Anticipated Acquisition By Viasat, Inc. Of Connect Topco Limited

Provisional findings report

Notified 1 March 2023

The Competition and Markets Authority has excluded from this published version of the provisional findings 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 Some numbers have been replaced by a range.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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Summary

Overview

1. The Competition and Markets Authority (**CMA**) has provisionally found that the anticipated acquisition (the **Merger**) of Inmarsat Group Holdings Limited (**Inmarsat**) by Viasat, Inc (**Viasat**) (together, the **Parties**) may not be expected to result in a substantial lessening of competition (**SLC**) in the supply of broadband inflight connectivity (**IFC**) services to commercial aviation or business aviation customers serving the UK.

2. This is not our final decision, and we invite any interested parties to make representations to us on these provisional findings by no later than 17.00 GMT, on Tuesday 21 March 2023. Please make any response to these findings by email to Viasat.Inmarsat@cma.gov.uk. We will take all submissions received by this date into account in reaching our final decision.

The Parties' activities

3. 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.

4. Our investigation has focused on the supply of IFC for commercial and business aviation customers serving the UK, as IFC is the main area of overlap between the Parties. IFC allows passengers to access the internet while flying (eg for work and recreational purposes, such as for social media and video streaming).

The supply chain for IFC

5. 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 their own 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

6. 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 (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.

7. 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, and LEOs have a shorter lifespan than GEOs, which 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. 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

8. 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 satellite 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) Intelsat also acquired the commercial aviation business of Gogo in 2020.

9. Our provisional view is that these developments would occur irrespective of the Merger and we have taken them into account in our competitive assessment.

Demand for satellite connectivity is also growing fast

10. Demand for satellite connectivity is growing rapidly across most end-use applications, driven by increasing use of the internet and demand for data.

11. 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.

12. 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.

How airlines buy IFC services

13. Contracts for the supply of 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).

14. Airlines consider a wide range of factors when selecting a 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 owns the satellites it uses, whether it also offers in-flight entertainment 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.

15. 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.

16. 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

17. The market for the supply of IFC services is evolving rapidly, and significant new developments have taken place during our phase 2 investigation: OneWeb and 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 FCC authorisation to launch an additional 7,500 satellites and Starlink won its

first contract with a European airline. The evidence suggests these trends are likely to continue.

18. 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.

19. 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 and OEMs, including their views and assessment of emerging technologies and suppliers.

20. 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

21. Both Parties have been growing faster than other established suppliers of IFC services, 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 that relate to IFC on aircraft that are most likely to serve UK customers shows that the Parties have won more contracts for IFC services between January 2020 and September 2022 than other suppliers.

22. 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).

23. We have therefore provisionally 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

24. 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

25. 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 business and became a vertically integrated supplier.

26. Intelsat supplies IFC services that use GEO satellite capacity sourced from a combination of Intelsat's satellites and satellites owned by third parties. Intelsat plans to launch additional GEO satellites to improve its access to GEO satellite capacity in the next few years.

27. Intelsat also recently started to commercialise hybrid LEO/GEO IFC services that will utilise OneWeb's LEO capacity, once its constellation is ready to support IFC, and Intelsat's GEO satellite capacity.

28. Although we recognise there is some uncertainty, we consider it likely, based on the evidence we have received, that this hybrid IFC service will be successfully deployed in the next few years. Following successful satellite launches between October 2022 and January 2023, 80% of OneWeb's fleet is now in orbit and OneWeb has two launches remaining to complete its first generation constellation, at which point it will offer global coverage. Stellar Blu, a technology supplier, has developed the equipment (electronically steered antenna, or **ESA**) that is required to supply Intelsat's hybrid LEO/GEO IFC services to aircraft. 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.

29. 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 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 additional GEO satellite capacity will improve its competitive offer.

30. We have therefore provisionally concluded that Intelsat would likely be a significant constraint on the Merged Entity in the next few years.

Panasonic

31. Panasonic supplies IFC services that use GEO satellite connectivity sourced from satellites owned by third parties.

32. In October 2022, Panasonic announced that it had entered into a distribution agreement with OneWeb that will allow it to offer 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.

33. 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, it is seen as a strong supplier of IFC by most airlines and it has won recent IFC contracts.

34. While recognising there is some uncertainty, for similar reasons as for Intelsat, we expect that Panasonic's launch of a hybrid service will improve its competitive offer. Panasonic's services will rely on the same LEO constellation (OneWeb) and use the same ESA (by Stellar Blu). 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.

35. We have therefore provisionally concluded that Panasonic would likely be a significant constraint on the Merged Entity in the next few years.

Anuvu

36. Anuvu bids against the Parties in tenders less frequently than the Parties bid against each other or Intelsat or Panasonic, and was seen as a weaker IFC supplier by airlines. However, it does bid for and win contracts for narrowbody aircraft.

37. We have therefore provisionally 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

38. Starlink, Amazon, Telesat and OneWeb have all launched, or have plans to launch, LEO constellations.

39. 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 analysis.

40. Our assessment of emerging players has therefore focused on the constraint that Starlink would likely exert on the Merged Entity.

41. Starlink has achieved significant milestones since it won its first contract to supply IFC services in April 2022, including many during the course of our phase 2 investigation.

42. 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 already 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.

43. Starlink's IFC service is now live on passenger flights in the United States. Test data shows 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.

44. 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 and responded to us prior to many of the developments described above. Although some airlines told us they would want to see how Starlink performs in real-life commercial flights or see the results of rigorous testing

before they would select Starlink as their supplier, feedback from airlines overall suggest that they have confidence that Starlink is likely to succeed and to be a strong competitor.

45. 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. We recognise that the strength of the constraint that Starlink will exert on the Merged Entity will vary from contract to contract depending on the routes the aircraft will fly, whether the opportunity is for line-fit or retro-fit installation and the airline's appetite for risk, but, overall, we expect it will increase over the next few years.

46. Although we recognise there is some uncertainty, we expect Starlink to become a stronger competitor to the Merged Entity over the next few years as it launches additional satellites, obtains more certifications, builds its customer support network, adapts its commercial model, gains more experience and data from serving customers and can demonstrate to other potential customers that its technology is mature.

47. We have therefore provisionally concluded that the constraint from Starlink will likely grow and that Starlink would likely become a significant constraint on the Merged Entity in the next few years.

Provisional finding for commercial aviation

48. The evidence we have assessed has led us provisionally to conclude 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.

Provisional finding for business aviation

49. We have also considered the Merger's effect on the supply of IFC to business aviation customers. Supplying IFC to business aviation customers 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 aviation customers 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 aviation customers are based), has signed an agreement with

OneWeb that will allow it to offer a global service. Starlink is also targeting business aviation customers. Two further suppliers, Intelsat and Satcom Direct, are also likely to expand and improve what they currently offer leveraging their respective positions in closely related markets.

50. We have therefore provisionally concluded 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 business aircraft owners serving UK consumers.

2. The reference

2.1 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**), 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**).

2.2 In exercise of its duty under section 36(1) of the Act, 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.

2.3 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.

2.4 We are required to prepare and publish a final report by 30 March 2023.

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

2.6 This document, together with its appendices, constitutes the Inquiry Group's provisional findings published and notified to Viasat and Inmarsat in line with the CMA's rules of procedure.[1] Further information relevant to this inquiry, including non-confidential versions of submissions, including from the Parties, can be found on the CMA case page.[2]

[1] CMA rules of procedure for merger, market and special reference groups (CMA 17), Rule 11: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/478999/CMA17_corrected_23.11.15.pdf
[2] https://www.gov.uk/cma-cases/viasat-slash-inmarsat-merger-inquiry

3. Industry Background

Introduction

3.1 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 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 IFC services, we have focused on the key features of the sector that are relevant to the supply of connectivity in that vertical.

3.2 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 (LEO and GEO) and/or technologies (satellite and terrestrial).

The supply of satellite capacity and satellite connectivity services

3.3 Both Parties are active in the supply of satellite capacity and connectivity services to customers.[3]

Industry verticals

3.4 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:[4]

(a) *Fixed broadband*: connectivity for residential and commercial internet access, particularly in areas without good access to terrestrial internet services;

(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;

[3] Satellite connectivity refers to two-way satellite communications as opposed to one-way communications, such as satellite broadcasting for TV and radio.
[4] Parties, Merger Notice, 8 August 2022, paragraphs 31-36 and 106.

(d) *Off-shore energy*: connectivity for off-shore energy customers, including for use on off-shore support vessels, platforms, and rigs;[5] and

(e) *Aviation*: IFC for commercial and business aviation customers, the main area of overlap between the Parties which is discussed in more detail in subsequent chapters.[6]

3.5 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.[7] 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 3.10 below.

Satellite connectivity supply chain

3.6 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 include managed services (such as service level agreements (**SLAs**), minimum capacity), applications (cybersecurity), related services (eg

[5] 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 CMA's first section 109 notice, Annex VA00012545 (**first Notice**), Parties, Merger Notice, 8 August 2022, Annex 19.3.061 May 2021, slide 65; and Inmarsat, Response to the CMA's second section 109 notice Annex 3.6, (**second Notice**), Inmarsat [✂], slide 11).
[6] 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).
[7] Parties, Merger Notice, 8 August 2022, paragraph 457.

invoicing tools, customer support, and traffic monitoring) and equipment (eg user terminals[8]), which they sell to resellers and/or end-customers.[9]

(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 terminals) and are known as VARs.[10]

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

3.7 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).[11] As a result, GEOs have consistent line of sight to user and gateway terminals.[12]

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

[8] A user terminal includes an antenna and other equipment needed to send and receive signals between the satellite and end-user.
[9] Parties, Merger Notice, 8 August 2022, paragraph 181(ii).
[10] Parties, Merger Notice, 8 August 2022, paragraph 8.
[11] Parties, Merger Notice, 8 August 2022, paragraph 461.
[12] 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.

(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.[13]

3.8 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.[14] 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.[15]

(b) Since LEOs orbit closer to the Earth's surface than MEOs and GEOs, latency[16] is lower.

(c) LEO constellations can provide full global coverage, whereas GEOs cannot provide coverage over the polar regions.[17]

(d) LEO satellites orbit the earth, including oceans and uninhabited areas, whereas GEOs provide stationary capacity[18] 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).[19]

(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.[20] This means that LEO constellations require a large number of satellites in order to provide sufficient capacity in areas where demand is highest.[21]

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[13] Parties, Merger Notice, 8 August 2022, paragraph 147(iv).
[14] 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.
[15] Parties, Merger Notice, 8 August 2022, paragraph 297.
[16] 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.
[17] Parties, Merger Notice, 8 August 2022, paragraph 463.
[18] Relative to a fixed point on Earth.
[19] Parties, Merger Notice, 8 August 2022, paragraph 299.
[20] Parties, Merger Notice, 8 August 2022, paragraph 299.
[21] 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.

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

Satellite connectivity is supplied over a variety of frequency bands

3.10 Satellite connectivity can be served 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 lower 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.[22]

(b) *Broadband*: connectivity provided using higher frequencies (eg in Ku-band or Ka-band[23]), 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.[24]

Raw capacity and managed services

3.11 SNOs can supply satellite capacity to SSPs 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 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).

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[22] Parties, Merger Notice, 8 August 2022, paragraph 150. See also Annex 16.25, The Future of Maritime Connectivity (2022 Edition) (report), July 2022, pages 21-24, and Annex 16.3, Prospects for In-Flight Entertainment and Connectivity, 9th edition, July 2021, page 28.
[23] 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.
[24] Parties, Merger Notice, 8 August 2022, paragraphs 150 and 594.

