intelsat (11 of 13 respondents) described Intelsat as a strong or very strong supplier. Only two described it as moderate, and none as weak.
- 8.383 A number of airlines referred to Intelsat's existing and potential future coverage and its vertical integration (ie ownership of satellite capacity) as strengths. A number of airlines also told us that Intelsat has a good track

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<sup>793</sup> [Intelsat Selected by Air Canada to Equip up to 45 Airbus A321s with its Next-Generation Line-fit and Retrofit 2Ku Satellite Connectivity Solutions | Intelsat](#)

<sup>794</sup> Customer, [REDACTED] Response to the Phase 2 RFI1, question 6.

<sup>795</sup> We contacted [REDACTED] as part of our evidence gathering but received no response.

record/reputation. One respondent said that Intelsat's relationship with OneWeb puts it in a good place for the future.

### *Evidence from SSPs/VARs*

8.384 SSPs/VARs saw Intelsat as weaker than the airlines did, with most (three) describing it as a moderate supplier (one described it as weak, and one described it as strong). However, SSPs/VARs identified a number of strengths in Intelsat's offering which were consistent with those identified by airlines, including vertical integration, Intelsat's large installed base and its multi-orbit strategy with OneWeb.

### *Evidence on Intelsat's offering and strategic plans*

8.385 As set out in paragraphs 8.87 and 8.216, [REDACTED].

8.386 [REDACTED].

8.387 As set out in paragraphs 8.215 to 8.225, since the middle of 2022, Intelsat has taken significant concrete steps to enhance its IFC offering.

8.388 In August 2022, Intelsat entered into a distribution agreement with OneWeb to source satellite capacity from its LEO constellation. Intelsat plans to use OneWeb's LEO satellite capacity together with GEO satellite capacity to supply a hybrid IFC solution once OneWeb's constellation is capable of supporting IFC.

8.389 Following 18 successful satellite launches, including most recently on 26 March 2023, OneWeb's constellation has reached the threshold for global coverage.<sup>796</sup> Following the latest launch, OneWeb's constellation includes 618 satellites. The OneWeb constellation design calls for 588 satellites for global coverage and additional satellites are planned for resiliency and redundancy.<sup>797</sup> OneWeb told us it expects its constellation to support IFC globally from Q1 2024 (with the gating items being the user terminal and ground infrastructure).<sup>798</sup>

8.390 In addition to partnering with OneWeb to supply LEO satellite capacity, Intelsat is taking steps to improve its access to GEO satellite capacity.<sup>799</sup> In March 2023, Intelsat entered into a seven-year agreement with Eutelsat to

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<sup>796</sup> [Completing the low Earth orbit constellation \(oneweb.net\)](https://oneweb.net).

<sup>797</sup> [Successful launch of 36 OneWeb satellites with ISRO/NSIL marks key milestone towards global connectivity](#)

<sup>798</sup> Competitor, [REDACTED] Response to the phase 2 RFI, 9 January 2023 and Email received 26 April 2023.

<sup>799</sup> <https://www.intelsat.com/resources/blog/the-making-of-an-intelsat-satellite/>.

source capacity from its GEO satellites.<sup>800</sup> Intelsat also launched a satellite in April 2023 which is expected to be in service before the end of 2023 and [REDACTED].<sup>801</sup> Based on data from Euroconsult, Intelsat's (owned) satellite capacity (in Gbps) will more than triple by the end of 2025.<sup>802</sup>

8.391 Intelsat's hybrid GEO/LEO solution requires an ESA that supports multi-orbit connectivity. Stellar Blu has developed an ESA that uses OneWeb's LEO satellite capacity that was demonstrated to work and deliver high quality IFC on test flights in May 2022 on a Boeing 777.<sup>803</sup> Stellar Blu has also developed an ESA that is able to utilise GEO and LEO satellite capacity that Intelsat plans to use. As noted in paragraph 8.225, on 28 February 2023, Intelsat announced that it had successfully completed inflight testing of the ESA on a regional jet (the Bombardier CRJ-700).<sup>804</sup>

8.392 The ESA will need to be certified before it is installed on commercial aircraft [REDACTED].<sup>805</sup> [REDACTED] (see paragraph 8.225). Alaska Airlines has said publicly that it expects the service to go live on some of its fleet in early 2024.<sup>806</sup> We note that both Intelsat and Stellar Blu have significant experience obtaining certifications for IFC equipment, and the evidence we have received (including from OEMs in relation to TCs) shows that certifications that are applied for are almost always granted.

8.393 We received consistent feedback from both airlines and SSPs/SNOs that hybrid solutions are an attractive proposition, as they combine the best technological characteristics of GEO satellite constellations (in relation to serving areas of high demand around airport hubs and over cities) and LEO satellite constellations (in relation to offering lower latency, allowing for smaller, lighter terminals, and polar coverage). See further paragraphs 8.308, 8.321 and 8.323. The relative advantages of hybrid solutions over standalone LEO or GEO solutions are also reflected in some of the Parties' internal documents and those of other SNOs/SSPs that we have reviewed.<sup>807</sup>

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<sup>800</sup> <https://spacenews.com/intelsat-and-eutelsat-forge-multi-orbit-capacity-deal/>

<sup>801</sup> <https://www.intelsat.com/newsroom/intelsat-40e-high-throughput-satellite-successfully-launched/>.

<sup>802</sup> Parties, Parties submission, Part 1 – Commercial Aviation, table 1. Based on data from Euroconsult.

<sup>803</sup> [STELLAR BLU Solutions \(stellar-blu.com\)](https://stellar-blu.com). The Test Flight Crew simultaneously demonstrated the ability to connect Teams calls, 4K YouTube streaming, Netflix, online VR gaming and Nintendo Switch gaming, among other structured performance tests.

<sup>804</sup> [Intelsat Completes Multi-Orbit Inflight Wi-Fi Tests | Intelsat](#)

<sup>805</sup> Competitor, [REDACTED] Email received 16 March 2023.

<sup>806</sup> [Alaska Airlines plans streaming-fast satellite Wi-Fi upgrades to our E175 regional jets - Alaska Airlines News.](#)

<sup>807</sup> For example, see [REDACTED] which Inmarsat told us is an [REDACTED]; Viasat, [REDACTED] which states that a [REDACTED]; Competitor, Response to s.109 Notice, [REDACTED]; and Competitor, Response to s.109 notice, Document 20. See also Appendix D.

- 8.394 In January 2023, Intelsat won its first customer for its hybrid GEO/LEO IFC solution. [REDACTED].<sup>808</sup>
- 8.395 A few of Inmarsat's recent internal documents refer to expected competition from Intelsat with its hybrid solution in tenders. For example, internal documents from June 2022 and January 2023 relating to tenders by [REDACTED] and [REDACTED] both refer to potential competition from Intelsat in partnership with OneWeb. Although these identify [REDACTED], in the more recent document, Inmarsat notes [REDACTED] suggesting that it sees the constraint from Intelsat's hybrid solution as significant notwithstanding the uncertainty. Although we have not identified any specific references to potential competition from an Intelsat/OneWeb offering in Viasat's documents relating to upcoming tenders, many of its documents refer to potential participation by OneWeb in tenders.
- 8.396 As explained in paragraphs 6.8 to 6.11, when assessing the constraint from the expansion of competitors we have considered both any constraint that competitors might exert before expansion as a result of the threat of their expansion and any constraint that they might exert in the future following expansion.
- 8.397 As Intelsat is already bidding for contracts with its hybrid solution, is identified as a competitor (with its hybrid solution) in upcoming tenders in Inmarsat's internal documents (with 'OneWeb' referred to in Viasat's) and has won a contract, we consider that Intelsat's hybrid solution is already exerting some constraint in tenders even before it has been deployed on aircraft.
- 8.398 Finally, although we recognise there is some uncertainty (given that [REDACTED] and has not been certified on aircraft) we consider it likely, based on the evidence summarised above, that this hybrid IFC service will be deployed successfully in the next few years.
- 8.399 We therefore consider it appropriate to take into account Intelsat's hybrid offering in our assessment of the constraint that Intelsat will exert on the Merged Entity over the next few years.

#### *Our conclusion on Intelsat*

- 8.400 Although Intelsat's position in IFC globally has declined in recent years (mostly due to the decline of its ATG based IFC service in North America), it has bid and is bidding on a wide range of opportunities, the Parties regularly

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<sup>808</sup> For example, one airline [REDACTED] told us that Intelsat had bid for a recent tender offering a joint solution with another LEO provider and its GEO satellite (Ku) solution as alternatives. That airline told us that it opted for Intelsat's standalone solution because the joint solution did not have the necessary certifications yet. Customer, [REDACTED] Response to RFI, 24 January 2023.

identify it as a likely bidder in upcoming tenders in internal documents, it is regarded as a strong supplier by most airlines and has had recent success winning new contracts.

8.401 We consider that its vertical integration (ie ownership of the satellite capacity it uses to supply IFC) following its acquisition of Gogo, its emergence from Chapter 11 with an improved balance sheet, the launch of its hybrid GEO/LEO solution and access to additional GEO satellite capacity will improve its competitive offer.

8.402 We therefore concluded that Intelsat would likely be a significant constraint on the Merged Entity in the next few years.

### ***Panasonic***

8.403 The Parties submitted that Panasonic, 'with its IFE heritage and first mover advantage', continues to hold a strong position in the IFC market and exert a significant constraint on the Parties. 'This strong position, along with its recently announced partnership with OneWeb, shows that Panasonic has the ability, incentive and commitment to expand in IFC'.<sup>809</sup>

8.404 One respondent to our Provisional Findings Report submitted that the CMA overstated Panasonic's competitive strength in contrast with the Phase 1 findings. According to this respondent, Panasonic's position is not as strong as portrayed in the Provisional Findings because i) its position in IFC has been in decline for many years, ii) its reliance on capacity from third party SNOs is perceived by customers as a weakness, and iii) offering IFE and IFC as a bundle is of decreasing importance.<sup>810</sup>

8.405 We set out below the evidence on which we based our finding that Panasonic will be a significant constraint on the Merged Entity. We assessed this evidence in the round, including customers' perceptions of Panasonic's competitive strength (and the reasons for those) as well as other evidence. Some of the evidence used to support our findings is different from the Phase 1 evidence base (for example, because additional evidence was gathered, including additional tender data, internal documents from Panasonic, internal documents from the Parties relating to tenders and views from more commercial airlines) which explains differences between the Phase 1 and Phase 2 findings.

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<sup>809</sup> Parties, [Parties submission, Part 1 – Commercial Aviation](#), paragraph 148.

<sup>810</sup> Competitor, [REDACTED] Response to the Provisional Findings, 21 March 2023.

### *Shares of supply data*

- 8.406 As set out in paragraph 8.125, Panasonic's market position in the supply of IFC globally has been stable over the last five years, with its share of supply by active aircraft remaining at around [20-30%] between 2017 and 2022.
- 8.407 Panasonic has historically held a particularly strong position in the supply of IFC to widebody aircraft globally. Its installed base in widebody aircraft has also grown (albeit at a slower rate than other suppliers). In 2022 its IFC solution was installed on [60-70%] of widebody aircraft globally (see paragraph 8.129).
- 8.408 Panasonic has historically held a much smaller position in the supply of IFC to European narrowbody aircraft. Its IFC solution was installed on just [0-5%] of European narrowbody aircraft in 2022 (see paragraph 8.127).