(b) The supply of managed satellite connectivity services (measured in Mbps) is the provision of a broader range of services. SNOs rely on their ground infrastructure and earth stations when supplying managed satellite connectivity services to SSPs. 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.

3.12 While most GEO SNOs only offer raw satellite capacity to SSPs, some offer both raw satellite capacity and managed satellite connectivity services to SSPs.[25] 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.[26]

Regulation of SNOs

3.13 Before satellites can gain international recognition for use of spectrum a satellite filing must be submitted to the International Telecommunication Union[27] including (i) the number of satellites, (ii) orbital slots (positioning of satellites) and (iii) spectrum to be used.[28] Satellite filings receive international recognition subject to complex rules, including to avoid interference with other satellites.

3.14 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).[29] 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.[30]

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[25] See Appendix D.
[26] Third party call on 23 January 2023, paragraph 18.
[27] The International Telecommunication Union's Radio Regulations is the international treaty that governs international (including space) spectrum use.
[28] Regulator, Note of call with Ofcom and Competitor, note of call with competitor. 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 with competitor). 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.
[29] Regulator, Note of call with Ofcom. 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.
[30] In the UK the spectrum is managed by Ofcom under The Wireless Telegraphy Act. new-procedures-1.pdf (ofcom.org.uk), paragraph 1.1.

Industry developments

Growth in satellite capacity and demand

3.15 Satellite capacity is increasing rapidly. Euroconsult, an independent industry analyst, estimates that global high-throughput satellite (**HTS**)[31] capacity will grow to more than 60,000 Gigabits per second (**Gbps**) in 2026, approximately a four-fold increase from 2022 (see Table 1).[32]

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
Total	15,397	25,013	30,833	37,539	62,656

Source: Parties, Response to P1 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.

3.16 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.

3.17 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, video conferences, cloud computing), and wider availability and accessibility of satellite broadband services.[33]

3.18 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).[34] 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.

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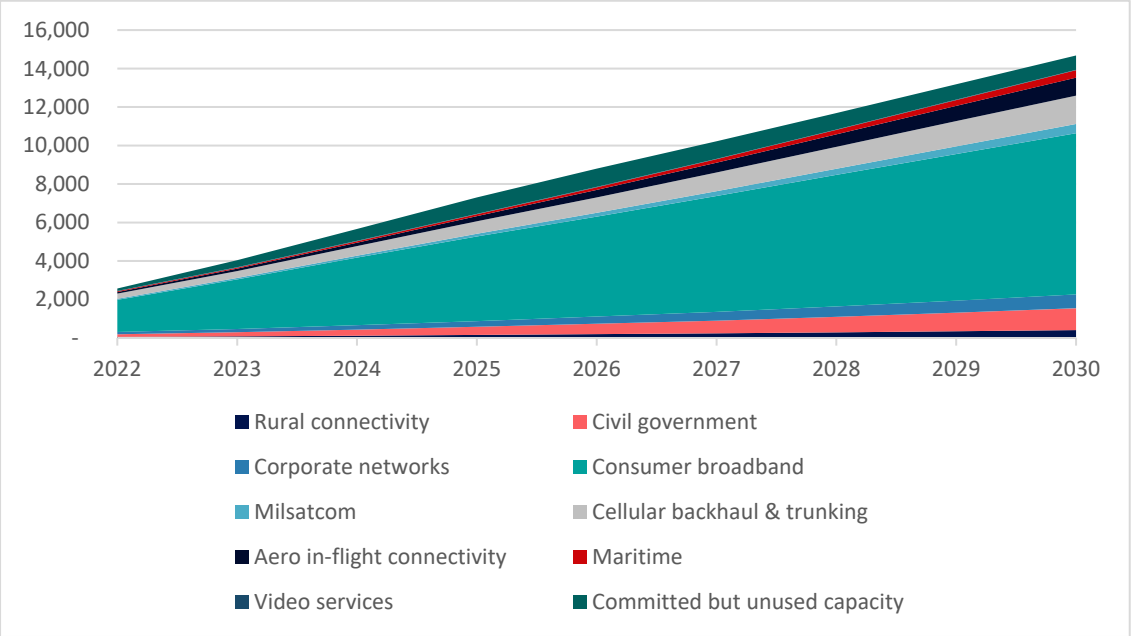
[31] HTS satellites deploy a large number of narrow spot-beams that re-use spectrum so that a single satellite can deliver a multiple of the throughput delivered by traditional wide-beam satellites. Regardless of the spectrum choice or orbit of the satellite using spot-beam architecture allows multiple beams to re-use the same frequency band. This allows more capacity from same amount of allocated spectrum.
[32] Parties, Response to P1 RFI2, 31 May 2022, Annex: RFI2.038, Euroconsult – High Throughout Satellites 6th Edition (Q1, 2022), page 52.
[33] Parties, Merger Notice, 8 August 2022, paragraph 192. Parties' analysis of the Euroconsult and Northern Sky Research reports.
[34] Parties, Response to P1 RFI2, 31 May 2022, Annex RFI2.037 – Euroconsult 2022 demand and supply forecast, Figures 12 and 13 combined (CMA's analysis of data).

Figure 1: HTS demand by infrastructure (in Gbps)



Source: Parties, Response to P1 RFI2, 31 May 2022, Annex RFI2.037 – Euroconsult 2022 demand and supply forecast, Sheet: Con. Demand Data.

Multi-orbit and multi-network offerings

3.19 SNOs and SSPs that historically specialised in one type of satellite connectivity (eg GEO) 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.[35]

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

Satellite connectivity for IFC

IFC network technologies

3.21 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**)

[35] 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'.

connectivity such as 4G/5G/LTE; and (iii) hybrid systems that use both satellite and ATG connectivity (eg the European Aviation Network[36]).

3.22 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.[37]

3.23 Hybrid services essentially seek to overcome the coverage limitations of ATG by filling gaps in coverage with satellite-based systems.[38]

Certifications of IFC Equipment

3.24 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.[39]

3.25 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

3.26 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-fit**) (on post-production or in-service aircraft that either have the IFC service of another provider installed or that are not yet connected).[40]

3.27 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

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[36] The European Aviation Network is a broadband service has been developed by Inmarsat and Deutsche Telekom (**DT**) in partnership with companies such as Thales, Nokia, Airbus and EAD Aerospace. The solution combines satellite coverage with an integrated 4G LTE ground network to offer the speed, capacity, low latency and comprehensive coverage of inflight broadband service over Europe and adjacent seas.
[37] Parties, Merger Notice, 8 August 2022, paragraph 646.
[38] Parties, Merger Notice, 8 August 2022, paragraph 647.
[39] OEM, Note of call with OEM.
[40] Parties, Merger Notice, 8 August 2022, paragraph 798.

responsible for line-fit certifications for IFC equipment and act as gatekeepers between IFC providers and airlines.

3.28 The Parties submitted that line-fit certification takes between 18 and 24 months on average.[41] However, OEMs told the CMA that the process takes between 18 months and three years (with the average being 24 months),[42] with the timeline varying depending on the complexity of the technology involved.[43] 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.[44]

3.29 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 providers.[45] Unlike TCs, an STC only relates to a specific model or variant of an aircraft family.

3.30 The Parties submitted that the retro-fit certification process typically takes one year for the first national aviation authority (plus three additional months for each additional authority).[46] However, third-party evidence indicates that obtaining an STC depends on the aircraft model, and may take between six months and two years and in some cases as long as four years (plus up to six months for additional national regulators).[47]

3.31 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

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[41] 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.
[42] OEM, Note of call with OEM.
[43] OEM, Note of call with OEM.
[44] For instance, once a new IFC service becomes certified on the Boeing 777, it will generally also be declared as 'offerable' on each Boeing 777 variant, such as the Boeing 777/8 or 777/9.
[45] 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 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 (Third party response to phase 1 competitor questionnaire, question 9).
[46] Parties, Merger Notice, 8 August 2022 paragraphs 802 and 806.
[47] Competitors, Third Party response to Phase 2 SNO and SSP RFI, question 11.

aircraft just off the production line. The time required for issuing an SB is typically shorter than the time needed for TC.[48]

Recognition of certification in the UK

3.32 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.[49]

3.33 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.

3.34 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.[50]

Future market developments

IFC demand trends

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

3.36 Demand for IFC in both business and commercial aviation is expected to grow over the next few years.[51] While this is a worldwide trend, IFC demand is growing at different rates for different types of aircraft and in different geographic regions.

3.37 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). Similarly, the IFC penetration for narrowbody

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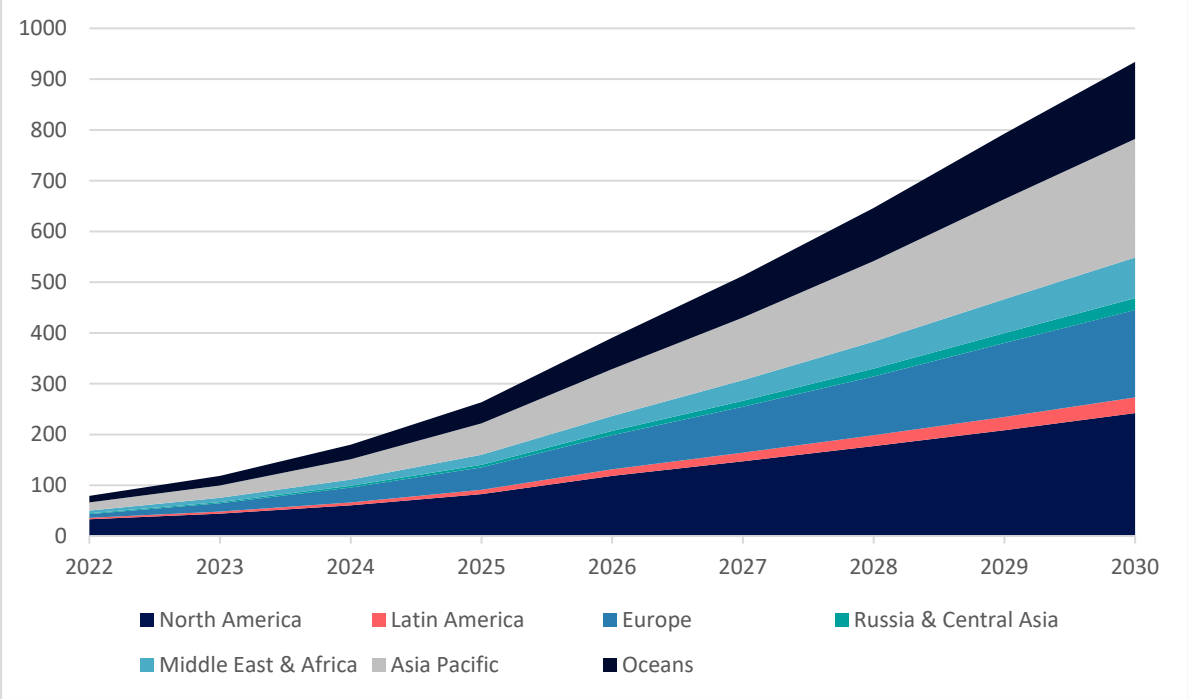
[48] Parties, Response to P2 RFI3 (26 January 2023), paragraphs 1 to 6
[49] Regulator, Note of call with CAA.
[50] Regulator, Note of call with CAA.
[51] For instance, Euroconsult forecasts that the number of commercial active broadband IFC terminals globally will grow from approximately 9,000-9,500 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 Annex RFI5.009, Euroconsult "Prospects for In-Flight Entertainment and Connectivity – 9th Edition" - Data Annex, 23 August 2021.

aircraft in the United States is approximately 60% whereas it is below 20% among Europe-based airlines.[52] 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.[53]

3.38 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.[54] Demand for IFC is a relatively small proportion of current and forecast demand for HTS capacity (see paragraph 3.18).

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



Source: Parties, Response to P1 RFI2, 31 May 2022, Annex RFI2.037 – Euroconsult 2022 demand and supply forecast, Sheet: Aero.

3.39 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

[52] Parties, Merger Notice, 8 August 2022, paragraphs 694 and 695.
[53] Parties, Parties response to the P1 Issues Letter, 18 September 2022, paragraphs 8, 10, and 106.
[54] Parties, Merger Notice, 8 August 2022, Annex RFI2.037 – Euroconsult 2022 demand and supply forecast, Sheet: Aero.

new business and strengthen their position in IFC (see paragraphs 9.186 to 9.208).

3.40 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.[55] 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.[56] This growth is supported by the Parties' internal documents and third-party evidence.[57]

3.41 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 December 2024.[58] We received information from six airlines, regarding 9 tenders, which we consider relevant for flights to and from the UK.[59]

3.42 Our analysis (which includes those 9 tenders) shows that these six 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).[60]

3.43 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.[61]

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[55] Parties Initial Submission, Part I Commercial Aviation, Annex ISCA.001, July 2021, pages 9 and 19.
[56] Parties, Initial Submission Part II Business Aviation, paragraph 46.
[57] [✂]. Viasat, Response to the CMA's third section 109 notice, Annex 21, [✂], Viasat notes that the market is [✂]. In addition, most commercial airlines and all business aviation customers 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.
[58] 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.
[59] Third Party responses to Phase 2 RFI 1, question 4 and 7. We excluded four tenders provided by 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).
[60] A Customer 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. See paragraph 9.46 for more detail.
[61] Airline, Phase 2 call note, 15 December 2022, paragraph 21. Airline, Phase 2 call note, 21 December 2022, paragraph 21; Airline, Phase 2 call note, 12 December 2022, paragraphs 14 and 15.

The importance of IFC to airlines' competitive offering

3.44 The vast majority of respondents to our airline questionnaire said that they consider IFC to be important to their competitive offering,[62] with some [✂] describing IFC as a 'hygiene factor'.[63] Several airlines [✂] 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.[64] Only a few respondents [✂] told us that IFC is not currently important to their competitive offering.[65] All of these are low-cost carriers (**LCCs**) or have a low-cost segment in their fleet.

3.45 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.[66] Consistent with this, we found that all but three airlines [✂] [✂] and [✂] had IFC installed on a smaller proportion of their narrowbody than their widebody fleet.[67] 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.[68]

3.46 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,[69] 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.[70]

Development of interoperable terminals

3.47 Currently each IFC supplier uses a proprietary terminal (whether manufactured in-house or by a third party equipment supplier). This means

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[62] Third Party responses to the 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 the Phase 2 RFI 1, question 4.
[63] Customer responses to the Phase 2 RFI 1, question 5.
[64] Customer responses to the Phase 2 RFI 1, question 5.
[65] Customer responses to the Phase 2 RFI 1, question 5; Customer, email received 15 December 2022; Customer, email received 9 December 2022 in response to the Phase 2 RFI 1.
[66] For example, Customer responses to the Phase 2 RFI 1, question 5.
[67] CMA analysis of Customer responses to the Phase 2 RFI 1, question 4.
[68] Customer responses to the Phase 2 RFI 1, question 4.
[69] Customer responses to the Phase 2 RFI 1, question 5.
[70] Customer responses 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, Note of call, 15 December 2022, paragraph 8; Customer, Phase 2 call note, 7 December 2022, paragraph 12.

that an airline that wants to switch supplier must 'rip and replace' the existing supplier's terminal. As discussed in paragraph 9.51, airlines told us that the costs of replacing IFC terminals are substantial.

3.48 In June 2022, Airbus launched its HBCplus programme,[71] which will offer a supplier agnostic user terminal as both a line-fit and retro-fit option on all Airbus aircraft. Airbus has developed a terminal that is compatible with GEO satellite Ka band IFC solutions. Airbus said that it has already secured some customers for HBCplus for aircraft deliveries in Q3/Q4 2024.[72] Inmarsat is currently the only IFC supplier available on HBCplus, but Airbus [✂]. Airbus is working on a terminal that is compatible with both GEO and LEO satellite Ku band IFC services [✂]. Airbus expects a Ku band solution to be available in [✂]. This will be compatible with GEO and LEO satellite based services (including hybrid services). 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 [✂].

3.49 [✂].[73] [✂].[74]

4. Parties and the Merger

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

Viasat

4.2 Viasat is a public company based in the United States listed on NASDAQ. Viasat's turnover in the financial year 2021 was approximately £2,013 million worldwide, of which £[✂] million was generated in the UK.

4.3 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.

[71] Airbus launches Airspace Link HBCplus – the flexible high bandwidth connectivity solution for airlines | News | Airbus Aircraft,
[72] OEM, Note of call with OEM, 23 November 2022, paragraphs 15-33.
[73] [✂].
[74] OEM, Note of call with OEM.

Inmarsat

4.4 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 (together, the Inmarsat Investor Shareholders), as well as members of Inmarsat's management. Inmarsat's turnover in the financial year 2021 was approximately £983 million worldwide, of which £[✂] million was generated in the UK.

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

Merger and rationale

4.6 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**).[75]

4.7 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.[76]

4.8 Completion of the Merger is conditional upon approvals from the CMA and European Commission.[77]

Merger rationale

4.9 The Parties told us the rationale for the Merger is to respond to the disruption from new NGSO operators in the satellite communications market.[78]

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[75] Parties, Merger Notice, 8 August 2022, Annex 4, Share Purchase Agreement dated 8 November 2021.
[76] Parties, Merger Notice, 8 August 2022, paragraph 76.
[77] Parties, Merger Notice, 8 August 2022, paragraph 100.
[78] Parties, Merger Notice, 8 August 2022, paragraph 81.

4.10 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.[79]

4.11 The Parties' internal documents are broadly consistent with the stated rationale.[80]

5. Jurisdiction

5.1 An anticipated merger must meet the following two criteria to constitute a relevant merger situation (**RMS**) for the purposes of the Act:[81]

(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**),[82] 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**).[83]

5.2 These two limbs are considered in turn below.

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[79] Parties, Merger Notice, 8 August 2022, paragraph 82.
[80] See for example: Inmarsat, response to s.109 notice, questions 9-11, Annex 011.23, [✂], July 2021, slide 14; Inmarsat, response to s.109 notice, questions 9-11, Annex 011.17, [✂], October 2021, slide 109; Viasat, response to s.109 notice, question 12, Annex 10.20 of Merger Notice, [✂] (unknown date) slide 1; Viasat, response to s.109 notice, question 12, Annex 10.11 of Merger Notice, [✂], September 2021 slide 18; Viasat, response to s.109 notice, question 12, Annex 10.1, [✂], July 2022, slide 14.
[81] Section 23 of the Act. Mergers: Guidance on the CMA's jurisdiction and procedure: CMA2, paragraph 4.3
[82] 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 - the CMA's jurisdiction and procedure: CMA2.
[83] See also Mergers - the CMA's jurisdiction and procedure: CMA2, 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.

Enterprises ceasing to be distinct

5.3 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.

The concept of 'enterprise'

5.4 Section 129(1) of the Act defines an 'enterprise' as 'the activities or part of the activities of a business'.[84] 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'.

5.5 Viasat and Inmarsat are both active in the supply of satellite connectivity services in the UK and generate turnover in the UK (see Chapter 4 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'

5.6 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.

5.7 As set out in paragraph 4.6 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.

5.8 In view of the above, we provisionally find 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.

[84] Section 129(1) of the Act.

Turnover or share of supply test

5.9 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

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

5.11 Inmarsat did not generate more than £70 million turnover in the UK in its most recent financial year.[85] As such, the turnover test in section 23(1)(b) of the Act is not satisfied.

The share of supply test

5.12 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.[86] There must be an increment in the share of supply as a result of the merger.

5.13 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.[87]

5.14 Both Viasat and Inmarsat supply IFC services to UK-based airlines. Based on the number of 'committed' aircraft owned by UK-based airlines,[88] the Parties have a combined share of supply of approximately [40 – 50]% (with an increment of approximately [0 – 5]%).

5.15 Accordingly, we provisionally find that the share of supply test in section 23 of the Act is met.

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[85] See paragraph 4.4.
[86] Section 23 of the Act.
[87] Mergers - the CMA's jurisdiction and procedure: CMA2 revised, paragraph 4.63.
[88] 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 no solution is 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).

Provisional conclusion on the creation of a relevant merger situation

5.16 In view of the above, we provisionally find that the Merger will result in the creation of a relevant merger situation.

6. Counterfactual

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

6.2 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.[89] 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.[90] The CMA seeks to avoid predicting the precise details or circumstances that would have arisen absent the merger.[91]

6.3 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.[92] This includes entry or expansion by a third party.[93] 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.[94]

The Parties' views

6.4 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

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[89] MAGs, paragraph 3.7.
[90] MAGs, paragraph 3.2.
[91] MAGs, paragraph 3.11.
[92] MAGs, paragraph 3.10.
[93] MAGs, paragraph 3.10.
[94] MAGs, paragraph 3.10.

transformational expansion in the sector, with all key industry players expanding their capabilities.[95]

Our assessment

6.5 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,[96] and in August 2022 and October 2022 OneWeb entered into distribution partnerships with Intelsat[97] and Panasonic[98] respectively to develop hybrid (GEO/LEO) IFC services.

6.6 The evidence suggests that these trends are likely to continue. See further paragraphs 9.209 to 9.254 and Appendix D for more information on recent significant strategic initiatives undertaken by SNOs and SSPs and their future plans.

6.7 Our provisional view is that these developments would likely occur irrespective of the Merger and should be taken into account where relevant in our competitive assessment rather than as countervailing factors.

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[95] Parties, Merger Notice, 8 August 2022, paragraph 381.
[96] Eutelsat and OneWeb to combine: a leap forward in satellite connectivity
[97] OneWeb and Panasonic Avionics Corporation to deliver low Earth orbit (LEO) connectivity to airlines worldwide
[98] Intelsat and OneWeb partnership brings multi-orbit connectivity to airlines worldwide

6.8 Our provisional view is that the relevant counterfactual against which to assess the Merger is the prevailing conditions of competition, noting that the relevant market is experiencing significant developments. These developments are considered in more detail as part of our competitive assessment.

7. Framework for assessment and our evidence base

Theories of harm

7.1 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.

7.2 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 market for:

(a) the supply of broadband IFC services to commercial airlines, and

(b) the supply of broadband IFC services to business aircraft owners.

7.3 While we provisionally find that these markets are global (see the Section on market definition below), in our competitive assessment we focus on competitive dynamics affecting routes to and from the UK.

Horizontal unilateral effects

7.4 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 that are substitutable for each other.[99]

7.5 Unilateral effects can arise in a horizontal merger when one firm merges with a competitor that would otherwise provide a competitive constraint, allowing 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.[100]

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[99] MAGs, paragraph 2.15
[100] MAGs, paragraph 4.1.

7.6 Our assessment of mergers is forward-looking and we therefore seek to account for the future evolution of competitive conditions when assessing a merger.[101] This includes developments in the merger parties' competitive offering and the competitive offering of third parties.

7.7 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/or longer-term variables (such as innovation/product development, which are set as part of long-term investment decisions).