### *Evidence from tender data*

- 8.409 Our analysis of recent concluded tenders with a UK nexus shows that Panasonic regularly competes with both Parties in tenders (see paragraphs 8.132 to 8.140). Panasonic bid on 12 of the 13 tenders in our sample of recent concluded tenders. These include a mix of narrowbody and widebody opportunities for line-fit and retro-fit installation. Panasonic won three tenders (all narrowbody line-fit opportunities with European airlines). Viasat bid on one of these and Inmarsat bid on all three. Panasonic was the runner-up in two other tenders in the sample (both widebody line-fit opportunities).
- 8.410 Panasonic also won a contract with TAP Air Portugal recently to supply IFC to 14 narrowbody aircraft. TAP Portugal did not submit details of this tender to us, and we therefore believe this contract was awarded just before the time period covered by our tender sample and so was not included in our tender analysis.
- 8.411 In addition, in 2022 Lufthansa renewed a contract for IFC for [REDACTED] widebody aircraft (covering multiple Boeing and Airbus models) with Panasonic.<sup>811</sup>
- 8.412 Panasonic is also currently competing with both Parties in a large number of the ongoing tenders with a UK nexus that airlines told us about (see paragraph 8.141). Panasonic has bid on all ten of the ongoing tenders that Viasat and Inmarsat have bid on.

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<sup>811</sup> Customer, [REDACTED] Response to Phase 2 RFI1, 15 November 2022, question 6.

### *Internal documents relating to tenders*

8.413 As set out at paragraphs 8.173 and 8.174, our analysis of the Parties' internal tender documents shows that Inmarsat refers to Panasonic as a possible bidder in upcoming tenders most of the time. In some of these documents, Panasonic is identified as the main competitor. For example, Panasonic is identified by Inmarsat as [REDACTED] in internal documents relating to tenders by [REDACTED] in the last few years. A number of these internal documents provide a brief overview of Panasonic's strengths and weaknesses. Weaknesses vary slightly by tender, but typically include [REDACTED]. Strengths also vary by tender, but often include [REDACTED].

8.414 Where Viasat's documents for upcoming tenders refer to competitors Panasonic is mentioned as a potential rival in most of these.<sup>812</sup> Where Viasat includes an assessment of Panasonic's capabilities it refers to Panasonic's [REDACTED] as strengths (see paragraph 8.175).

### *Evidence from airlines*

8.415 The majority (12 of 19) of respondents to our questionnaire who rated Panasonic described Panasonic as a strong or very strong supplier of IFC. The reasons given were broadly consistent with the strengths and weaknesses identified by the Parties in their internal documents. Airlines identified its track record, global coverage and its ability to offer IFC and IFE as strengths. Two also mentioned its partnership with OneWeb as a positive move for its competitive standing. A number of airlines said, however, that Panasonic's lack of vertical integration (ie self-supply of satellite capacity) is a source of weakness and that its solution is technologically inferior to others.

### *Evidence from SSPs*

8.416 SSPs/VARs described Panasonic as a strong (two) or moderate (three) supplier of IFC. The strengths and weaknesses identified by SSPs/VARs were consistent with those identified by airlines and the Parties. Panasonic's strong legacy in IFC and strong IFE position were raised by some as strengths. However, its lack of vertical integration and inferior IFC offering were also raised as weaknesses by some. Panasonic's multi-orbit strategy with

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<sup>812</sup> See for example Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00051965, 26 July 2021 relating to [REDACTED], slide 13; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00065480, 3 February 2022 relating to [REDACTED], slide 2; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00055277, 18 August 2022 relating to [REDACTED], slide 6; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00062991, March 2022 relating to [REDACTED], slide 2.

OneWeb was also raised by one respondent as a potential source of future strength.

### *Panasonic's future plans*

8.417 As set out in paragraph 8.229, Panasonic's internal documents [REDACTED].

8.418 Panasonic has taken a number of significant steps recently to improve its competitive position, in particular its access to satellite capacity.

8.419 As noted at paragraph 8.96, Panasonic has agreed with Eutelsat to source GEO satellite capacity from Eutelsat's 10B satellite from the second half of 2023. This will provide capacity for the large majority of Panasonic's IFC demand in Europe. Eutelsat 10B successfully launched on 23 November 2022 and it is scheduled to enter service in Q3/2023.<sup>813</sup> Under the [REDACTED], this will provide Panasonic with a secure source of capacity until [REDACTED].

8.420 In addition, in October 2022, Panasonic entered into a distribution agreement with OneWeb to source satellite capacity from its LEO constellation, which will allow it to offer a hybrid LEO/GEO solution to airlines.<sup>814</sup> [REDACTED] and we recognise there is some uncertainty, for similar reasons as for Intelsat we consider it likely that this hybrid IFC service will be deployed successfully in the next few years. In particular, Panasonic's hybrid solution will rely on the same LEO constellation (OneWeb), use the same ESA (by Stellar Blu), and a number of third parties (including airlines and SSPs/VARs) have said that they believe that Panasonic's partnership with OneWeb is a potential source of future strength (and more generally we received consistent evidence that hybrid solutions are an attractive proposition because they combine the technological advantages of both types of constellation). Also, Panasonic is, like Intelsat, a well-established IFC player (and therefore well placed to navigate the certification processes, for example).<sup>815</sup>

8.421 We therefore also consider it appropriate to take into account Panasonic's hybrid offering in our assessment of the constraint that Panasonic will exert on the Merged Entity over the next few years.

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<sup>813</sup> [Future Eutelsat Satellite Launches | Eutelsat](#).

<sup>814</sup> [OneWeb and Panasonic Avionics Corporation to deliver low Earth orbit \(LEO\) connectivity to airlines worldwide](#).

<sup>815</sup> In its response to the Provisional Findings, [REDACTED] submitted that the CMA overstated the importance of this agreement. According to this respondent, [REDACTED]. The same respondent also noted that [REDACTED]. Competitor, [REDACTED] Response to the Provisional Findings, 21 March 2023.

### *Our conclusion on Panasonic*

8.422 Panasonic's market position has remained relatively stable over the last five years, it frequently bids on a wide range of opportunities, regularly competing with both Parties in tenders, the Parties regularly identify it as a likely rival in upcoming tenders in internal documents, it is seen as a strong supplier of IFC by most airlines and has won a number of recent IFC contracts. It is not vertically integrated but has secured long term access to satellite capacity from Eutelsat and has also entered into a distribution agreement with OneWeb enabling it to offer a hybrid GEO/LEO solution which will improve its competitive offer.

8.423 We therefore concluded that Panasonic would likely be a significant constraint on the Merged Entity in the next few years.

### **Anuvu**

8.424 The Parties submitted that Anuvu 'is a key competitor of the Parties, especially for European short-haul IFC' where it is the second leading SSP with existing customers that include Air France, Norwegian, Turkish Air and Iceland Air.<sup>816</sup>

8.425 In response to our Provisional Findings Report the Parties submitted that our provisional finding that Anuvu's competitive constraint on the Parties is only moderate in narrowbody is inconsistent with Anuvu's ability to win tenders against all rivals. They submitted that airlines' rating of Anuvu may be an average across widebody and narrowbody and so not reflect Anuvu's strength in narrowbody.<sup>817</sup>

### *Shares of supply data*

8.426 As set out in paragraph 8.125, Anuvu's share of supply by active aircraft globally has fallen from [10-20%] in 2017 to [10-20%] in 2022.

8.427 Anuvu's share of supply of IFC to European narrowbody aircraft has also declined substantially from [70-80%] in 2017 to [20-30%] in 2022 (see paragraph 8.127).

8.428 Anuvu does not have a material presence in the supply of IFC to widebody aircraft (its solution is installed on only [✂] widebody aircraft worldwide).

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<sup>816</sup> Parties, [Parties submission, Part 1 – Commercial Aviation](#), paragraph 157.

<sup>817</sup> Parties, [Parties response to the Provisional Findings](#), paragraphs 21 to 23.

## *Tender data*

- 8.429 Our analysis of recent concluded tenders with a UK nexus shows that Anuvu competes with the Parties less frequently than they do with each other, or with Panasonic or Intelsat (see paragraphs 8.132 to 8.140). Anuvu was invited to bid and bid on three tenders in our sample. These were all narrowbody opportunities (the opportunities that Anuvu did not bid on include a mix of narrow and widebody opportunities). It did not win (and was not the runner-up) in any tenders in the sample.
- 8.430 Anuvu is not bidding on any of the ongoing tenders with a UK nexus that airlines told us about and that Viasat and Inmarsat are bidding on (see paragraph 8.141). These ongoing tenders include a mix of narrowbody (six) and widebody (four) opportunities.
- 8.431 Although outside the timeframe covered by our tender sample, Anuvu won a significant contract with Turkish Airlines in 2019 for 104 narrowbody aircraft. Turkish Airways operates around 1% of all flights to and from the UK annually.<sup>818</sup> This contract is also not reflected in Anuvu's share of supply of IFC to European aircraft.<sup>819</sup>
- 8.432 More recently Anuvu has won new contracts with Norwegian to service [REDACTED] additional new aircraft following a tender win and to continue servicing [REDACTED] aircraft, following the expiry of an existing contract.<sup>820</sup>

## *Internal documents relating to tenders*

- 8.433 As set out in paragraphs 8.177 to 8.179, our analysis of internal documents prepared by the Parties in connection with tenders for IFC shows that the Parties refer to Anuvu as a possible rival in tenders [REDACTED] less frequently compared to other established rivals.
- 8.434 Both Parties do refer to Anuvu as a potential competitor in a number of internal documents relating to narrowbody opportunities (such as tenders by [REDACTED]). We have not identified any internal documents that refer to Anuvu as a potential competitor for widebody opportunities among the documents we have reviewed.

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<sup>818</sup> Based on data from the CAA on flights to and from the UK between January and October 2022.

<sup>819</sup> European shares include all aircraft operated by airlines headquartered in the EEA or the UK, see paragraph 8.117.

<sup>820</sup> Competitor, [REDACTED] Email received 29 March 2023.

### *Evidence from airlines*

- 8.435 Most airlines that rated Anuvu (seven of 13) described Anuvu as a moderate supplier. Three described Anuvu as a strong supplier and three described it as weak (none rated it very strong). Airlines referred to its lack of track record, capability/capacity and coverage as weaknesses.
- 8.436 As set out in paragraph 8.425 above the Parties submitted that these ratings may be an average across widebody and narrowbody and therefore not reflect Anuvu's strength in narrowbody. While we asked airlines to explain whether their evaluation of suppliers differs between types of tenders including between different aircraft body types, we agree with the Parties that some of the airlines' ratings will relate to views on Anuvu's strength in widebody. Indeed, one respondent that gave a moderate rating referenced Anuvu not being certified on widebody. However, that airline was one of only two that said their evaluation differed across aircraft body types or region covered. Three of the other airlines that rated Anuvu moderately explicitly said that their evaluation did not differ between types of tender or that they had evaluated on narrowbody only.

### *Evidence from SSPs*

- 8.437 Consistent with the views of airlines, SSPs/VARs regard Anuvu as a weaker IFC supplier than the Parties, Intelsat and Panasonic. Three SSPs/VARs rated Anuvu as moderate and three rated it weak. The reasons given by SSPs/VARs included its small customer base, regional coverage, and dependence on third parties for satellite capacity.

### *Our conclusion on Anuvu*

- 8.438 Having regard to recent tender data and contract wins, the views of airlines and SSPs, and the Parties' internal documents relating to tenders, we therefore concluded that Anuvu would likely be a moderate constraint on the Merged Entity in the next few years, but only for narrowbody opportunities.