7.8 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),[102] 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).[103]

7.9 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.[104]

7.10 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

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[101] MAGs, paragraph 4.16(b).
[102] MAGs, paragraph 5.3.
[103] MAGs, paragraph 5.2.
[104] MAGs, paragraph 5.24.

confronted with claims of entry or expansion being timely, likely and sufficient to prevent an SLC from arising.[105]

(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.[106] As explained at paragraph 6.7 above, our provisional 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.

7.11 For the purpose of our competitive assessment, including our assessment of closeness of competition between the Parties and the strength of the constraint from both established and emerging rivals, we assessed the likely effects of the Merger over the next few years.[107] We consider that any impact from entry or expansion of rivals that does not manifest itself within this timeframe would not be sufficiently timely to be relevant to our assessment of the loss of competition resulting from the Merger.

Overview of evidence base

7.12 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 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;

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[105] 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).
[106] 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.
[107] MAGs, paragraph 3.15 and 8.33.

(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 gathered evidence from airlines accounting for [✂] of flights to and from the UK, including evidence on recent tenders, responses to questionnaires, 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 gathered evidence from 14 SNOs and SSPs, including written and oral submissions, responses to formal requests for information and documents including internal documents relating to 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 reporter Valour Consultancy; and

(g) *Evidence from regulators;* we have obtained evidence in writing and orally from Ofcom and the CAA.

7.13 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.

8. Market definition

Introduction

8.1 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 United Kingdom for goods or services'.[108] An SLC can affect the whole or part of a market or markets.

8.2 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

[108] S.36(1)(b). of the Act,

out in Chapter 9) rather than as a separate exercise.[109] 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.[110]

8.3 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),[111] 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.

8.4 In the remainder of this Chapter, we first consider the relevant product market. We then discuss the relevant geographic market.

Product market

8.5 The European Commission and the CMA have considered several possible segmentations of the satellite connectivity supply chain in previous decisions.[112] They have considered segmenting based on (i) 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.[113]

8.6 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.[114] We have

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[109] MAGs, paragraph, 9.1.
[110] MAGs, paragraph, 9.4.
[111] See further paragraphs 9.209 to 9.254 and paragraphs 9.304 to 9.306.
[112] 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.
[113] 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 8.7).
[114] Parties, Merger Notice, 8 August 2022, paragraphs 514 - 515. [✂] whereas [✂].

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.

8.7 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.

8.8 The Parties submitted that:

(a) Satellite-based broadband 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.[115]

8.9 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 IFC certification and installation processes for different types of aircraft).

Satellite vs other technology

8.10 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.[116]

8.11 Customers that responded to our questionnaires told us that they regard satellite-based services and ATG based services as alternatives.[117] We therefore provisionally find 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.

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[115] Parties, Merger Notice, 8 August 2022, paragraphs 626 - 634
[116] Parties, Merger Notice, 8 August 2022, paragraph 642 - 644.
[117] Commercial and business aviation 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).

Broadband vs narrowband

8.12 The Parties submitted that narrowband and broadband connectivity services should be considered separately due to the limited demand-side substitutability between them.[118] The Parties also submitted that narrowband suppliers are largely different to broadband suppliers.[119]

8.13 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).[120] The Parties do not overlap in the supply of narrowband IFC services and so our competitive assessment focusses on the supply of broadband IFC services.[121]

Commercial vs business aviation

8.14 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,[122] (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 providers and commercial airlines is more direct,[123] (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.[124]

8.15 The Parties' internal documents show that they set their strategy and assess conditions of competition separately for commercial and business aviation.[125] There are also differences in the requirements of these customers and the identity and relative strengths of the providers serving them.[126] We therefore

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[118] Parties, Merger Notice, 8 August 2022, paragraph 633.
[119] Parties, Merger Notice, 8 August 2022, paragraph 633.
[120] For example, [✂] presents two separate and distinct analyses of the Commercial Aviation and Business Aviation segments [✂]. Similarly, [✂] presents separate financial analysis for the Commercial Aviation and Business Aviation segments [✂].
[121] Unless otherwise stated, any references to 'IFC' in these Provisional Findings will relate to broadband IFC rather than narrowband IFC.
[122] 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.
[123] Parties, Merger Notice, 8 August 2022, paragraph 628. The Parties noted that in business aviation suppliers negotiate more with OEMs, maintenance, repair and operations providers (MROs) and VARs than with end customers.
[124] See also CMA P2 Initial Submission - Part II Business Aviation, 25 November 2022, paragraphs 3 to 5.
[125] See footnote 120 above for example documents demonstrating that the Parties set their strategies for commercial and business aviation separately.
[126] For example, as set out in Parties, Merger Notice, 8 August 2022, paragraph 628.

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 owners).

8.16 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 owners.[127] In the next subsections we consider whether these two product markets should be further segmented.

Broadband IFC services to commercial aviation customers

Parties' submissions

8.17 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.[128]

Our assessment

8.18 Airlines operate different types and models of aircraft depending on their commercial operations and the routes they cover.[129] 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.[130] Different models of aircraft also require different certifications. The certifications required also vary depending on how the airline intends to install the equipment (line-fit or retro-fit).

8.19 This means that different IFC suppliers may be relatively stronger or weaker than competitors depending on the particular tender opportunity (eg depending on the aircraft type and model, whether the opportunity is for line-fit

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[127] In the remainder of this report, references to IFC, IFC market or IFC services should be understood as referring to broadband IFC services.
[128] See for example, Parties, Phase 2 Initial submission Part I Commercial Aviation, 25 November 2022, paragraph 275.
[129] 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, Parties response to the P1 Issues Letter, 12 September 2022, paragraph 98(ii)).
[130] Customers, Customers responses to the P1 commercial aviation customer questionnaires.

or retro-fit and on the expected routes for the aircraft). We consider geographic coverage below in our discussion of the geographic market. We take account of other differences, where relevant, in our competitive assessment.

8.20 As such, we provisionally find that the relevant product market for the purposes of our competitive assessment is the supply of broadband IFC services to commercial airlines without further segmentation.

Broadband IFC services to business aircraft owners

Parties' submissions

8.21 The Parties submitted that the business aviation market could be segmented into large and small business aircraft.[131]

Our assessment

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

8.23 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.[132] We therefore only consider large business aircraft in our competitive assessment.

8.24 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.

[131] Parties, Merger Notice, 8 August 2022, paragraphs 639-641.
[132] 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.

8.25 As such, we provisionally find that the relevant product market for the purposes of our competitive assessment is the supply of broadband IFC services to business aircraft owners without further segmentation.

Geographic market

Broadband IFC services to commercial airlines

Parties' submissions

8.26 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.[133]

Our assessment

8.27 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 United Kingdom. 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).

8.28 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. 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.

8.29 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

[133] Parties, Merger Notice, 8 August 2022, paragraphs 654-660.

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 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.

8.30 As such, while we provisionally find 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 owners

Parties' submissions

8.31 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.[134]

Our assessment

8.32 As with commercial aviation, the coverage required by a business aircraft operator depends on the routes the customer 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.

8.33 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 will have a particular focus on business aircraft that are used (or most likely to be used) by UK consumers and businesses.[135]

[134] Parties, Merger Notice, 8 August 2022, paragraphs 661 and 664.
[135] Parties, Merger Notice, 8 August 2022, paragraph 864.

Provisional conclusion on market definition

8.34 For the reasons set out above, we provisionally conclude 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 business aircraft owners.

9. Horizontal effects in the supply of broadband IFC services to commercial airlines

Nature of competition

9.1 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.

9.2 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.

9.3 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

9.4 Contracts for the supply of IFC services are often awarded to suppliers through tenders. In response to our questionnaire, only three airlines told us

they had awarded a contract directly to an IFC supplier without running a competitive process.[136]

9.5 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 8.130 to 8.152). By doing so, airlines can foster competition between IFC suppliers in order to obtain better contract terms.

9.6 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.[137]

9.7 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 commercial contract terms with the chosen supplier.[138]

9.8 In response to RFPs, suppliers are requested to propose operational pricing and service level guarantees. Pricing for IFC tenders is typically broken down into (i) hardware 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,[139] and the SLA required by the airline. As such, pricing proposals are usually bespoke for each tender.

9.9 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

[136] Customers, Responses to the P2 RFI1, question 6, and Customer, email received 31 January 2023.
[137] Customers, Responses to the P2 RFI1, questions 8 and 9.
[138] Customers, Responses to the P2 RFI1, question 8. Three respondents to our airline questionnaire provided a detailed description of their procurement process.
[139] [✂]Viasat, response dated 10 November 2022 to CMA’s the P2 RFI1, questions 2 and 3.

tender to the IFC supplier and/or the competitive positioning of that supplier relative to other likely participants).

9.10 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.[140]

9.11 The evidence we received also suggests that airlines are generally sophisticated customers that are highly engaged with the IFC market and 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.[141] Two airlines also told us they have trialled or plan to trial emerging technologies.[142]

Typical features of IFC contracts

9.12 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.

9.13 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).[143] 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 lengths (eg five or seven years).[144] 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.[145]

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[140] Customer, phase 2 call note, paragraphs 52 to 56.
[141] Customers, Responses to the P2 RFI1, question 8.
[142] Customers, phase 2 call notes.
[143] CMA analysis of customer responses to the P2 RFI1, question 9.
[144] Inmarsat, Main Party Hearing transcript, page 65 and Inmarsat, Additional material following Inmarsat Main Party Hearing, paragraphs 9.4-9.5.
[145] Customers, Responses to the P2 RFI1, question 9.

9.14 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. 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.[146]

9.15 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 [✂].[147] 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,[148] and [✂].[149]

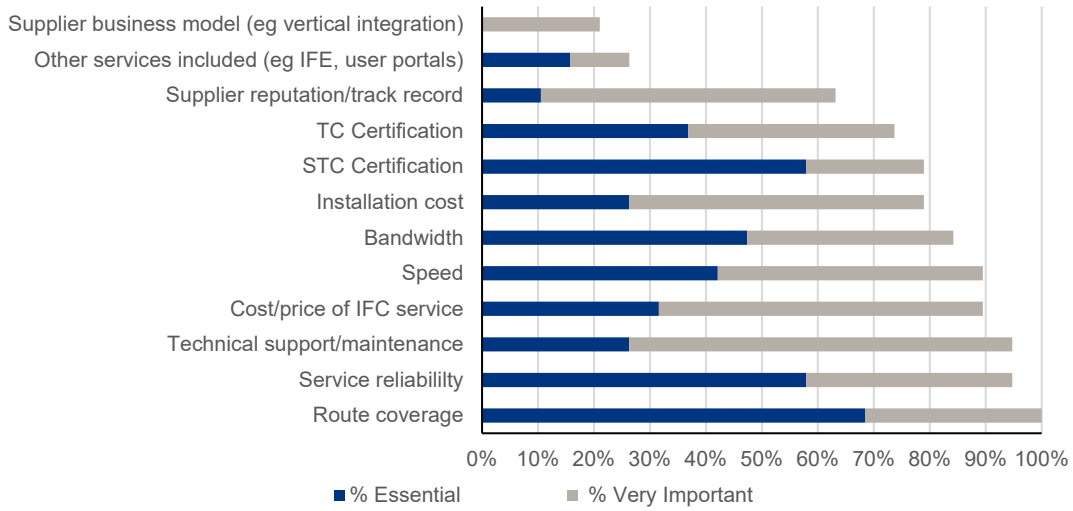
9.16 Overall, the above evidence shows that IFC contracts are usually long-term (between five to ten years), resulting in relatively infrequent competitive interactions between suppliers to supply the same aircraft, although there are ways in which airlines may be able to put some competitive pressure on their suppliers during the term of their contract.

Parameters of competition

9.17 IFC suppliers offer differentiated services (eg in terms of capacity, speed, coverage) and operate different business models (eg satellite ownership, provision of IFE). As a result, airlines consider a wide range of factors when choosing an IFC supplier (paragraphs 9.59 to 9.114describes the IFC activities of the Parties 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.

[146] Parties, Merger Notice, 8 August 2022, paragraph 785; and Parties, Parties' Phase 2 Initial submission, 25 November 2022, paragraph 295.
[147] Customer, Note of call with customer, 6 December 2022, paragraph 20; Customer, Note of call with customer, 7 December 2022, paragraphs 14-17; Customer, Responses to the P2 RFI2, 16 November 2022, question 21.
[148] Parties, Parties' P2 initial submission, 25 November 2022, paragraphs 295 (i) and 295 (ii).
[149] Viasat, Main Party Hearing transcript, [✂].

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 P2 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.

9.18 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.[150] 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.[151]

(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

[150] 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.
[151] Customers, Responses the P2 RFI1, question 14.

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%) were essential or very important.

9.19 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.[152]

9.20 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, primarily because it allows a supplier to be more competitive on price,[153] have more control over its systems which can in turn impact quality (for example, the amount of throughput an aircraft can receive),[154] and to streamline the provision of its services.[155]

9.21 However two airlines told us it was not important [✂] or had to be considered alongside a wide range of other factors [✂] when choosing a supplier.[156] 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 of respondents (68%) rated supplier business model as 'fairly important'.[157] We note that, consistent with this evidence, in our analysis of airlines' recent tenders (see paragraph 9.130) we found several examples of airlines having chosen non-vertically integrated suppliers in tenders where vertically integrated suppliers also bid.[158]

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[152] Customer, Response to the P2 RFI1 11 November 2022, question 10; Customer, response to the P2 RFI1, 16 November 2022, question 11; Customer, response to the phase 2 RFI, 21 November 2022, question 11; Customer, Note of Call with customer, 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, Note of call with customer, 15 December 2022, paragraph 8; Customer, Note of call with customer, 7 December 2022, paragraph 12.
[153] Customers, Responses to the P2 RFI1, question 16.
[154] Customers, Responses to the P2 RFI1, question 16.
[155] Customers, Responses to the P2 RFI1, question 16.
[156] Customers, Responses to the P2 RFI1, question 16.
[157] 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.
[158] Customers, Responses to the P2 RFI1, question 7.

9.22 As regards frequency bands, two airlines told us there is more capacity available in Ka than in Ku,[159] and airlines generally told us that offering Ka and Ku-based satellite technology was a competitive strength.[160] However, none expressed a strong preference for either.

9.23 While some airlines told us they weigh the various factors differently depending on the type of aircraft (eg wider coverage for widebody,[161] or antenna size and weight for narrowbody[162]), none indicated that their procurement process or broad considerations 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

9.24 As described in paragraphs 3.26 to 3.31, there are two main types of certifications for IFC equipment: TCs for line-fit installations and STCs for retro-fit installations.[163] Both TCs and STCs must be obtained prior to IFC 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.

9.25 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.[164] 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,[165] and provided several examples of themselves and competitors winning IFC contracts without the necessary certifications.[166]

9.26 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

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[159] Customers, phase 2 call notes.
[160] Customers, Response to the P2 RFI1, question 16.
[161] Customers, Responses to the P2 RFI1, question 8.
[162] Customers, Responses to the P2 RFI1, questions 8 and 11.
[163] Parties, Merger Notice, 8 August 2022, paragraph 798.
[164] Parties, Parties' response to the P1 Issues Letter, 12 September 2022, paragraph 87. The Parties also provided examples of Viasat and Inmarsat winning tenders without the necessary certifications.
[165] Parties, Parties' P2 initial submission, 25 November 2022, paragraphs 250 and 251.
[166] 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.

consider it essential or very important for a supplier to have the certification in place at the time they award the contract.[167]

9.27 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.[168] Two respondents [✂] and [✂] told us that they would need either demonstrable plans or written confirmation that the IFC solution would be certified within the necessary timeframes.[169]

9.28 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 paragraph 9.130), 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.[170]

(b) One airline [✂] told us it was willing to award Starlink a [✂] without an STC because it believed Starlink would be able to obtain the STC during 2023.[171] Starlink has been awarded a number of other contracts in the last few years to retro-fit IFC on aircraft without having the relevant STCs in place at the time of award.[172]

(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

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[167] Customers, Responses to the P2 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.
[168] Customer, Note of call with customer, 7 December 2022, paragraph 30; Customer, Note of call, 12 December 2022, paragraph 36; Customer, Note of call, 15 December 2022, paragraph 32; Customer, Note of call with customer, 2 December 2022, paragraph 29; Customer, Note of call with customer, 21 December 2022, paragraph 26; Customer, Note of call with customer, 6 December 2022, paragraph 38.
[169] Customer, Note of call with customer, 7 December 2022, paragraph 30; Customer, Note of call with customer, 15 December 2022, paragraph 32.
[170] CMA analysis of Competitors' responses to P2 SSP and SNO RFI, question 4; Parties, Response dated 2 November 2022 to the P2 RFI1, question 4; and Customers' Responses to the P2 RFI1, question 6.
[171] Customer, email received 31 January 2023.
[172] 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.

Embraer aircraft, without having the relevant STC in place at the time of award.[173]

9.29 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 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.

IFC installations on new aircraft

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

9.31 IFC suppliers can obtain certification to be installed by line-fit (ie through a TC) and/or retro-fit (ie through an STC) for each aircraft model, however they 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 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.

9.32 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.[174] In particular, the Parties have pointed to their own data which shows that roughly [✂] of Viasat's and [✂] of Inmarsat's tender opportunities since 2019 involved a retro-fit component, and that, to date, almost [✂] of Viasat's IFC installations have been retro-fit.[175]

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[173] Inmarsat, additional material submitted following Inmarsat Main Party Hearing, 1 February 2023, paragraph 3.1 and accompanying table,
[174] Parties, Parties' response to the P1 Issues Letter, 12 September 2022, paragraph 36 and Parties, Parties' Response to the P2 Working Papers and Annotated Issues Statement, paragraph 143.
[175] Parties, Parties' Response to the P2 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.

9.33 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.[176] 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.[177] 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.[178]

(b) As retro-fitting involves modifying the aircraft post-delivery, one airline told us retro-fits allows it to procure IFC at a later point in time.[179]

(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.[180] In general, there are fewer IFC suppliers offering line-fit services than retro-fit services.

9.34 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.[181] On average, these airlines chose to line-fit IFC on nearly three-quarters of their new order aircraft (74%).[182] 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.[183]

9.35 Based on six follow-up calls to our questionnaire (for [✂] 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

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[176] Customer, Note of call with customer, 2 December 2022, paragraph 7.(a); and Customers, Responses to the P2 RFI 1, question 13.
[177] Eg Customer, Note of call with customer, 6 December 2022, paragraph 8; customer, Note of call with customer, 7 December 2022, paragraphs 5; Customer, Note of call with customer, 2 December 2022, paragraph 7(a), 7(d), and 7(e).
[178] Eg, Customer, Note of call with customer, 2 December 2022, paragraph 7(d); Customer, Note of call with customer, 6 December 2022, paragraph 2.
[179] Customer, Note of call with customer, 2 December 2022, paragraph 8.
[180] Customer, Note of call with customer, 7 December 2022, paragraph 3; Customer, Note of call with customer, 2 December 2022, Customers, Responses to the P2 RFI1, question 8.
[181] '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.
[182] Based on CMA analysis of third-party responses to the P2 RFI1, question 4.
[183] Based on CMA analysis of third-party responses to the P2 RFI1, question 4.

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). 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.[184] 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.[185]

9.36 Viasat identified one example of an airline asking it to bid both retro and line-fit options as alternatives in a tender.[186] The Parties also submitted that while airlines might express an initial preference for a line-fit offerable IFC service, it is not uncommon for them to consider retro-fit options as well.[187] 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.[188]

9.37 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 [✂] 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.[189]

(b) The other airline [✂] 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.[190]

9.38 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.

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[184] Customers, Notes of calls. December 2022 – January 2023.
[185] Customer, phase 2 call note, 6 December 2022, paragraph 13.
[186] Parties, Parties' Response to the P2 Working Papers and Annotated Issues Statement, paragraph 354.
[187] Inmarsat, additional material submitted following Inmarsat Main Party Hearing, 3 February 2023, paragraph 2.1.
[188] 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.
[189] Customer, email received 30 January 2023.
[190] Customer, Response to the P2 RFI 2, dated 24 November 2022, question 1.

IFC installations on in-service aircraft

9.39 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.

9.40 Overall, airlines did not express a clear preference for one approach over the other. Four airlines [✂], [✂], [✂] and [✂] 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 experience, and the impact of flying aircraft without IFC on airlines' competitiveness.[191]

9.41 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.[192] 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.[193]

Airlines' ability and willingness to delay tenders

9.42 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.[194]

9.43 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.[195] Any delay in informing an OEM could result in the airline losing

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[191] We were told an aircraft typically has a lifecycle of between 20 and 30 years: Source: Customer, Note of call with customer, 15 December 2022, paragraph 25 and OEM, Note of call with OEM, 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, Note of call with customer, 15 December 2022, paragraph 20.
[192] Customer, Note of call with customer, 12 December 2022, paragraphs 5 and 14; Customer, response to the P2 RFI2, dated 16 November 2022, questions 4, 5, and 13.
[193] Customer, response to the P2 RFI1, dated 21 November 2022, question 5 and 13.
[194] Parties, Parties' Response to the P2 Working Papers and Annotated Issues Statement, paragraph 128.
[195] Customers, Responses to the Phase 2 RFI1, question 13

its slot in the production line. Given the current backlog in aircraft manufacture, one respondent told us it would not take this risk.[196] 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 9.7 and 9.33 above).

9.44 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 until the OEM requires their decision. For example, one airline [✂] told us that for a [✂].[197]

9.45 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.[198] The frequency of these checks/upgrades varies significantly between airlines.

9.46 The Parties submitted several examples of airlines delaying tenders for line-fit opportunities.[199] However, in each case the airline's decision to delay was influenced by delays in OEM production/delivery timelines.[200]

9.47 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.[201] 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.[202]

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[196] Customer, Note of call with customer, 12 December 2022, paragraph 3.
[197] Customer, Note of call with customer, 6 December 2022, paragraph 17.
[198] Customer, Note of call with customer, 15 December 2022, paragraph 23; Customer, Note of call with customer, 2 December 2022, paragraph 18; Customer, Note of call with customer, 7 December 2022, paragraph 8; Customer, Note of call with customer, 12 December 2022, paragraph 24.
[199] Inmarsat, additional material submitted following Inmarsat Main Party Hearing, 1 February 2023, paragraphs 6.1-6.4
[200] Inmarsat, additional material submitted following Inmarsat Main Party Hearing, 1 February 2023, paragraphs 6.1-6.4
[201] Customer, to the P2 RFI1, 15 November 2022, question 13; Customer, Note of call with customer, 6 December 2022, paragraph 15.
[202] Customer, Response to the P2 RFI2, 16 November 2022, question 5.

The third told us it sometimes delays or extends tenders to get a better understanding of the market since IFC services develop quickly.[203]

9.48 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.[204] 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.[205]

9.49 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

9.50 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.