### ***Other existing IFC suppliers***

- 8.439 Other current IFC suppliers include resellers, such as SITAONAIR, Collins Aerospace and Thales, which operate as a distribution channel for SNOs, particularly Inmarsat. Inmarsat told us that it [REDACTED] for tenders where one of its resellers is bidding [REDACTED].<sup>821</sup> Inmarsat's internal documents are consistent with

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<sup>821</sup> Inmarsat, Transcript of Main Party Hearing, 30 January 2023, page 23, lines 11 - 19.

its submission that it does not compete with resellers.<sup>822</sup> We therefore consider that these suppliers do not have a market position independent from the relevant SNOs whose products they resell.<sup>823</sup>

8.440 SITAONAIR (one of the largest resellers) has in any event decided to exit the market.<sup>824</sup>

## Competitive constraints from emerging players

8.441 In this section we consider the extent of the constraint that the Merged Entity would likely face from emerging suppliers in the next few years. We have adopted the same framework for assessing expansion by emerging players as for expansion by established players set out above.

8.442 In October 2022, SES announced that it had signed a letter of agreement to become the second managed service provider on Airbus' Airspace Link HBCplus catalogue offering for airlines.<sup>825</sup> Under HBCplus, SES may in the future end up contracting directly with airlines to provide IFC satellite connectivity on Airbus aircraft models (including both retro-fit and line-fit installations). Following publication of our Provisional Findings Report, SES told us that [REDACTED], its best estimate is that it will be available for selection for [REDACTED] Airbus models in [REDACTED].<sup>826</sup>

8.443 There is little evidence relating to how strong a competitor SES will be for the types of contracts for which it may become an option. SES does not have any customers for the HBCplus programme, it has no experience serving airlines directly (for example, with other IFC services), and [REDACTED].<sup>827</sup> SES was not mentioned by any airlines when asked to rate suppliers and only one competitor rated SES as moderate. [REDACTED], SES and Airbus had announced that they had signed a letter of agreement paving the way for SES to become a supplier through HBCplus around the time that we sought feedback from airlines. We therefore consider that while SES may be a constraint on the Merged Entity, based on the evidence available to us, it is still highly uncertain

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<sup>822</sup> Parties, Follow Up Material From Main Party Hearing Consolidated Response, 10 February 2023, page 18 and Annex 36. The Parties submitted in this respect that [REDACTED].

<sup>823</sup> This is consistent with the Final Merger Notice (paragraph 394), where the Parties submitted that in some instances, VARs de facto operate as a distribution channel for SSPs and their shares of supply should be amalgamated to those of the Parties. Collins Aerospace and SITAONAIR, in the commercial aviation segment, are examples of that situation. We understand that in Europe Thales only resells Inmarsat's IFC solution.

<sup>824</sup> Competitor, [REDACTED], Email received, 24 January 2023. SITAONAIR informed us that [REDACTED].

<sup>825</sup> [Airbus on track to expand the Airspace Link HBCplus catalogue with SES, creating its first agnostic cabin satcom offer | News | Airbus Aircraft](#)

<sup>826</sup> Competitor, [REDACTED] Response to phase 2 RFI, email received 28 March 2023.

<sup>827</sup> Competitor, [REDACTED] Response to phase 2 RFI, email received 15 April 2023.

and we have therefore not taken into account any potential constraint from SES on the Merged Entity in our assessment.

8.444 OneWeb has agreed to supply satellite capacity to Intelsat and Panasonic. It will therefore not compete directly with the Parties, but – by supplying satellite capacity to existing suppliers – it may strengthen the competitive constraint that those suppliers exert on the Parties. We considered the impact of OneWeb when assessing the constraint that these suppliers would likely exert on the Merged Entity above.

8.445 Amazon and Telesat have both announced plans to develop satellite LEO constellations. As explained in more detail in Appendix D:

(a) Amazon has announced plans to own and operate a LEO constellation of more than 3,000 satellites (known as Project Kuiper).<sup>828</sup> As part of the approval granted by the FCC, Amazon has committed to launch 50% of the satellites that will form its LEO constellation by the end of July 2026 and to launch the remaining 50% by July 2029.<sup>829</sup> In March 2023, Amazon announced that it is preparing to launch its first two prototype satellites in early 2023.<sup>830</sup> It has also announced contracts for up to 92 heavy-lift rocket launches which give it capacity to deploy the majority of its satellite constellation.<sup>831</sup> Amazon expects to provide services to its earliest customers (across any verticals) by the end of 2024.<sup>832</sup> To date Amazon has not bid for or won any contracts with airlines.<sup>833</sup> [X].

(b) Telesat owns and operates a GEO satellite network. Telesat told us it is currently in the final stages of financing a LEO satellite constellation. To date Telesat has not launched any LEO satellites, won any airline contracts, or obtained any TCs or STCs. Telesat is working with several third parties to develop ESAs for different verticals, including aviation. For IFC, Telesat expects line-fit and retro-fit solutions will be available around 2027.

8.446 Given the status of Amazon's and Telesat's plans, we do not consider that there is sufficient evidence that their entry/expansion is sufficiently likely and timely to be taken into account in our assessment of the constraint that the Merged Entity will face when competing for contracts in the next few years.

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<sup>828</sup> [Project Kuiper](#).

<sup>829</sup> [International Bureau Grants Kuiper Satellite Modification | Federal Communications Commission](#).

<sup>830</sup> <https://www.aboutamazon.com/news/innovation-at-amazon/what-is-amazon-project-kuiper>.

<sup>831</sup> <https://www.aboutamazon.com/news/innovation-at-amazon/amazon-makes-historic-launch-investment-to-advance-project-kuiper>.

<sup>832</sup> <https://www.aboutamazon.com/news/innovation-at-amazon/what-is-amazon-project-kuiper>

<sup>833</sup> [Amazon's Project Kuiper test satellites to fly on first Vulcan Centaur rocket \(aboutamazon.com\)](#).

8.447 [REDACTED], and very few airlines or SSPs/VARs mentioned Amazon or Telesat as existing or future IFC suppliers. We therefore do not consider that there is evidence that the threat of their entry/expansion is constraining the Parties when competing for contracts.

8.448 We recognise that the planned entry/expansion of Amazon and Telesat may affect the Parties' long-term investment decisions, with evidence in the Parties' internal documents showing that [REDACTED],<sup>834</sup> and therefore that the constraints that the Merged Entity will face in the next few years on long-term variables are likely to be greater than on short-term variables. However, in view of the conclusions we have reached (see below) on the latter, we did not consider it necessary to assess further the additional constraints on long-term variables arising from Telesat and Amazon.

8.449 We therefore consider that Starlink is the only emerging LEO operator which might be likely to constrain the Merged Entity in the next few years when competing for contracts, and in the remainder of this section we therefore consider the extent of that constraint.

### ***The Parties' views regarding Starlink***

8.450 The Parties submitted that Starlink is making rapid headway in expanding into Europe and 'looms as an ever larger threat'.<sup>835</sup> They submitted that, 'looking forward, Starlink is already on the way to being the #1 strongest competitor to Viasat'.<sup>836</sup> The Parties noted that 'Starlink has continued to develop at pace, with new tender wins, certification, and increases in global capacity that demonstrate the speed and reality of Starlink's disruptive presence and ever strengthening competitive threat'.<sup>837</sup> Viasat submitted that Starlink has 'global coverage now and more regional capacity coverage in space today than any other competitor' including Viasat alone and combined with Inmarsat, and that its equity value is more than 10 times Viasat's plus Inmarsat combined with virtually no debt.<sup>838</sup>

8.451 Viasat said that a good example of how seriously it was taking the threat from Starlink is that [REDACTED] to understand the threat from Starlink.<sup>839</sup>

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<sup>834</sup> For example: Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 2.005 [REDACTED], June 2022, slide 2 states that [REDACTED]; and Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 1.086 [REDACTED], slide 6 states that [REDACTED].

<sup>835</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraphs 9 and 10.

<sup>836</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, section 1.7.

<sup>837</sup> Parties, Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraph 35.

<sup>838</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 10, lines 1 to 5.

<sup>839</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 61, lines 8 to 13.

8.452 In their response to our Provisional Findings Report the Parties submitted that Starlink had received more feedback on its ‘impressive IFC operational performance’ highlighting positive reviews of Starlink’s IFC on JSX’s regional aircraft.<sup>840</sup>

### ***Our assessment of Starlink***

#### *Starlink’s IFC contract wins*

8.453 As noted at paragraph 8.245, Starlink has won a number of contracts since March 2022 (the date of its first contract win). These include contracts with JSX, [REDACTED], Hawaiian Airlines, Aero Technologies, [REDACTED], Zip Air (a subsidiary of Japan Airlines) and airBaltic. These contracts cover a number of different regions (United States, Asia Pacific and recently Europe), aircraft types (widebody and narrowbody) and airlines (both LCC and full-service), showing that Starlink is capable of winning a broad mix of different opportunities with different types of airlines. Starlink’s award of a contract by airBaltic in January 2023 represents its first win with a European airline, and for aircraft that will fly to and from the UK.<sup>841</sup>

8.454 The Parties’ internal documents show that they competed for certain of these opportunities. In particular [REDACTED] ([REDACTED] and [REDACTED])<sup>842</sup> and [REDACTED],<sup>843</sup> [REDACTED]. airBaltic told us that it chose Starlink [REDACTED] because Starlink provides ‘high-speed internet on board, without log-in requirement for passengers, supported by new technologies. LEO satellites provide substantially better connectivity in terms of bandwidth and latency which cannot be matched by terrestrial or GEO satellites’.<sup>844, 845</sup>

#### *Starlink’s participation in past tenders and other competitive interactions*

8.455 As well as considering the contracts that Starlink has won we have also assessed Starlink’s participation in tenders and other competitive interactions between Starlink and the Parties.

8.456 Starlink has bid for other IFC contracts, including against the Parties. Starlink was invited to bid in three of the 13 tenders with a UK nexus included in our analysis of recent concluded tenders and bid on one (which it did not win). Starlink also submitted a bid in two of the ten tenders with a UK nexus

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<sup>840</sup> Parties, Response to Provisional Findings, paragraph 8 to 11.

<sup>841</sup> Customer, [REDACTED] Email received, 31 January 2023.

<sup>842</sup> Parties, Follow up material from main party hearing consolidated response, 10 February 2023, page 18.

<sup>843</sup> Viasat, Annex MPH.21, [REDACTED]. [REDACTED]. Customer, Email received, 31 January 2023.

<sup>844</sup> Customer, [REDACTED] Email received, 31 January 2023.

<sup>845</sup> We contacted Hawaiian Airlines during our investigation, but it declined to respond.

included in our analysis of ongoing tenders. It was bidding against both Parties in these tenders.

8.457 Our analysis of the Parties' internal documents relating to tenders shows that from early 2022 onwards Starlink is typically identified as a potential bidder for upcoming opportunities, although it is [REDACTED]. Inmarsat's internal documents also note that Starlink is [REDACTED], although they also reference [REDACTED] as Starlink's strengths. In the most recent document we have seen (from January 2023), relating to a tender [REDACTED]<sup>846</sup> suggesting that LEO operators (including Starlink) may be seen as more of a threat than previously.<sup>847</sup>

8.458 The Parties also provided examples where they had been given feedback by an airline during a tender process that they were competing against a LEO bidder (sometimes Starlink). For example:

(a) Call notes from a meeting between Viasat and [REDACTED] note that: [REDACTED].<sup>848</sup> In response to feedback from the airline that its offer was too expensive, Viasat revised its proposal.<sup>849</sup>

(b) Call notes from a meeting between [REDACTED] and Viasat note that [REDACTED].<sup>850</sup> The documents show that Viasat subsequently sent [REDACTED] a revised discounted proposal.<sup>851</sup>

(c) In an internal document relating to an opportunity by [REDACTED], Inmarsat references [REDACTED].<sup>852</sup> Although this example does not involve Starlink, we consider that it is relevant in understanding the competitive pressure that LEO alternatives may be exerting on the Parties.

8.459 These examples are considered in more detail in paragraphs 8.180 to 8.187. As noted in that discussion, it is not clear from the relevant documents that the reason the Party improved its commercial proposal was to counter a more competitive offer from a LEO operator (as opposed to competition more generally, for example). However, these examples nevertheless show that airlines are using competition from LEOs (including Starlink) as leverage to

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<sup>846</sup> Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04, 5 January 2023 relating to [REDACTED], Slide 2.

<sup>847</sup> Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04, 5 January 2023 relating to [REDACTED], Slide 2.

<sup>848</sup> Viasat, Annex MPH.02, Viasat Note of calls of meeting with [REDACTED] held on 3 May 2022.

<sup>849</sup> Viasat, Annex MPH.02, Email from [REDACTED] of Viasat, 11 May 2022 regarding [REDACTED]; Annex MPH.03, Email from [REDACTED] of Viasat, 2 June 2022 regarding [REDACTED]. Annex MPH.04, Viasat Note of calls of meeting with [REDACTED] held on 3 June 2022.

<sup>850</sup> Viasat, Follow up material from MPH (consolidated version), 10 February 2022, Supplemental Annex MPH.28. 26 October 2021 relating to [REDACTED], page 1.

<sup>851</sup> Viasat, Follow up material from MPH (consolidated version), 10 February 2022, Supplemental Annex MPH.29, 1 November 2021 relating to [REDACTED], page 1.

<sup>852</sup> Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.25, 7 December 2021 relating to a [REDACTED], slide 6.

extract better terms from suppliers during tenders. They also show that the Parties see the threats as credible and – at least in some cases – are responding to the threat by improving their offer. [REDACTED].

### *Starlink's future plans*

8.460 The evidence we have received shows that Starlink has [REDACTED]. Starlink told us that its plans are continuing to evolve and that it is a nimble organisation where decisions are taken 'live' in response to market developments.

8.461 While Starlink's plans are continually evolving, meaning that we cannot predict with precision how Starlink's IFC business will develop (either in terms of timing or scale), we consider that the evidence shows that Starlink will continue to develop a high quality IFC offering and intends to expand its IFC business within the next few years. In this regard we note that:

- (a) Starlink has made significant investments to enter the IFC market, including developing a user terminal for aircraft and obtaining STCs;
- (b) Starlink has succeeded in developing technology that works, and has overcome a number of challenges to do so. Starlink is capable of providing high quality IFC [REDACTED] (see paragraphs 8.474 to 8.482 which consider Starlink's technical capabilities in detail);
- (c) Past [REDACTED] Starlink from continuing to devote resources [REDACTED] to developing its IFC offering including by servicing existing contracts [REDACTED], obtaining more certifications [REDACTED], and improving [REDACTED]. [REDACTED], servicing existing contracts will likely contribute to Starlink's reputation and help it overcome some of the doubts of airlines. Internal documents show that Starlink intends to [REDACTED] in the next few years, [REDACTED];
- (d) [REDACTED] and told us it will continue to [REDACTED]. As noted at paragraph 8.245, Starlink is pursuing certifications for a number of popular narrow and widebody aircraft models (including models used for flights to and from the UK).
- (e) In relation to its longer-term plans, we note that [REDACTED]. Starlink [REDACTED].

### *Evidence from airlines*

8.462 As explained in paragraphs 8.294 to 8.298, we asked airlines to rate the strength of Starlink as an IFC supplier and to provide reasons for their rating. In addition, in order to obtain a fuller understanding of airlines' views of LEOs (including Starlink), we held calls with six airlines/airline groups that have a

significant number of flights to and from the UK and/or have recently run tenders where a LEO operator has participated.

- 8.463 Most airlines that responded to our questionnaire and rated Starlink's strength as an IFC supplier considered that Starlink is a strong or very strong supplier of IFC. In total nine respondents rated it strong/very strong, four rated it moderate and only one rated it weak.
- 8.464 Several airlines explained that they had rated Starlink based on its future potential. For example, one respondent said Starlink is 'expected to be very strong in future',<sup>853</sup> another said it is 'growing and may soon become established',<sup>854</sup> another said it is 'quickly becoming a competitive LEO solution',<sup>855</sup> and two others said it is a 'potential future option/supplier'.<sup>856</sup>
- 8.465 Many airlines that responded to our questionnaire were interested in exploring Starlink as a potential IFC supplier. One airline has trialled its technology [REDACTED] and another is seeking funding to do so [REDACTED]. Six airlines have invited Starlink to bid for contracts [REDACTED]. Another airline has held exploratory discussions with Starlink (and other LEO providers) [REDACTED]. Evidence received from Starlink shows that it has also had discussions with a number of other airlines about potential opportunities [REDACTED] (see paragraph 8.246).
- 8.466 Only one airline that responded to our questionnaire has selected Starlink as its IFC supplier [REDACTED]. As noted above, some have ongoing tenders in which Starlink is participating or are discussing potential opportunities with Starlink. However, a number of airlines told us that, although Starlink's technology sounds promising, they would not choose Starlink today for a number of reasons. As discussed in more detail in paragraphs 8.303 to 8.309:
- (a) Four of the six respondents that we spoke with raised concerns about Starlink's ability to serve hub airports and routes flying over areas where demand is high. Some respondents mentioned other technical limitations, such as lack of ISLs and therefore any coverage over oceans. We note that while some of these technical challenges remain, others – such as ISLs - have been overcome (see paragraph 8.476), suggesting that some of the views on Starlink were based on an outdated understanding of its technological capabilities.<sup>857</sup>

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<sup>853</sup> Customer, [REDACTED] Response to the Phase 2 RFI 1, 18 November 2022.

<sup>854</sup> Customer, [REDACTED] Response to the Phase 2 RFI1, 15 November 2022.

<sup>855</sup> Customer, [REDACTED] Response to the Phase 2 RFI1, 18 November 2022.

<sup>856</sup> Customers, [REDACTED] Responses to the Phase 2 RFI1, question 14.

<sup>857</sup> See Customer, [REDACTED] Note of call, 21 December 2022.

- (b) Three of the respondents that we spoke with noted that Starlink does not have certifications (ie TCs and STCs) for Boeing and Airbus airframes.<sup>858</sup>
- (c) Four of the six respondents that we spoke with said Starlink's commercial model, such as [REDACTED], is commercially unattractive. One airline [REDACTED] also noted that Starlink lacks the support infrastructure for customer support and maintenance.<sup>859</sup>
- (d) Five of the respondents that we spoke with said that they would need to see how LEO-based solutions (including Starlink) perform in live/real-life commercial flights and/or see the results of rigorous testing before they would consider installing a LEO-based solution.<sup>860</sup>

8.467 Two of the airlines that had told us that they would not choose Starlink today for various reasons responded to our Provisional Findings Report and submitted that we were overestimating the competitive effect of Starlink's entry. Their concerns included that Starlink has not yet obtained STCs for a wide number of aircraft, has not obtained TCs for line-fit installation and has a commercial model that is not acceptable to airlines.

8.468 The evidence we have reviewed shows that airlines' approaches to weighing the risks and benefits of granting a contract to Starlink when taking procurement decisions varies, and therefore that the concerns raised by these airlines are not shared by all airlines. In particular, we note that Starlink has already won IFC contracts in spite of them.<sup>861</sup>

8.469 As discussed in more detail below, Starlink has also taken steps to address technological challenges and there is evidence that it is providing high quality IFC and that quality will improve with future satellite launches. It has also secured its first STC and is applying for other certifications. Similarly, as discussed in more detail below, there is some evidence to suggest that [REDACTED].

8.470 The evidence that we have received from airlines shows that some are more risk averse than others and will require more proof that Starlink's IFC service works in 'real-life' conditions before they would select Starlink as a supplier. Starlink is already supplying IFC on board JSX aircraft and has won other

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<sup>858</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraph 32; Customer, [REDACTED] Note of call, 21 December 2022, paragraph 7; Customer, [REDACTED] Note of call, 2 December 2022, paragraph 24.

<sup>859</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraph 26.

<sup>860</sup> Customers, [REDACTED], Notes of calls, December 2022.

<sup>861</sup> As mentioned in paragraph 8.29 while having made some progress towards obtaining the relevant certification or holding similar certifications may be advantageous for a supplier, having the relevant certification at the time of bidding is not a prerequisite for winning a tender, particularly for retro-fits. This appears to be true for emerging suppliers and/or services as well as for more established suppliers of IFC services.

contracts (including for long haul routes on Hawaiian Airlines aircraft and on short haul routes in Europe on airBaltic aircraft).<sup>862</sup> We consider that these contracts, and any future wins, will enable Starlink to obtain both the performance data and the experience in supplying IFC on live aircraft over the next few years that some airlines require, placing it in a stronger position to win opportunities than it is now.

8.471 We also note that the Parties and other SSPs do not necessarily know who else is bidding for a contract; nor do they necessarily know an airline's preferences regarding Starlink (or LEO solutions more generally) or its risk tolerance. [REDACTED].<sup>863</sup> [REDACTED].<sup>864</sup> [REDACTED].<sup>865</sup> We consider that this uncertainty means that Starlink may be used by airlines to exert some competitive pressure on the Merged Entity even in circumstances where Starlink may not be a strong alternative to the Merged Entity from the airline's perspective.

*Evidence from other third parties (SSPs/VARs [REDACTED]).*

8.472 In response to our questionnaire, most SSPs/VARs rated Starlink as a moderate supplier of IFC. They raised similar weaknesses with Starlink's current offering as those identified by airlines, such as lack of coverage, challenges serving areas of high demand, lack of IFC experience and unwillingness to agree to SLAs. However, SSPs/VARs also expressed uncertainty over their rating of Starlink and said they expect Starlink to become stronger in the future. In response to our Provisional Findings Report one of the three respondents that had rated Starlink moderate submitted that Starlink is already a strong competitor and its position is only expected to strengthen in the years to come.<sup>866</sup> It told us that this is primarily due to Starlink's plans to expand its ISL-enabled satellites which will improve the (already high) quality of its IFC services; its strategy to improve LEO-backed solutions to be able to serve areas of high demand and offer global coverage; its in-house launch capabilities; and its significant access to financing.<sup>867</sup>

8.473 Starlink has had discussions with [REDACTED] in relation to [REDACTED] offerability.<sup>868</sup> Starlink hopes to obtain [REDACTED] certification for [REDACTED] and [REDACTED] Starlink expects the process to take [REDACTED].<sup>869</sup> [REDACTED] told us in late March 2023 that [REDACTED].<sup>870</sup> Starlink [REDACTED].<sup>871</sup>

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<sup>862</sup> Competitor [REDACTED], Response to Provisional Findings, 21 March 2023.

<sup>863</sup> Parties, Follow up material from MPH, 4 February 2022, summary table.

<sup>864</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraph 33.

<sup>865</sup> Customer, [REDACTED] Note of call, 12 December 2022, paragraph 55.