9.51 Airlines consistently told us that switching IFC supplier is extremely costly and difficult due to the high costs of grounding aircraft and replacing equipment.[206] Consistent with this, we have received only two recent examples (covering four tenders) of airlines [✂], [✂] switching from one satellite-based IFC service to another among the [✂] airlines that responded to our questionnaire, and few examples of airlines considering switching.[207] These two examples of switching were also identified by the Parties, alongside a small number of examples of switching between 2016 and 2020.[208]

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[203] Customer, Response to the P2 RFI1, 18 November 2022, question 13.
[204] Customer, Response to the P2 RFI1, 11 November 2022, question 13.
[205] Customer, Response to the P2 RFI2, 22 November 2022, question 13.
[206] Customer, Responses to the P2 RFI1, question 21.
[207] Customer, email received 31 January 2023 and Response to the P2 RFI1, 18 November 2022, question 6; Customer, email received 25 January 2023 and Response to the P2 RFI1, 10 November 2022, question 6.
[208] Parties, Parties' Phase 2 Initial submission, 25 November 2022, paragraph 295; and Parties, 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 2Ku 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 say have begun procurement for IFC services on aircraft with IFC already installed.

9.52 Two airlines [✂], [✂] provided us with details of potential switching opportunities that they eventually awarded to the incumbent supplier.[209] In one example, the airline [✂] told us it abandoned a switching opportunity because it was not commercially viable to switch.[210]

9.53 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-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.

9.54 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.[211] 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.[212]

9.55 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.[213]

9.56 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.

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[209] Customers, Responses to the P2 RFI1 question 6.
[210] Customer, Response to the P2 RFI1, dated 15 November 2022, question 6.
[211] Customers, Responses to the P2 RFI1, question 18.
[212] Customers, Responses to the P2 RFI1, question 18.
[213] Based on CMA analysis of Customer responses to the P2 RFI1, 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.

The Parties and their main rivals

9.57 This section sets out the Parties' and their main rivals' current activities in IFC and their sources of satellite capacity for IFC for commercial aviation.

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

(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 solutions, 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 SITA exclusively resells Inmarsat's IFC. The Parties' main rivals all supply IFC directly to their customers in commercial aviation.

(d) There is a degree of differentiation in the IFC solutions offered by SSPs to commercial airlines. While many SSPs offer some types of IFE as an option to customers in commercial aviation as part of their IFC solution, only Panasonic and at least one VAR of the Parties offer IFE equipment (eg seat back monitors) to commercial airlines. All SSPs other than Starlink offer airlines SLAs, such as guaranteed levels of IFC services on aircraft, as part of their IFC solution.

(e) The technologies used to supply IFC to customers in commercial aviation differ between the Parties as well as between the Parties and other SSPs. Both the Parties utilise GEO Ka-band capacity in the supply of 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 to currently offer LEO satellite capacity to customers in commercial aviation. Intelsat and Panasonic will supply multi-orbit IFC by utilising OneWeb's LEO capacity alongside their own GEO capacity in future.

Viasat

9.59 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

9.60 Viasat generated USD [✂] from the supply of IFC services to commercial aircraft globally in FY2022.[214]

9.61 Viasat supplies IFC services to commercial airlines based on its Ka-band network.[215] Viasat supplies IFC equipment as well as IFE services to commercial airlines (although IFE services are almost exclusively sold outside Europe (including the UK)).[216]

9.62 [✂][217] [✂].

9.63 Viasat's offering in IFC includes:

(a) IFC, which is based on Ka-band capacity that Viasat self-supplies and sources from third parties.[218]

(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).[219]

(c) Technical monitoring and support services, which provides airlines with continuous monitoring and a range of customised support services. These

[214] Parties, Merger Notice, 8 August 2022, paragraph 611.
[215] Parties, Merger Notice, 8 August 2022, paragraph 610.
[216] Parties, Merger Notice, 8 August 2022, paragraph 612.
[217] Parties, Merger Notice, 8 August 2022, paragraph 989.
[218] Parties, Merger Notice, 8 August 2022, paragraph 610.
[219] In-Flight Entertainment - Content, Live In-Flight TV & Streaming Services - Viasat

services include 24x7x365 technical support and hardware support including spares and repair management.[220]

(d) Other customer-facing solutions and passenger-facing services, including passenger portals tailored to airlines, and passenger advertising solutions.[221]

9.64 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).[222]

Satellite capacity

9.65 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.[223]

9.66 Viasat self-supplied around [✂] of its satellite capacity for IFC in commercial aviation in each year of the period 2019 – 2022.[224] The [✂] of satellite capacity for IFC in commercial aviation Viasat sourced from third parties in 2022 was in [✂].[225]

9.67 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), known collectively as its ViaSat-3 constellation.[226] 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.[227] [✂].

Inmarsat

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

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[220] Commercial Aviation Flight Operations - Business Aviation Software - Viasat; Aviation Support Services | Viasat
[221] In-flight Passenger Internet Connectivity -Aviation Passenger Experience - Viasat; In-Flight Advertising - Airplane Marketing Solutions - Viasat
[222] Parties, Merger Notice, 8 August 2022, paragraph 611.
[223] Parties, Merger Notice, 8 August 2022, paragraph 421.
[224] Viasat, Viasat's response to P2 RFI3, question 4.
[225] Viasat, Viasat's response to P2 RFI3, question 5.
[226] Parties, Merger Notice, 8 August 2022, paragraph 424.
[227] [✂] .

IFC activities

9.69 Inmarsat generated USD [✂] from the supply of IFC services to commercial aircraft globally in 2022.[228]

9.70 Inmarsat provides two broadband IFC services for commercial airlines:[229]

(a) GX Aviation service, based on Inmarsat's own Ka-band network, which provides global coverage (except at the poles); and

(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.[230]

9.71 [✂][231] [✂].

9.72 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.[232]

(b) Airline operations and maintenance services, designed to maximise aircraft performance and efficiency.[233]

9.73 Inmarsat supplies both its GX Aviation and EAN service directly to airlines.[234] Inmarsat also supplies its GX Aviation service through VARs in Europe (eg Thales, SITAONAIR) and in other regions. While around [✂] of Inmarsat's global IFC revenue in 2022 was through VARs, less than [✂] of Inmarsat's European IFC revenue in the same year was through VARs.[235]

9.74 As noted in paragraph 3.38, Inmarsat was announced in June 2022 as the first IFC supplier available to commercial airlines as part of Airbus' HBCplus programme.[236]

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[228] Parties, Merger Notice, 8 August 2022, paragraph 618.
[229] Parties, Merger Notice, 8 August 2022, paragraph 617.
[230] As set out in Chapter 3, 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.
[231] Parties, Merger Notice, 8 August 2022, paragraph 1004.
[232] OneFi (inmarsat.com)
[233] Airline operations and maintenance (inmarsat.com)
[234] Parties, Merger Notice, 8 August 2022, paragraph 618.
[235] Inmarsat, Inmarsat's follow-up to MPH, question 1.
[236] Inmarsat selected as first connectivity provider for new Airbus Airspace Link HBCplus solution.

Satellite capacity

9.75 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.[237]

9.76 Inmarsat estimated that it self-supplied [✂] of its satellite capacity for IFC in each year of the period 2018 – 2022, sourcing [✂] of its needs from third parties in each year.[238] The [✂]of satellite capacity Inmarsat sourced from third parties in 2022 was [✂].

9.77 Inmarsat plans to launch four more GEO satellites that offer Ka-band connectivity, which are all expected to be in operation by the [✂].[239] Inmarsat also plans to launch two HEO satellites to provide coverage over the Arctic Circle, in part to better serve IFC customers.[240]

9.78 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.[241] [✂][242]

Intelsat

9.79 Intelsat is a vertically integrated supplier of IFC that also supplies satellite capacity for IFC to other SSPs.[243] 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.

9.80 Intelsat entered into Chapter 11 bankruptcy in the United States in 2020, from which it emerged in February 2022.

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[237] Parties, Merger Notice, 8 August 2022, paragraph 430.
[238] Inmarsat response to Phase 2 RFI 3, question 3.
[239] Parties, Merger Notice, 8 August 2022, paragraph 431.
[240] Parties, Merger Notice, 8 August 2022, paragraph 437.
[241] Parties, Merger Notice, 8 August 2022, paragraph 112.
[242] Parties, Merger Notice, 8 August 2022, paragraph 649.
[243] 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, Response to P2 SSP and SNO RFI, questions 2 and 5.

IFC activities

9.81 Intelsat told us that IFC is an important end-use application for its satellite capacity.[244]

(a) In relation to its activities as a wholesale supplier of satellite capacity, less than [✂] of Intelsat's overall revenue in the period 2018 – 2021 was earned from the supply of satellite capacity for IFC.[245]

(b) In relation to its activities as a supplier of IFC directly to commercial airlines, [✂] of Intelsat's overall revenue in 2021 was earned from the supply of IFC following its acquisition of Gogo.[246]

9.82 Intelsat moved into the supply of IFC directly to commercial airlines following its acquisition of Gogo's commercial aviation IFC business in 2020.[247] 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.[248]

9.83 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.[249] 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.

9.84 Intelsat will use an IFC service with an Electronically Steerable 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.[250] This is discussed further in paragraph 9.209.

Satellite capacity

9.85 Intelsat currently owns and operates six satellites which provide HTS connectivity and can therefore support IFC.[251] Intelsat told us that four of its

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[244] Competitor, Response to P1 competitor questionnaire, question 8.
[245] Competitor, Response to P2 SSP and SNO RFI, question 1.
[246] Competitor, Response to P2 SSP and SNO RFI, question 4.
[247] Competitor, Response to P2 SSP and SNO RFI, question 2.
[248] Competitor, Response to P2 SSP and SNO RFI, question 9.
[249] Competitor, Response to P2 SSP and SNO RFI, question 9.
[250] Competitor, Response to P2 SSP and SNO RFI, question 9; and Competitor, Response to s.109 request, Board presentation.
[251] Competitor, Response to P1 competitor questionnaire, question 3.

HTS satellites cover Europe and that its six satellites in aggregate provide global coverage except in some remote oceanic regions and the Arctic and Antarctic regions.[252]

9.86 Intelsat also sources third party satellite capacity to meet the demands of its IFC customers.[253] More than [✂] of Intelsat's satellite capacity for IFC was sourced from third parties in 2020 and 2021, with Intelsat self-supplying [✂] and [✂] of satellite capacity for its IFC activities in each year respectively.[254]

9.87 [✂][255] [✂].[256]

9.88 [✂][257] [✂].

9.89 Intelsat has also entered into a distribution agreement with OneWeb to use its LEO satellite capacity in the supply of IFC to commercial airlines.[258] 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 in paragraph 9.209.

9.90 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

9.91 Panasonic offers IFC services for passengers in commercial aviation.[259] Panasonic supplies commercial airlines that operate globally.

IFC activities

9.92 Panasonic earned around $[✂]m from the supply of IFC in commercial aviation in 2021.[260] Revenue from the supply of IFC in commercial aviation

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[252] Competitor, Response to P1 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.
[253] Competitor, Response to P2 SSP and SNO RFI, question 7.
[254] Competitor, Response to P2 SSP and SNO RFI, question 7.
[255] Competitor, Response to P2 SSP and SNO RFI, question 7.
[256] Competitor, Response to s.109 request, Board presentation: [✂] and Competitor, Response to s.109 request, Board presentation: [✂].
[257] Competitor, Response to P1 competitor questionnaire, question 4.
[258] Competitor, Response to P2 SSP and SNO RFI, question 7.
[259] Competitor, Response to P2 SSP and SNO RFI, paragraph 6.
[260] Competitor, Response to P2 SSP and SNO RFI, question 4.

represented around [✂] of Panasonic's total revenues in each financial year between 2018 and 2021.