<sup>866</sup> Competitor, [REDACTED] Response to Provisional Findings, 21 March 2023, paragraph 14.

<sup>867</sup> Competitor, [REDACTED] Response to Provisional Findings, 21 March 2023, paragraph 14.

<sup>868</sup> Competitor, [REDACTED] Response to the phase 2 RFI, 29 March 2023, paragraph 1.1.

<sup>869</sup> Competitor, [REDACTED] Response to the phase 2 RFI, 29 March 2023, paragraph 1.1 and 3.2.

<sup>870</sup> [REDACTED] Response to the phase 2 RFI email received 29 March 2023.

<sup>871</sup> Competitor, [REDACTED] Response to the phase 2 RFI, 29 March 2023, paragraph 1.2.

## *Technological and other considerations*

8.474 At the time of our Phase 1 decision (the **Phase 1 Decision**), Starlink was not supplying IFC live on aircraft and the evidence showed that it faced a number of technological barriers to supplying IFC. Starlink told the CMA at the time that it must still refine its software and launch more satellites with ISL hardware for its ISLs to be commercially operational in aviation, and that technical challenges made it difficult to predict with certainty when an ESA compatible with its IFC service would be ready for commercial use.<sup>872</sup>

8.475 The evidence shows that Starlink has since overcome these technical barriers and that it is already providing a high quality IFC service on some routes:

- (a) In December 2022, Starlink started supplying IFC to passengers flying with JSX aircraft in the United States, showing that its IFC solution works.
- (b) One airline also told us that its trial of Starlink's IFC solution confirmed the viability of its solution and that Starlink is 'technically capable' of offering services [REDACTED].
- (c) Data obtained by Inmarsat on JSX flights in January 2023 shows that [REDACTED].<sup>873</sup> [REDACTED]. Starlink's IFC service has also received positive reviews from reporters invited to participate in a special demo flight on JSX aircraft.<sup>874</sup>
- (d) During the course of 2022, Starlink launched more than 1,700 satellites (averaging one launch every 11 days) and it has launched additional satellites in 2023. Since the end of 2022, around [REDACTED] of its satellite constellation has been equipped with ISLs. Starlink told us that it is currently able to provide sufficient capacity for IFC services to [REDACTED] aircraft on intracontinental routes in Europe. Starlink also told us it has a sufficient number of ISL enabled satellites to provide some IFC services on intercontinental routes to/from Europe, but its ability to provide reliable service over the oceans will depend on putting more ISL enabled satellites into orbit and [REDACTED].

8.476 The evidence also shows that Starlink is taking steps to address the main technical challenges with LEO backed solutions identified by third parties during our investigation and in the Parties' internal documents – serving areas

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<sup>872</sup> CMA, Phase 1 Decision, paragraph 180(c).

<sup>873</sup> Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 10.01. [REDACTED].

<sup>874</sup> [Starlink shines on JSX | PaxEx.Aero](#); [Testing JSX's blazing-fast Starlink Wi-Fi with Apple's new MacBook Pro - The Points Guy](#).

of high demand (ie airport hubs and congested flight zones) and offering global coverage – by launching more ISL enabled satellites.

- 8.477 As noted in paragraph 8.114, Starlink obtained FCC authorisation to launch an additional 7,500 satellites in December 2022, and plans to launch these over the coming years. An internal strategy document from December 2022 shows that Starlink plans to launch more than [REDACTED] satellites in each of 2023, 2024 and 2025 [REDACTED].<sup>875</sup> Based on current timelines, [REDACTED], Starlink hopes that it will be able to offer reliable transoceanic IFC services to aircraft on intercontinental routes to and from Europe [REDACTED] (see paragraph 8.254).
- 8.478 We consider that Starlink has the ability to launch a significant number of additional ISL enabled satellites in the next few years. It has successfully launched more than 3,200 satellites since its first satellite launch in November 2019 (including more than 1,700 last year), has in-house launch capabilities as a division of Space X and has significant access to financing.<sup>876</sup>
- 8.479 The Parties and third parties have also expressed confidence that Starlink will overcome technological challenges (see paragraphs 8.306 and 8.328).<sup>877</sup>
- 8.480 Moreover, as discussed in detail in paragraphs 8.303 to 8.309, the evidence we have received shows that LEO and GEO satellites have advantages and disadvantages that airlines will weigh if they are choosing between LEO and GEO based alternatives. In particular, evidence shows that polar coverage, low latency and smaller terminal size are potential advantages of LEO based solutions, while providing high quality IFC in areas where there is a high concentration of demand is an advantage of GEO based solutions.
- 8.481 As set out in paragraph 8.248, Starlink told us it [REDACTED]. We do not consider this surprising given that [REDACTED] and [REDACTED]. While Starlink told us that these [REDACTED], we have put weight on the fact that Starlink has managed to navigate them all successfully, as reflected in internal documents.<sup>878</sup> Starlink's internal documents also show that it is committed to improving its [REDACTED] serving customers.<sup>879</sup> As such, we do not consider that these [REDACTED].
- 8.482 Overall, the evidence shows that Starlink's technology works and provides high quality IFC services on certain routes. Starlink does currently face limits on how many aircraft it can serve and the quality of IFC that it is able to

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<sup>875</sup> Competitor, [REDACTED] Response to the phase 2 RFI 3, 30 March 2023. [REDACTED].

<sup>876</sup> Viasat, Transcript of Main Party Hearing, 30 January 2023, page 25, line 24.

<sup>877</sup> For example, in an internal document from June 2022, Inmarsat notes that [REDACTED]. See also Viasat, Transcript of Main Party Hearing, 30 January 2023, page 64 lines 14 - 25 and page 65, lines 1 - 2 and 14 - 15. See also, Inmarsat, Response to s.109 Notice dated 2 November 2022, Annex 1.046, June [REDACTED], slides 81 to 85 which [REDACTED].

<sup>878</sup> Competitor, [REDACTED] Response to the phase 2 RFI 3, 30 March 2023, Annex 1 and Annex 4.

<sup>879</sup> Competitor, [REDACTED] Response to the phase 2 RFI 3, 30 March 2023, Annex 1, Annex 4 and Annex 5.1.

provide on certain routes. However, the evidence we received [REDACTED] shows that these issues are likely to be resolved through the deployment of additional satellites in the next few years.

### *Regulatory considerations*

8.483 In December 2022, Starlink obtained its first STC and it is in the process of obtaining more STCs [REDACTED], demonstrating that it is capable of getting its equipment certified. As explained at paragraph 2.24, a supplier's IFC service cannot be used on aircraft without these. These also take time to obtain (TCs in particular) and we received evidence that there is a limit in practice to how many TCs/STCs a supplier can apply for at any one time.

8.484 As set out in paragraph 8.258, Starlink told us [REDACTED] as set out in paragraphs 8.273 to 8.279. Starlink told us that it will progress its certification work [REDACTED] and work is already underway on a number of these. These include a number of aircraft models that are popular for flights to and from the UK (narrow and wide body).<sup>880</sup> Further, we note that [REDACTED] in the next few years.

8.485 Further, as discussed in more detail in paragraph 8.29, we have also found that while airlines' attitude towards risk and preferences regarding the status of certifications for their chosen IFC supplier varies, having the relevant TC or STC is not a prerequisite to win a contract. This is particularly true for retro-fit opportunities given that it takes less time to obtain an STC and timings are more flexible than for line-fit installations. We have found that contracts are regularly won by IFC suppliers that do not have the relevant TC or STC. Starlink also won all of its contracts to date without having the necessary certifications in place.

8.486 Consequently, although it is likely that there will be aircraft models for which Starlink will not hold the relevant certifications (TCs in particular) in the next few years, we do not consider that this of itself would prevent Starlink from bidding for and winning contracts given that airlines can and do award contracts to suppliers that do not have certifications in place at the time the contract is awarded and have the option of retro-fitting equipment on new aircraft.

### *Commercial considerations*

8.487 Starlink told us that it considers its commercial model has advantages for the end customer that makes it preferable.<sup>881</sup> Starlink told us that it believes that

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<sup>880</sup> See further Appendix B.

<sup>881</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 8 December 2022, paragraph 16.5.

[REDACTED].<sup>882</sup> Starlink said that it expects that over time more airlines will consider offering IFC [REDACTED] in response to passenger feedback.<sup>883</sup>

8.488 Starlink also told us that [REDACTED], Starlink prefers to give its IFC customers the right to terminate their service without liability if they are not happy with Starlink's service.<sup>884</sup>

8.489 We note that Starlink's commercial model has not prevented it from already signing up a range of customers. Moreover, a number of airlines that we spoke to that are not currently customers of Starlink told us that they already offer free IFC to passengers, are planning to do so or considering whether to do so.

8.490 If other airlines continue to find Starlink's commercial model unacceptable, [REDACTED].<sup>885</sup>

8.491 Some airlines considered that Starlink would likely address airlines' concerns in relation to its commercial model. One respondent said that it would expect Starlink to resolve this as it tries to build its market share,<sup>886</sup> and another said that it would expect Starlink to revisit its contractual approach to adapt to airline needs (although this will take time).<sup>887</sup>

8.492 Overall, we do not consider that its current commercial model will prevent Starlink from being a competitive force in the next few years. While some airlines may not be able to agree commercially acceptable terms with Starlink, we expect that over time more airlines will accept Starlink's commercial model and/or that Starlink may also adapt it if necessary to win tenders and scale its business.

### **Conclusion on constraint from Starlink**

8.493 Starlink has already won a number of contracts covering different regions, aircraft types (narrow and widebody) and airlines (LCC and full service), demonstrating that Starlink is already a credible option for a broad mix of airlines.

8.494 Its IFC service is also now live on passenger flights on JSX aircraft in the United States and test data and recent reviews show the quality of its IFC

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<sup>882</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 8 December 2022, paragraph 16.1.

<sup>883</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 8 December 2022, paragraph 16.3.

<sup>884</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 3 November 2022, paragraph 15.2 and Competitor, [REDACTED] Response to Phase 2 RFI, 8 December 2022, paragraph 16.5.

<sup>885</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 8 December 2022.

<sup>886</sup> Customer, [REDACTED] Phase 2 Note of call, 15 December 2022, paragraph 49.

<sup>887</sup> Customer, [REDACTED] Phase 2 Note of call, 21 December 2022, paragraph 37.

service is high. Starlink is also continuing to launch additional satellites. Future satellite launches will increase its capacity and geographic coverage and will likely improve the quality of IFC service that Starlink can provide at airport hubs and other areas where there is concentrated demand.

- 8.495 Most airlines consider that Starlink is a strong or very strong supplier of IFC. Although some airlines will not choose Starlink unless they have seen how it performs in real-life commercial flights, or see the results of rigorous testing, and some airlines are not willing to accept Starlink's commercial terms, feedback from airlines overall suggest that they have confidence that Starlink is likely to succeed and to be a strong competitor.
- 8.496 Starlink competed with the Parties on some recent tenders and opportunities, and we have seen some evidence of airlines using Starlink as leverage to extract better terms from the Parties.
- 8.497 The evidence shows that Starlink intends to continue its efforts to expand its presence in IFC in the next few years. [REDACTED].
- 8.498 Although we recognise there is some uncertainty, we expect Starlink to be a stronger competitor to the Merged Entity within the next few years as it launches additional satellites, obtains more certifications, gains more experience and data from serving customers and can demonstrate to other potential customers that its technology is mature.
- 8.499 We expect the strength of the constraint Starlink provides on the Merged Entity will vary from contract to contract depending on a range of factors such as the required certifications, the routes the aircraft will fly, whether the opportunity is for line-fit or retro-fit installation and the airline's appetite for risk and willingness to accept Starlink's preferred commercial model, but that, overall, it will likely increase over the next few years.
- 8.500 We therefore concluded that the existing constraint from Starlink will have grown within the next few years and that Starlink will likely have become a significant constraint on the Merged Entity.

## **Our conclusion on horizontal effects in Commercial Aviation**

- 8.501 As set out in Chapter 6, for the purposes of our assessment we investigated the extent of competition between the Parties that would be lost as a result of the Merger, and whether such loss would be substantial in view of the constraints that the Merged Entity would face.
- 8.502 For the reasons set out in this section, we concluded that the Parties compete closely and would likely remain close competitors absent the Merger. We also

concluded that Intelsat and Panasonic would likely be significant constraints on the Merged Entity (see paragraphs 8.371 to 8.423), and, [REDACTED], the existing constraint from Starlink will have grown within the next few years and that Starlink will likely have become a significant constraint on the Merged Entity (see paragraphs 8.450 to 8.500). We also concluded that the Merged Entity would likely face a moderate constraint from Anuvu for narrowbody opportunities in the next few years (see paragraphs 8.424 to 8.438).

8.503 We recognise that there will be some lessening of competition in the next few years in view of the closeness of competition between Parties, in particular for certain tenders for widebody opportunities post-Merger. However, we consider that the aggregate constraints the Merged Entity will likely face both for wide and narrowbody opportunities are significant and will likely increase over the next few years. On that basis, we have concluded the Merger may not be expected to give rise to an SLC as a result of horizontal unilateral effects in the market for the supply of broadband IFC services to commercial airlines serving UK customers.

## **9. Horizontal effects in the supply of broadband IFC services to Business Aircraft Operators**

### **Competitive assessment for business aviation IFC**

#### ***Introduction***

- 9.1 This Chapter sets out our assessment of whether the Merger may be expected to give rise to an SLC as a result of horizontal unilateral effects in the global supply of broadband IFC services to business aircraft operators. For this assessment, we focus on competitive dynamics affecting routes to and from the UK (see paragraphs 7.32 to 7.33 above).
- 9.2 We note that the Parties' activities in business aviation in the UK are very limited and together they supply IFC to only [REDACTED] UK-registered aircraft accounting for less than [REDACTED] revenue in 2021.<sup>888</sup>
- 9.3 The CMA gathered a considerable volume of evidence on this theory of harm as part of its Phase 1 investigation and this section draws on that evidence.<sup>889</sup> There is also a significant overlap in the evidence relevant to this theory of

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<sup>888</sup> Parties, [Initial Submission Part II Business Aviation](#), paragraphs 37 to 39.

<sup>889</sup> [MAGs](#), paragraph 2.20.

harm and the evidence set out in the previous Chapter in relation to commercial aviation.

- 9.4 At Phase 2, we gathered additional evidence from third parties on their plans in relation to the supply of IFC services to business aviation customers and received further submissions from the Parties. We did not receive any further submissions from third parties on business aviation during our Phase 2 investigation.

### ***The Parties' submissions***

- 9.5 The Parties submitted that business aviation IFC 'is in a nascent stage' and that most competitors, including the Parties, have been offering IFC to business aviation customers for only a few years.<sup>890</sup> The Parties submitted that there should therefore be limited emphasis on historical shares of supply. The Parties submitted that other suppliers will expand significantly in the future, in particular Gogo, through a partnership with OneWeb, and Starlink.<sup>891</sup>

### ***Nature of competition***

- 9.6 The nature of competition in the supply of IFC services to business aviation customers is similar to the nature of competition in the supply of IFC services for commercial airlines, with price, coverage, network capabilities and reliability the main factors influencing choice. As in commercial aviation, customers can only install IFC equipment on aircraft if it has been certified for use on their model of business aircraft.
- 9.7 The main feature of competition that differs from commercial aviation is how customers purchase IFC and, in particular, the role of VARs. Business aircraft owners and operators tend to purchase IFC services by engaging in bilateral negotiations with VARs, with some larger customers running tenders. The majority of SSPs, including the Parties,<sup>892</sup> rely on VARs to supply IFC to business aviation customers, rather than supplying customers directly. Although Viasat has recently started selling directly to customers, [REDACTED]. We note that Starlink is marketing its IFC service directly to business aviation owners and operators.

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<sup>890</sup> Parties, [Initial Submission Part II Business Aviation](#), paragraphs 44 to 45.

<sup>891</sup> Parties, [Initial Submission Part II Business Aviation](#), sections 4 and 5.

<sup>892</sup> Viasat submitted that in FY2021 VARs accounted for more than 98% of its sales of IFC services to business aviation customers. For Inmarsat, VARs account for 100% of its sales of IFC services to business aviation customers. Sources Parties, Merger Notice, 8 August 2022, paragraphs 939 to 940; Viasat, Response to Phase 1 RF12, Annex RF12.018, [REDACTED], April 2022 and Inmarsat, Response to Phase 1 RF12, Annex RF12.017, [REDACTED], May 2022.

- 9.8 Where they are used, VARs distribute IFC services from multiple providers. The market is characterised by a small number of VARs, with the Parties and their competitors using the same three VARs for the vast majority of their sales, ie Honeywell, Satcom Direct and Collins Aerospace. VARs can also act as SSPs, for example Collins Aerospace offers its own solution using satellite capacity from SES.<sup>893</sup>
- 9.9 The evidence shows that barriers to entry and expansion are lower in the supply of IFC for business aviation than in the supply of IFC for commercial aviation. Compared to commercial airlines with large fleets and complex maintenance schedules, it is easier to ground business aircraft, and therefore easier to retro-fit business aircraft with IFC than commercial aircraft. And because getting the required certification for retro-fits, ie STCs, is easier than getting the certifications for line-fits, ie TCs, (see paragraphs 2.26 to 2.31 and 8.33), barriers to entry and expansion are lower. In addition, Starlink told us it considers that barriers to winning customers are [✂]<sup>894</sup> and OneWeb told us that business customers make quicker decisions.<sup>895</sup>
- 9.10 These lower barriers are likely to impact the speed of uptake of LEO-based solutions. OneWeb told us that it expects uptake of LEO-based solutions to be faster in business aviation than in commercial aviation.<sup>896</sup> The speed of uptake of LEO-based solutions may also be quicker if there are advantages of these solutions over other solutions. The Parties submitted that LEO-based solutions have significant competitive advantages that are particularly attractive to business aviation customers, including lower latency, polar coverage and smaller, lighter terminals.<sup>897</sup> OneWeb told us that the small antennae used by LEO-based solutions are attractive to business aviation customers (given that business aircraft are smaller).<sup>898</sup>

### ***The Parties and their main rivals***

- 9.11 The main current providers of business aviation IFC are:<sup>899</sup>

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<sup>893</sup> Parties, Merger Notice, 8 August 2022, paragraph 939, and responses to business aviation customer and VAR questionnaires.

<sup>894</sup> Competitor, Note of call, 1 December 2022, paragraph 31.

<sup>895</sup> Competitor, Note of call, 11 January 2023, paragraph 25.

<sup>896</sup> Competitor, Note of call, 11 January 2023, paragraph 17.

<sup>897</sup> Parties, [Initial Submission Part II Business Aviation](#), paragraph 20.

<sup>898</sup> Competitor, Note of call, 11 January 2023, paragraph 25.

<sup>899</sup> CMA's global shares of supply estimates of broadband IFC to large business aircraft operators based on number of connected aircrafts 2022, based on third-party data collected from VARs and competitors during the CMA's Phase 1 investigation.

- (a) **Inmarsat** is currently the second largest provider of IFC (after Gogo) when considering all IFC technologies, and the largest provider of satellite-based IFC for business aircraft.
- (b) **Viasat** is currently the third largest provider of IFC when considering all IFC technologies, and the second largest provider of satellite-based IFC for business aircraft.
- (c) **Gogo** is currently the largest provider of business aviation IFC when considering all IFC technologies.<sup>900</sup> Its main solution is ATG-based and limited to North America where [X] % of Gogo's business aviation IFC revenue is generated.
- (d) **Collins Aerospace**, one of the three main VARs for business aviation, supplies its own IFC service in partnership with SES since 2019.<sup>901</sup>
- (e) **Intelsat** launched its business aviation IFC service called FlexExec in 2018.<sup>902</sup>

9.12 There are also a number of emerging competitors, notably Starlink and SatCom Direct, which are discussed in more detail below.

9.13 Panasonic with limited exceptions no longer competes in this market and is therefore not discussed further in this section.<sup>903</sup>

9.14 The Parties submitted that share of supply estimates should be treated with caution in this market as it is a market characterised by growing demand.

9.15 We have not relied on current shares of supply when assessing the effects of the Merger on competition in the supply of IFC services to business aircraft operators for a number of reasons.

9.16 As for IFC to commercial airlines, shares of supply reflect historical competitive outcomes, and this is a market which is going through significant changes. The sector is seeing entry by new players with innovative technologies and substantial resources, while established providers are responding by improving their services, for example by shifting to LEO-based IFC. Demand is also expected to grow significantly. For example, according to Valour Consultancy the number of broadband-capable IFC terminals on large business aircraft is expected to almost triple between 2021 and 2031 (from

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<sup>900</sup> [About Gogo Business Aviation | Gogo Business Aviation \(gogoair.com\)](https://www.gogoair.com).

<sup>901</sup> Parties, Merger Notice, 8 August 2022, paragraph 942.

<sup>902</sup> Parties, [Parties' Phase 2 Initial Submission Part II Business Aviation](#), 25 November 2022, paragraph 115.

<sup>903</sup> Competitor, Response to the Phase 1 competitor questionnaire [X].

fewer than 4,500 terminals to over 12,000 terminals).<sup>904</sup> This is faster than the expected growth in the number of connected commercial aircraft.

- 9.17 In addition, demand for business aviation IFC is nascent outside North America, including in the UK. As noted above, the Parties are the second and third largest suppliers globally (across all technologies) and the two largest suppliers globally (for satellite-based solutions) but only supply IFC to [REDACTED] UK-registered aircraft which generated less than [REDACTED] in 2021.<sup>905</sup>
- 9.18 Finally, unlike for commercial aviation, we do not have historical shares of supply which would allow us to assess changes in suppliers' market position over time. In view of this, and the other factors referenced in the previous paragraphs (9.16 to 9.17), we have not relied on shares of supply and have instead relied on evidence relating to the future evolution of competitive conditions in the next few years (see further below).

### ***Closeness of competition between the Parties***

#### *Parties' submissions*

- 9.19 The Parties submitted that they do not compete closely within the large business aircraft segment because Viasat and Inmarsat have a different customer focus, due to differences in their coverage and terminal type. In particular, Inmarsat focuses on supplying IFC to large cabin business aircraft whereas Viasat mainly targets the super midsize cabin aircraft segment.<sup>906</sup>

#### *Our assessment*

- 9.20 We have considered a range of evidence to assess how closely the Parties compete today and would compete over the next few years absent the Merger. This includes the characteristics of the Parties' offerings and their future plans and evidence from third parties.

#### *The Parties' offerings and future plans*

- 9.21 The Parties both offer broadband IFC solutions in Ka-band that provide near to global or semi-global coverage:

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<sup>904</sup> Parties, [Initial Submission Part II Business Aviation](#), paragraph 46.