9.93 Panasonic's offering to commercial airlines includes:[261]

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

(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.[262]

(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

9.94 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.[263]

9.95 Panasonic sources its satellite capacity from a number of SNOs.[264] 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 [✂] years) with third party SNOs for satellite capacity to support its IFC activities.

9.96 Information provided by Panasonic shows that it currently sources satellite capacity for IFC from Telesat and Intelsat in Europe.[265] Panasonic expects to source the large majority [✂] of its European capacity from Eutelsat in the

[261] Competitor, Response to P2 SSP and SNO RFI, question 5.
[262] Competitor, Response to P2 SSP and SNO RFI, question 9.
[263] Competitor, Response to P2 SSP and SNO RFI, question 7.
[264] Competitor, Response to P2 SSP and SNO RFI, question 7.
[265] Competitor, Response to P2 SSP and SNO RFI 2, question 5.

second half of 2023 once Panasonic starts to source satellite capacity from Eutelsat's 10B satellite under its agreement with them.[266]

9.97 Panasonic also provided information on its global sources of satellite capacity for IFC, which are relevant for intercontinental flights to and from the UK.[267] [✂].

9.98 Panasonic has also entered into a distribution agreement with OneWeb to use its LEO satellite capacity in the supply of IFC to commercial airlines.[268] 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 in paragraph 9.209.

Anuvu

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

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

IFC activities

9.101 Anuvu told us that its IFC activities in commercial aviation represent [✂].[269]

9.102 Anuvu's IFC service includes:[270]

(a) Network Management System – Network resource management is a system that takes raw capacity and transforms it into internet services for airline customers.

(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

[266] Competitor, Response to P2 SSP and SNO RFI 2, question 4.
[267] Competitor, Response to P2 SSP and SNO RFI 2, question 5.
[268] Competitor, Response to P2 SSP and SNO RFI, question 7.
[269] Competitor, Response to P2 SSP and SNO RFI, questions 4 and 6.
[270] Competitor, Response to P2 SSP and SNO RFI, question 9.

entertainment and digital content delivered directly to passengers' own devices).

9.103 Although Anuvu leases capacity from third parties, Anuvu controls its own network operations, modems, and ground infrastructure.[271] 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).

9.104 Anuvu told us that it [✂].[272]

Satellite capacity

9.105 Anuvu currently sources GEO satellite capacity from a number of SNOs, including [✂].[273] Over half of Anuvu's satellite capacity is sourced from [✂].

9.106 Anuvu is currently planning to launch two GEO micro-satellites in the second half of 2023.[274] These two micro-satellites will provide Anuvu with a small, assured base of Ku-band capacity for IFC.[275] 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

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

IFC activities

9.108 Starlink told us that it expects the importance of IFC to its business to grow in the next five years.[276] As set out from paragraph 9.242, Starlink has been awarded contracts to start supplying IFC to a number of commercial airlines in the next two years and has bid for IFC contracts with other commercial airlines in the United States and in other jurisdictions.

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[271] Competitor, Response to s.109 request, Board presentation.
[272] Competitor, Response to P2 SSP and SNO RFI, question 7.
[273] Competitor, Response to P2 SSP and SNO RFI, question 7.
[274] Competitor, Response to P2 SSP and SNO RFI, question 5.
[275] 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.
[276] Competitor, Response to P2 SSP and SNO RFI, paragraph 6.4.

9.109 Starlink owns and operates its own satellites and self-supplies its satellite connectivity capacity.[277]

9.110 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. When Starlink has obtained the appropriate certifications for its equipment for certain airframes, the OEM for those airframes can also provide installation [✂].

9.111 [✂].[278]

Satellite capacity

9.112 Starlink is a vertically integrated supplier of IFC. The first Starlink satellites launched in November 2019 and Starlink is currently operating around 3,200 LEO satellites.[279]

9.113 Starlink's initial Federal Communications Commission (**FCC**) licence authorises it to launch 4,400 satellites in total.[280] 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.[281] Starlink told us that it has received a partial licence from the FCC to launch an additional 7,500 satellites,[282] with its application for the launch of the remaining satellites still pending with the FCC.[283]

9.114 Starlink told us that it expects to launch around an additional [✂] satellites in both 2023 and 2024 under its existing licences from the FCC.[284] 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.

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[277] Competitor, Response to P2 SSP and SNO RFI, paragraph 7.2.
[278] Competitor, Response to P2 SSP and SNO RFI, paragraph 9.5.
[279] Competitor, Response to P2 SSP and SNO RFI, paragraph 2.2; Competitor, Response to P2 SSP and SNO RFI 2, paragraph 1.1; and Competitor, Response to follow-up questions to call with a Third Party, P2 dated 1 December 2022, paragraph 9.1.
[280] Competitor, Response to phase 1 competitor questionnaire, Table 8.1.
[280] Competitor, Response to s.109 notice, Annex 5.
[281] Competitor, Note of call with competitor, P1, 16 June 2022, paragraph 5.
[282] Competitor, Response to P2 SSP and SNO RFI2, paragraph 1.1.
[283] Competitor, Note of call with competitor, 1 December 2022, paragraph 1(a).
[284] Competitor, Response to P2 SSP and SNO RFI2, paragraphs 1.1 – 1.3.

Shares of supply for commercial aviation

Our approach

9.115 We consider that shares of supply have limited evidentiary value in assessing suppliers' current competitive strength in this case, given that suppliers' 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.[285] 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.

9.116 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.

9.117 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.[286] The Parties submitted Valour Consultancy data for each quarter for each year between Q4 2017 and Q1 2022,[287] with the Parties' own aircraft numbers adjusted to be consistent with internal figures.[288] 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.[289] 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

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[285] CMA129, paragraph 4.15.
[286] 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.
[287] 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.
[288] As explained in paragraph 9.118(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.
[289] 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.

data given its limitations.[290] We estimated shares of supply of broadband IFC services at a global level, and for European short-haul flights and for long-haul flights to/from the UK (see paragraph 9.119).

9.118 To estimate the shares of supply, we adopted the Parties' methodology, as follows:[291]

(a) Shares exclude aircraft where IFC is provided through L-band (narrowband) only;[292]

(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.

9.119 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.

9.120 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.[293]

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[290] 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 [✂] of Inmarsat's backlog relate to contracts that were concluded in 2019 or before. (Parties response to 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.
[291] Parties, Merger Notice, 8 August 2022, Annex 018, Market Shares Methodology Annex.pdf.
[292] L-band (narrow-band) is not used for passenger IFC services due to its low bandwidth, but rather for safety reasons for cabin use.
[293] 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 narrow-body 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.

9.121 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, discussed in subsequent sections, that the Parties' competitive positions have improved recently (see paragraphs 9.123 to 9.129).

9.122 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

9.123 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)

	Active aircraft (%)						*Backlog (%)*
IFC suppliers	*2017*	*2018*	*2019*	*2020*	*2021*	*2022*	*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 287).

9.124 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%].

(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%].

(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%].

9.125 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)

	Active aircraft (%)						*Backlog (%)*
IFC suppliers	*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 287).

9.126 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 remained largely stable since 2019. Anuvu's share of supply has declined from [70%-80%] in 2017 to [20-30%] in 2022.

(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%].

9.127 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)

	Active aircraft (%)						*Backlog (%)*
IFC suppliers	*2017*	*2018*	*2019*	*2020*	*2021*	*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 287).

9.128 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.

9.129 The Parties 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).[294] 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.[295] However, relying on the figures provided by the Parties would not materially change our provisional assessment about the relative market position of IFC suppliers over time. As such, we have relied on the shares of supply as estimated above, which we consider are an appropriate approximation for the flights relevant to UK customers given the data available. We note that these share estimates are also informative as to the differences in the market position of IFC providers between the wide-body and narrow-body segments.

Evidence from tender data

9.130 Contracts to supply IFC services are often awarded following a competitive tender process.[296] 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

(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.

9.131 This section outlines our provisional 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

9.132 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

[294] Parties, Parties' response to P2 Working Papers and Annotated Issues Statement, 27 January 2023, paragraphs 65-66.
[295] The Parties also did not provide the underlying Valour Consultancy data for Q2 2022.
[296] 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 9.4for 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, Parties' response to the Phase 2 WPs and working papers, 27 January 2023, paragraph 82.

routes both within and outside of the UK (see Appendix C for more detail on our approach to gathering evidence from airlines).[297]

9.133 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 starting 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 provisional 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 9.336 to 9.450. Specifically, we have excluded:

(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.[298] In addition, Viasat is the sole supplier of IFC services across its fleet.[299]

(ii) One win for Panasonic due to the airline abandoning a switching opportunity because it was not 'commercially feasible' to do so.[300]

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[297] 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 2.32 – 2.40. 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.
[298] Customer, Response dated 21 November 2022 to the P2 RF1, question 8(a).
[299] Customer, Response dated 21 November 2022 to the P2 RF1, question 17.
[300] Customer, Response dated 15 November 2022 to the P2 RF1, question 6.

(iii) One win for Starlink where the airline conducted market research on the various suppliers and concluded that only SpaceX/Starlink could provide its requirements in terms of high-speed Wi-Fi on board.[301]

(d) The airline only invited Inmarsat and its resellers/partners to bid (6 tenders excluded).[302] We do not consider Inmarsat and its partners (who resell solely Inmarsat's services) to be independent competitors (see Table 5).[303] As explained in paragraph 9.138(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.[304] 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 provisional assessment.

(f) The tender was for L-band (ie narrowband) technology (3 tenders excluded) or insufficient details were provided (4 tenders excluded).[305]

9.134 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.[306]

Table 5: The final sample of tenders we use for our analysis, after excluding tenders not relevant to recent UK competition (paragraphs 9.133(a) to 9.133(f))

Airline	*Aircraft type*	*In-service or ordered aircraft*	*Line-fit, retro-fit, or switching opportunity*	*Number of aircraft*	*Contract award date*	*Winner*	*Runner-up*
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

[301] Customer, email received 31 January 2023.
[302] [✂] (see Table 5).
[303] To note, 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 as a separate competitor, given we do not have information on which solution it submits an RFP for each tender.
[304] 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 covers only 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.
[305] We sent several follow-ups for the four incomplete tenders but received no response.
[306] Appendix E, Table 7 also includes the other bidders in the tenders in Table 5.

Airline	*Aircraft type*	*In-service or ordered aircraft*	*Line-fit, retro-fit, or switching opportunity*	*Number of aircraft*	*Contract award date*	*Winner*	*Runner-up*
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis of third-party response to the P2 RFI1, question 6. For the purposes of our assessment, and in line with our approach to calculating market shares (see paragraphs 9.115 to 9.129) 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.

9.135 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 P2 RFI1, question 6.

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

(a) Inmarsat was invited to bid on all 13 tenders in our sample and submitted bids in 12;[307]

(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

[307] 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 dated 2 November to the Phase 2 s109 (1), question 7.

on slightly fewer occasions (seven). The next most frequently invited supplier was Intelsat (six invitations out of 13, five bids).[308]

(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.

9.137 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 ([✂]) and/or price [✂].[309] Two airlines [✂] and [✂] further noted Viasat's future capacity as a reason for selecting it as their supplier, and one airline highlighted Viasat's line-fit capabilities.[310] 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.[311] 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. No other suppliers won any of the tenders in our sample.

9.138 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.