<sup>905</sup> Parties, [Initial Submission Part II Business Aviation](#), paragraphs 37 to 39.

<sup>906</sup> Parties, Merger Notice, 8 August 2022, paragraphs 606 and 639. Large Cabin business aircraft refer to business aircraft with cabin lengths ranging from 40 - 50 feet, typically suitable for 10 - 18 passengers and Super Mid Cabin aircraft refer to business aircraft ranging from 25 - 30 feet suitable for up to 10 passengers.

- (a) Inmarsat's IFC solution, JetConnex, provides near to global coverage in Ka-band.<sup>907</sup>
- (b) Viasat offers three Ka-only plans providing either regional or semi-global coverage.<sup>908</sup> To provide near to global coverage, Viasat currently offers a dual-band plan, involving a mix of its own Ka-band and Ku-band leased from third-party providers.

9.22 Given the Parties' significant ongoing satellite expansion plans, these differences in Viasat's and Inmarsat's coverage are, however, expected to disappear soon.

9.23 Although the Parties have historically focused on different business aircraft segments (with Inmarsat having a greater focus on large cabin business aircraft and Viasat targeting mainly super midsize cabin aircraft), we note that:

- (a) information on the Parties' line-fit and retro-fit certifications indicates that Viasat's and Inmarsat's IFC solutions can both be installed on a number of popular large business aircraft families;<sup>909</sup>
- (b) the Parties are actively targeting the segment in which the other has historically been stronger;<sup>910</sup> and
- (c) both Parties have won contracts in both segments.<sup>911</sup>

#### *Evidence from third parties*

9.24 Third parties generally told the CMA during its Phase 1 investigation that the Parties were close competitors:

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<sup>907</sup> Parties, Merger Notice, 8 August 2022, paragraph 662. See also: Parties, Response to Phase 1 RFI3, April 2022, Q2 and Annex RFI3.007. In addition to the JX product, Inmarsat offers SwiftBroadband a narrowband IFC solution that can be used both for cockpit and cabin connectivity. Parties, Merger Notice, 8 August 2022, paragraph 975. Due to the limited capacity of the SwiftBroadband product (based on L-band), it can only support limited internet usage, like email, voice and texting. Viasat does not offer any narrowband IFC solution to business aviation customers.

<sup>908</sup> The two 'regional' plans cover either North America only or Europe and part of the Middle East. The 'semi-global' plan covers North and Central America, the Caribbean, Brazil, North Atlantic, Europe and parts of the Middle East.

<sup>909</sup> For instance, the Parties are both line-fit 'offerable' on Bombardier's super midsize cabin 'Challenger' jets and on Gulfstream's and Dassault's large cabin business jets G650 and Falcon 8X. Additionally, Viasat has pursued and obtained STC authorisations for most of the large cabin business jet models produced by the leading OEMs Bombardier and Gulfstream and therefore can compete with Inmarsat for those retro-fit opportunities. Parties, Response to the business aviation OEMs questionnaire, August 2021, Annexes RFI2.021, and Parties, Response to Phase 2 RFI2, May 2022, Annex RFI2.022.

<sup>910</sup> For instance, Inmarsat [REDACTED]. Inmarsat, Response to the Phase 1 second section 109 notice, Annex 9.5, pages 18 and 19. Viasat's 2021 business aviation strategy document explains that [REDACTED]. Viasat, Response to the Phase 1 first section 109 notice, October 2021, Annex VA00011123, pages 4 to 8.

<sup>911</sup> See Parties, Merger Notice, 8 August 2022, Annex 22.36, Tables 6 and 7.

- (a) Two out of the three customers that gave a view submitted that the Parties are close competitors, offering similar solutions and plans for similar aircraft.<sup>912</sup> The other customer told us that the Parties' geographic coverage differs and that their offers could be quite complementary.<sup>913</sup> Viasat and Inmarsat were also generally described as 'strong' competitors by customers.
- (b) [REDACTED] VARs submitted that the Parties closely compete for the same business, with strong and similar offerings.<sup>914</sup> One VAR also noted that, although their coverage differs to some extent today, they both have similar satellite roadmaps.<sup>915</sup>
- (c) Competitors submitted that the Parties are strong competitors which closely compete.<sup>916</sup>

### *Conclusion on closeness of competition*

9.25 Based on the evidence above, we consider that the Parties compete closely today and, given their expansion plans, will remain close competitors in the future. Although they have focused on different sized business aircraft historically, the Parties are nevertheless rivals for all types of large business aircraft and have been targeting each other's core segments.

9.26 We therefore concluded that the Parties compete closely and would likely remain close competitors in the next few years absent the Merger.

### ***Competitive constraints from established players***

9.27 In this section we consider the extent of the constraint that the Merged Entity would face from established suppliers in the next few years. We have adopted the same framework for the assessment of future plans of established rivals in business aviation as we did for commercial aviation. In particular, we considered both the constraint from the threat of their expansion as well as future competition following that expansion. We only took account of expansion where the evidence showed that it was sufficiently likely and timely (see paragraphs 6.8 to 6.11).

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<sup>912</sup> Customers, Responses to Phase 1 business aviation customer questionnaire.

<sup>913</sup> Customers, Responses to Phase 1 business aviation customer questionnaire.

<sup>914</sup> Customers, Responses to Phase 1 business aviation VAR questionnaire.

<sup>915</sup> Customer, Response to Phase 1 business aviation VAR questionnaire.

<sup>916</sup> Competitors, Responses to Phase 1 business aviation competitor questionnaire.

## *Parties' submissions*

9.28 The Parties submitted that Gogo exerts a constraint on the Parties through its strong presence in the US (where most demand is located)<sup>917</sup> and that Collins Aerospace/SES has significant growth potential.<sup>918</sup> The Parties submitted that Gogo constrains Viasat's North American, regional and global pricing. The Parties further submitted that Gogo's partnership with OneWeb would reinforce the competitive constraint from Gogo.<sup>919</sup> The Parties also submitted that while Collins and Intelsat (working with Satcom Direct) appear to be small competitors based on the number of currently connected aircraft, they are rapidly becoming increasingly competitive.<sup>920</sup>

## *Our assessment*

9.29 We consider the constraints that the Merged Entity would face from Gogo, Collins Aerospace/SES and Intelsat in turn. We have considered the same range of evidence as we considered in our assessment of closeness of competition between the Parties.

## *Gogo*

### *Gogo's offering and future plans*

9.30 Gogo offers broadband IFC services to business aircraft through its ATG network which covers continental US as well as parts of Canada and Mexico. Gogo's ATG service was one of the first IFC solutions available to business aircraft,<sup>921</sup> which partly explains its strong position in the market.

9.31 Gogo told us that while it currently generates [redacted] of its business aviation revenues in North America, it plans to expand its global customer base.<sup>922</sup> Gogo has taken the following steps to launch a global service:

(a) On 23 May 2022, Gogo signed an agreement to partner with OneWeb to launch a global broadband service.<sup>923</sup> OneWeb told us it expects its

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<sup>917</sup> Parties, Merger Notice, 8 August 2022, paragraph 663.

<sup>918</sup> Parties, Merger Notice, 8 August 2022, paragraph 911(ii).

<sup>919</sup> Parties, [Phase 2 Initial Submission Part II Business Aviation](#), 20 November 2022, section 5.

<sup>920</sup> Parties, [Phase 2 Initial Submission Part II Business Aviation](#), 20 November 2022, paragraph 110.

<sup>921</sup> Gogo has been offering broadband IFC services since the late 2000s. See Gogo's webpage, [History of Innovation](#).

<sup>922</sup> Competitor, Response to Phase 2 SSP and SNO RFI, question 29.

<sup>923</sup> <https://oneweb.net/resources/oneweb-partners-gogo-business-aviation-revolutionise-flight-connectivity-business-jet>.

constellation to support IFC globally from Q1 2024 (see paragraph 8.389 for a discussion of OneWeb’s constellation).<sup>924</sup>

(b) Gogo announced that it is developing a new ESA that will utilise OneWeb’s LEO network in partnership with Hughes.<sup>925</sup> Hughes has developed a prototype which is capable of connecting to the OneWeb constellation within seconds.<sup>926</sup> Hughes expects the ESA to be available in early 2023.

9.32 Gogo told us that the solution will be available in both North America and Europe upon market launch as these are the geographic areas where there is high business aviation utilisation.<sup>927</sup> At the time of commercial launch, Gogo expects to have TCs and STCs available on a wide range of business aircraft, which will also grow over time based on customer demand.<sup>928</sup>

#### *Evidence from third parties*

9.33 All customers described Gogo as a ‘moderate’ strength competitor in the supply of IFC services for use on business aircraft globally due to the limited geographic coverage of its service.<sup>929</sup>

9.34 Gogo was mentioned as a main supplier by one VAR (out of three) which described it as an increasingly weaker solution due to offering a ‘spotty’ service with limited coverage.<sup>930</sup> The other two VARs did not mention Gogo as an alternative supplier for their end-customers.

#### *Our conclusion on Gogo*

9.35 Gogo is currently the largest supplier globally of IFC for business aircraft, but its current ATG offering is not an option for those looking for coverage that includes the UK. We recognise there is some uncertainty about whether this will change given [REDACTED]. However, on the basis of the evidence set out above and the steps it has taken to develop its offering, we consider it likely that Gogo will start offering a global LEO-backed IFC service to business aircraft operators in the next few years. This will remove the key limitation on Gogo as a constraint to the Parties identified by customers, VARs and competitors during our Phase 1 investigation. We also consider that Gogo’s industry

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<sup>924</sup> Competitor, [REDACTED] Response to the phase 2 RFI, 9 January 2023

<sup>925</sup> [Hughes ESA to Power Gogo’s Global LEO Broadband Service for Business Aviation | Hughes.](#)

<sup>926</sup> [Flat Panel, Electronically Steered Antenna Boasts First of Its Kind Technology | Hughes.](#)

<sup>927</sup> Competitor, Response to Phase 2 SSP and SNO RFI, question 31.

<sup>928</sup> Competitor, Response to Phase 2 SSP and SNO RFI, question 31.

<sup>929</sup> Customers, Responses to Phase 1 business aviation customer questionnaire.

<sup>930</sup> VAR, Response to Phase 1 business aviation VAR questionnaire.

knowledge and success in winning customers in North America will further contribute to the strength of the constraint it will impose.

- 9.36 We therefore concluded that Gogo would likely be a significant constraint on the Merged Entity, including on routes to and from the UK, in the next few years.

### *Collins Aerospace/SES*

#### *Collins Aerospace/SES's offering and future plans*

- 9.37 Collins Aerospace supplies its own business aviation IFC solution called 'Luxstream' using capacity supplied from SES at the wholesale level.<sup>931</sup> Like Viasat's business aviation IFC offering, Luxstream was launched in 2019.
- 9.38 The Parties submitted that Luxstream is likely to benefit from SES's new O3b mPOWER MEO constellation.<sup>932</sup> The first two O3b mPOWER satellites were launched in December 2022 with commercial service expected to be in the third quarter of 2023.<sup>933</sup> However, we have found no evidence that Luxstream is likely to become a materially stronger competitive constraint on the Parties in the next few years.<sup>934</sup>

- *Evidence from third parties*

- 9.39 The third-party evidence gathered by the CMA in its Phase 1 investigation suggested that Collins Aerospace is not yet seen as a particularly strong competitor.<sup>935</sup>

- *Our conclusion on Collins Aerospace/SES*

- 9.40 Having regard to the evidence above, we concluded that the constraint Collins Aerospace would exert on the merged entity in the next few years, if any, is likely to be limited.

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<sup>931</sup> Parties, Merger Notice, 8 August 2022, paragraphs 897 and 942; Competitor, Note of call and Competitor, Response to Phase 1 competitor questionnaire.

<sup>932</sup> Parties, Merger Notice, 8 August 2022, Table 25.

<sup>933</sup> <https://www.ses.com/press-release/first-two-o3b-mpower-satellites-successfully-launched>.

<sup>934</sup> Customer, Responses to Phase 1 business aviation questionnaires.

<sup>935</sup> Customer, Response to Phase 1 business aviation operator questionnaire; VARs, Responses to Phase 1 business aviation VAR questionnaire; and Competitor, Response to Phase 1 competitor questionnaire.

## *Intelsat*

- *Intelsat's offering and future plans*

9.41 Intelsat's business aviation IFC solution, 'FlexExec', was launched in 2018. The Parties submitted that FlexExec's network redundancy is a competitive advantage due to Intelsat's network offering high-throughput layers of capacity ensuring redundancy and resiliency reinforced by additional wide beam coverage.<sup>936</sup>

9.42 As in commercial aviation, Intelsat has taken a number of steps to improve its competitive offer in business aviation:

(a) In February 2022, Satcom Direct, one of the three leading VARs and an equipment manufacturer, agreed to make Intelsat's offering the preferred solution for its new terminal.<sup>937</sup>

(b) As discussed in the commercial aviation section, Intelsat is also taking steps to improve its access to GEO satellite capacity and has plans [REDACTED].

9.43 [REDACTED].<sup>938</sup>

- *Third-party feedback*

9.44 The third-party evidence gathered by the CMA in its Phase 1 investigation suggested that Intelsat's solution is not yet seen as a particularly strong competitor, although there was some indication that this was because Intelsat's solution is new.<sup>939</sup>

- *Our conclusion on Intelsat*

9.45 Having regard to the evidence above, we concluded that Intelsat is likely to seek to expand its offering in business aviation, leveraging the position it has established in commercial aviation (including its vertical integration and its plans to improve its GEO capacity). As such, we consider that Intelsat will likely exert a moderate constraint on the Merged Entity in the next few years, although the scale and pace of expansion its uncertain due to the relatively

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<sup>936</sup> Parties, [Phase 2 Initial Submission Part II Business Aviation](#), 25 November 2022, paragraph 119.

<sup>937</sup> Parties, Merger Notice, 8 August 2022, paragraphs 897 and 942; Competitor, Response to the competitor questionnaire and Parties, [Parties' Phase 2 Initial Submission Part II Business Aviation](#), 25 November 2022, paragraph 115.

<sup>938</sup> Competitor, Response to s.109 Notice.

<sup>939</sup> Customers, Responses to the Phase 1 business aviation operator questionnaire; VARs, Responses to the Phase 1 business aviation VAR questionnaire; and competitor, Response to Phase 1 competitor questionnaire.

recent launch of Intelsat's solution, partially reflected in the fact that third parties did not seem to perceive Intelsat as a particularly strong competitor.

- 9.46 We therefore concluded that Intelsat would likely exert a moderate constraint on the Merged Entity in the next few years.

### ***Competitive constraints from emerging players***

- 9.47 In this section we consider the extent of the constraint that the Merged Entity would likely face from emerging suppliers in the next few years. We have adopted the same framework for the assessment of future plans of emerging rivals as we did for existing rivals (see above).

- 9.48 As with commercial aviation, OneWeb has agreed to supply satellite capacity to third parties. It will therefore not compete directly with the Parties, but – by supplying satellite capacity to existing suppliers (notably Gogo, see paragraphs 9.30 to 9.36 above) and emerging suppliers (for example Satcom Direct) – it may strengthen the competitive constraint that those suppliers exert on the Parties. We therefore considered the impact of OneWeb when assessing the constraint that these suppliers would likely exert on the Merged Entity.

### *Starlink*

#### *Parties' submissions*

- 9.49 The Parties submitted that Starlink is a disruptive competitor with strong OEM support and a direct marketing approach.<sup>940</sup>

#### *Our assessment*

- 9.50 As set out in the commercial aviation competitive assessment (see paragraphs 8.474 to 8.482), Starlink has overcome many of the technological challenges to providing IFC on aircraft. It is currently using its LEO constellation to supply IFC to passengers flying with JSX aircraft in the US. Although we recognise there is some uncertainty, for the reasons set out in Chapter 8, we expect Starlink to become a stronger competitor to the Merged Entity in the supply of IFC to commercial airlines within the next few years.
- 9.51 The satellite constellation and much of the technology (such as ISLs) required to serve business and commercial aviation customers is the same. We also

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<sup>940</sup> Parties, [Phase 2 Initial Submission Part II Business Aviation](#), 25 November 2022.

consider that Starlink's successes winning contracts with commercial airlines, securing certifications and successfully deploying its technology on commercial aircraft is likely to help build its credibility with business aviation customers.

- 9.52 We have therefore relied on the evidence set out in that assessment in assessing Starlink's ability to serve business aviation customers and do not repeat it here.
- 9.53 Starlink told us that it is competing for business aviation as well as commercial aviation customers. An internal document obtained from Starlink (dated December 2022) notes that it is currently [REDACTED].<sup>941</sup> As set out in paragraph 9.9, Starlink told us that barriers to winning customers are [REDACTED].<sup>942</sup>
- 9.54 Starlink launched a website to allow business aviation customers to sign up to its service on 19 October 2022 (see [Starlink Aviation](#)).<sup>943</sup> As of March 22 2023, Starlink has received [REDACTED] orders for [REDACTED] aircraft.<sup>944</sup> It has also [REDACTED]. In December 2022, Starlink entered into an agreement with [REDACTED] to provide IFC services for [REDACTED] aircraft.<sup>945</sup>
- 9.55 Starlink expects to [REDACTED].<sup>946</sup> An internal Starlink document also suggests that [REDACTED].<sup>947</sup> As set out in paragraph 8.273, Starlink has already obtained its first STC for a regional jet – demonstrating that it is capable of securing certifications. As with commercial aviation, it is also possible to win customers without having certifications in place and Starlink has done so. [REDACTED].<sup>948</sup> [REDACTED].<sup>949</sup>

#### *Our conclusion on Starlink*

- 9.56 Starlink is currently supplying IFC to passengers on commercial flights and we expect it to continue to make progress in commercial aviation. [REDACTED]. While we recognise that there is uncertainty around the take up of Starlink's business aviation IFC service, it appears well placed to be successful.
- 9.57 Given the evidence above, and the evidence on Starlink's progress in commercial aviation (see paragraphs 8.450 to 8.500), we concluded that the

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<sup>941</sup> Competitor, Response to request for further information, 17 February 2023.

<sup>942</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 22 March 2023, Annex 4.

<sup>943</sup> Competitor, Response to Phase 2 RFI, 8 December 2022.

<sup>944</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 22 March 2023.

<sup>945</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 22 March 2023.

<sup>946</sup> Competitor, [REDACTED] Response to Phase 2 RFI, 22 March 2023.

<sup>947</sup> Competitor, Competitor response to s.109 Notice, internal document states that the 'going forward strategy' will be [REDACTED].

<sup>948</sup> Competitor [REDACTED], Response to Phase 2 RFI, 22 March 2023.

<sup>949</sup> Competitor [REDACTED], Response to Phase 2 RFI, 22 March 2023.

constraint from Starlink will likely grow and Starlink would likely become a significant constraint on the Merged Entity in the next few years.

### *Satcom Direct*

- 9.58 In May 2022, Satcom Direct (one of the three leading VARs in business aviation) entered into a distribution agreement with OneWeb (see paragraph 8.389 for discussion of OneWeb’s LEO constellation).<sup>950</sup> Satcom Direct is developing a small antenna that can be used on business aircraft that will support a LEO satellite IFC service (rather than a multi-orbit GEO/LEO service), which is targeted exclusively at business aviation customers.<sup>951</sup> Satcom Direct expects to begin offering services utilising OneWeb’s LEO satellite capacity from the first quarter of 2024.<sup>952</sup>
- 9.59 Satcom Direct has also signed an agreement with Stellar Blu, a supplier of satellite communications technology, to become the ‘preferred service provider for executive airliner customers using the Stellar Blu Sidewinder product line.’<sup>953</sup> As noted in paragraph 8.391, Stellar Blu has carried out tests on its LEO only solution on a Boeing 777 and these tests showed that the technology works and provides high quality IFC.
- 9.60 While we recognise there is some uncertainty, on the basis of the evidence set out above, we consider that the constraint that Satcom Direct will exert on the Merged Entity will likely increase in the next few years. Further, we note that Satcom Direct’s industry knowledge and success as a VAR will further contribute to the strength of the constraint it will impose.

### *Our conclusion on Satcom Direct*

- 9.61 Having regard to the evidence above, we concluded that Satcom Direct would likely exert a moderate constraint on the Merged Entity in the next few years.

## **Our conclusion on horizontal effects in the supply of IFC to business aviation customers**

- 9.62 As set out in Chapter 8, for the purposes of our assessment we investigated the extent of competition between the Parties that would be lost as a result of

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<sup>950</sup> <https://oneweb.net/resources/satcom-direct-oneweb-and-qest-ratify-development-electronic-phased-array-antenna-together>.

<sup>951</sup> Competitor, response to Phase 2 RFI 2.

<sup>952</sup> <https://oneweb.net/resources/satcom-direct-oneweb-and-qest-ratify-development-electronic-phased-array-antenna-together>.

<sup>953</sup> Stellar Blu Solutions names Satcom Direct as preferred service provider for Sidewinder business aviation connectivity services | Satcom Direct.

the Merger, and whether such loss would be substantial in view of the constraints that the Merged Entity would face.

- 9.63 While noting that the Parties' activities in IFC for business aviation in the UK are very limited, for the reasons set out in paragraphs 9.19 to 9.26, we concluded that the Parties compete closely and would likely remain close competitors absent the Merger.
- 9.64 However, we also concluded that:
- (a) Gogo would likely be a significant constraint on the Merged Entity in relation to business aircraft operators in the UK in the next few years.
  - (b) The constraint from Starlink will likely grow and Starlink would likely become a significant constraint on the Merged Entity in the next few years.
  - (c) Intelsat and Satcom Direct would likely exert a moderate constraint on the Merged Entity in the next few years.
- 9.65 As such, we have decided that the aggregate constraints the Merged Entity would likely face in the next few years are significant and are likely to increase, such that the Merger may not be expected to give rise to an SLC as a result of horizontal unilateral effects in the market for the supply of broadband IFC services to large business aircraft operators serving UK customers.

## **10. Decision**

- 10.1 We have decided that the anticipated acquisition by Viasat of Inmarsat, if carried into effect, would result in the creation of a relevant merger situation.
- 10.2 In our competitive assessment, we considered whether the Merger would give rise to a loss of competition as a result of horizontal unilateral effects in the markets for the global supply of broadband IFC services to commercial airlines or large business aircraft operators, focusing our analysis on routes that are likely to affect UK customers.
- 10.3 Evidence we have assessed has led us to find that, while the Parties compete closely and would likely remain close competitors absent the Merger, the aggregate constraints the Merged Entity will face are significant and are likely to increase in relation to the supply of the relevant product to both commercial airlines and large business aircraft operators.

10.4 On that basis, we have decided that the Merger may not be expected to result in a substantial lessening of competition within any market in the UK.