[308] SITAONAIR is a reseller of Inmarsat's satellite capacity.
[309] Competitor, responses to Phase 2 RFI 1, question 6.
[310] Competitor, response to Phase 2 RFI 1, question 6.
[311] Competitor, responses to the Phase 2 RFI 1, question 6.

(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 P2 RFI1, question 6.

9.139 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.

9.140 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 [✂].[312]

[312] Customer, response date 18 December 2022 to the Phase 2 RFI1, question 6.

(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 [✂] and were for retro-fits on newly ordered narrowbody aircraft.[313]

(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 P2 RFI1, question 6.

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

9.141 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.[314] 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.[315] To support this submission, the Parties provided us with a list of tenders that they said were recently won by rival suppliers.[316]

9.142 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

[313] Customer, email received 3 February 2023, Customers responses.
[314] Parties' Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraph 67.
[315] Parties' Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraphs 69.(i) to 69.(iii).
[316] Parties' Response to the Phase 2 Working Papers and Annotated Issues Statement, Table 5.

limited UK-nexus. Where relevant, we have taken into account some of these tenders within our competitive assessment.[317]

9.143 The Parties also submitted that their data, which included [✂] tenders for Viasat and [✂] for Inmarsat over the relevant period, shows our tender sample is unreasonably small.[318] 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.

9.144 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.[319] 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 [✂] told us it had had four relevant tenders in the relevant period, and we have therefore included these in our analysis.[320]

9.145 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 9.133(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 8 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 Parties and their competitors, it has no material impact on our provisional findings based on the tender analysis as set out above.

9.146 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

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[317] For example, we have considered one direct award to a supplier with no certification (paragraph 8.25), and a win for an incumbent (paragraph 8.49).

[318] Parties' Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraphs 70-72.

[319] Customer email received 31 January 2023; Customer email received 30 January 2023; Customer email received 3 February 2023; Customer email received 27 January 2023. Customer email received 26 January 2023; Customer email received 27 January 2023. We did not hear from two customers we contacted regarding potential tenders.

[320] 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).

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 the past two years.

9.147 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;[321] and

(b) Although also backward looking (see paragraphs 9.123 to 9.129), 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.[322]

9.148 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 9.120 to 9.129.

Our assessment of the Parties' tender data

9.149 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:

(a) Viasat told us its response was based on the date it received an RFP from airlines and included a total of [✂] tenders to which it had submitted a bid, two of which were abandoned by the airlines.[323]

(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

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[321] Parties' Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraphs 76 to 78.
[322] Parties' Response to the Phase 2 Working Papers and Annotated Issues Statement, paragraph 75.
[323] Viasat response to Phase 2 S109 (1), dated 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 [✂] 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.

receives an RFP in the ordinary course of business.[324] This resulted in a total of [✂] opportunities.

(c) RFPs are typically issued well in advance of the expected contract award date (see paragraphs 9.4 to 9.11). 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.[325]

9.150 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).

9.151 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.[326]

(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 9.144 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.[327] As 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.

9.152 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

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[324] Inmarsat response to Phase 2 S109 (1) dated 2 November 2022, question 7 and 8. Inmarsat's response also included [✂] tenders with an expected contract award date after September 2022, [✂] of which it bid on.
[325] For example, it appears as though Inmarsat's sample included [✂] 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.
[326] Excluding tenders which do not cover aircraft that fly to and from the UK (in line with paragraph 9.135) reduces the number of tenders for Viasat to [✂] and Inmarsat to [✂]. However, the majority of these airlines still have very few flights to and from the UK.
[327] Customer email received 31 January 2023; Customer email received 30 January 2023; Customer email received 3 February 2023; Customer email received 27 January 2023; Customer email received 26 January 2023; Customer email received 27 January 2023. In addition, even considering only 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: retro-fit tender for [✂] aircraft, or line-fit tender for [✂] aircraft in the Parties' data.

one another in tenders on a reliable basis.[328] 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

9.153 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[329] relating to recent tenders for IFC.[330] These included:

(a) the 13 tenders referred to in the evidence from tender analysis section above;[331]

(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.

9.154 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 internal discussions relating to each tender. We also took into account the fact that the Parties' behaviour and views expressed about each other 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 7), 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

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[328] 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.
[329] 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.
[330] The Parties' internal documents considered in this section include internal documents assessing upcoming tenders and each Party's proposed bid strategy.
[331] 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.

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

9.155 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.

9.156 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.

9.157 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).

9.158 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

9.159 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 9.155 above in relation to the other expected bidders).[332]

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

(a) In an internal document from [✂] relating to a tender for narrowbody aircraft by [✂] Inmarsat notes that the competition is [✂].[333]

(b) In an internal document from [✂] relating to a tender by [✂] for narrow and widebody aircraft, Inmarsat notes that it is [✂].[334] In relation to the tender for widebody aircraft, Inmarsat refers [✂][335] [✂].[336]

(c) In an internal document from [✂] relating to a tender by [✂] for widebody aircraft, Inmarsat notes that the [✂].[337]

(d) In an internal document from [✂] relating to a tender by [✂] for narrowbody aircraft, Inmarsat notes that the [✂].[338]

(e) In an internal document from [✂] relating to a tender by [✂] for multiple types of narrow and widebody aircraft, Inmarsat notes [✂].[339]

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[332] See for example Inmarsat, Response to s.109 Notice, 21 December 2022, Annex 2.2 dated 29 October 2020 relating to [✂], slide 4; Inmarsat, Response to s.109 Notice.2 November 2022, Annex 5.42 dated 30 August 2022 relating to [✂], slide 14;
Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04 dated 5 January 2023 relating to [✂], slide 6; Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.70 dated 24 August 2022 relating to [✂], slide 13; Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.62 dated 10 May 2022 relating to [✂], slides 2 and 6; Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.17 dated 11 January 2022 relating to [✂], slides 2-4; Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.45 dated 25 February 2022 relating to [✂], slide 2.
[333] Inmarsat, Response to s.109 Notice, 21 December 2022, Annex 2.1 dated 20 May 2021 relating to [✂], page 3.
[334] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.17 dated 11 January 2022 relating to [✂], slide 2.
[335] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.17 dated 11 January 2022 relating to [✂], slide 2.
[336] Inmarsat, Response to s.109 Notice, 21 December 2022, Annex 2.5 dated 31 January 2020 relating to [✂], slide 2.
[337] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.45 dated 25 February 2022 relating to [✂], slide 2.
[338] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.62 dated 10 May 2022 relating to [✂], slide 2.
[339] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51 dated 28 June 2022 relating to [✂], slides 3 and 19.

(f) In an internal document from [✂] relating to a tender by [✂] for narrowbody aircraft, Inmarsat notes [✂].[340]

9.161 Inmarsat's internal documents often provide a brief overview of Viasat's strengths and weaknesses.[341] These are largely consistent across documents, although there is some variation in the list of weaknesses across tenders. In terms of Viasat's strengths, [✂][342] [✂].[343]

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

Viasat's assessment of Inmarsat

9.163 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 9.156 above in relation to the other expected bidders). In a small number of these Viasat [✂]. For example:

(a) [✂].[344]

(b) [✂].[345]

9.164 In general, Viasat's internal tender documents do not include an assessment of Inmarsat's perceived strengths and weaknesses. [✂].[346]

9.165 We consider that these documents show that Viasat regards Inmarsat as a rival in most tenders and [✂].

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[340] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.70 dated 24 August 2022 relating to [✂], slide 13.
[341] For example, Inmarsat, Response to s.109 Notice. 2 November 2022. Annex 5.50 dated 29 October 2020 relating to [✂], slide 12; Inmarsat, Response to s.109 Notice. 2 November 2022. Annex 5.42 dated 30 August 2022 relating to [✂], slide 14; Inmarsat, Response to s.109 Notice, 2 November 2022. Annex 5.76 dated 12 July 2022 relating to [✂], slide 6; Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.03 dated 6 December 2022 relating to [✂], slide 16.
[342] For example, Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.03 dated 6 December 2022 relating to [✂], slide 16.
[343] For example, Inmarsat, Response to s.109 Notice, 21 December 2022, Annex 2.2 dated 29 October 2020 relating to [✂], slide 4.
[344] Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00065480 dated 3 February 2022 relating to [✂], slide 2.
[345] Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00050886 dated 7 September 2022 relating to [✂], slide 6.
[346] Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00051965 dated 26 July 2021 relating to [✂], slide 13.

The Parties' assessment of other rivals in the internal documents

The Parties' assessment of Intelsat

9.166 In most of the internal documents, Inmarsat refers to Intelsat as a possible bidder in upcoming tenders, typically alongside a small number of others.[347] However, [✂].

9.167 Where these internal documents refer to Intelsat they often include a brief overview of Intelsat's strengths and weaknesses.[348] [✂].[349]

9.168 A small number of recent internal documents also refer to Intelsat's hybrid LEO/GEO service. For example, in an internal document from [✂] relating to a tender by [✂][350] [✂][351] [✂] are identified as the frontrunners in the tender. In an internal document from [✂] relating to a tender by [✂][352] [✂].[353]

9.169 Where Viasat's internal tender documents refer to potential competitors, Intelsat is mentioned in most of these[354] alongside Panasonic, Inmarsat, OneWeb and Starlink (and less frequently Anuvu). [✂][355] [✂][356] [✂].

9.170 We consider that these documents show that both Parties regard Intelsat as a rival in most tenders but [✂].

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[347] See for example Inmarsat, Response to s.109 Notice, 2 November 2022. Annex 5.76 dated 12 July 2022 relating to [✂], slide 6 and Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.45 dated 25 February 2022 relating to [✂], slide 4.
[348] See footnote 13 – the same tables also refer to Intelsat.
[349] For example, Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51 dated 28 June 2022 relating to [✂], slide 33.
[350] For example, Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51 dated 28 June 2022 relating to [✂], slide 56.
[351] For example, Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51 dated 28 June 2022 relating to [✂], slide 33.
[352] Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04 dated 5 January 2023 relating to [✂], Slide 2.
[353] Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04 dated 5 January 2023 relating to [✂], Slide 6.
[354] See for example: Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00051965 dated 26 July 2021 relating to [✂], slide 13; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00050886 dated 7 September 2022 relating to [✂], slide 8; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00065480 dated 3 February 2022 relating to [✂], slide 2; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00055277 dated 18 August 2022 relating to [✂], slide 6.
[355] Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00055809 dated 18 January 2021 relating [✂], slide 3.
[356] Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00065121 dated 2022 (there is no precise date shown in the document) relating to [✂], slide 2.

The Parties' assessment of Panasonic

9.171 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 [✂].[357] For example:

(a) in an internal document from November 2021 relating to a tender by [✂] for widebody aircraft, Inmarsat notes that '[✂].[358]

(b) in an internal document from [✂] relating to a tender by [✂] for narrowbody and widebody aircraft, Inmarsat refers to [✂][359] [✂].

(c) in an internal document from [✂] relating to a tender by [✂] for multiple types of aircraft, Inmarsat notes that [✂].[360]

(d) in an internal document from [✂] relating to a tender by [✂] Inmarsat notes that [✂].[361]

9.172 A number of these internal Inmarsat documents provide a brief overview of Panasonic's strengths and weaknesses.[362] [✂].[363]

9.173 Where Viasat's documents for upcoming tenders refer to competitors Panasonic is mentioned as a potential rival in most of these.[364] [✂].

9.174 We consider that these documents show that, for most tenders, both Parties regard Panasonic as a significant rival [✂].

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[357] For example, Panasonic is referred to as the [✂] for the [✂], see Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.11 dated 9 November 2021 relating to [✂], slide 5 and as the [✂] on the narrowbody part of the [✂], see Inmarsat, Response to s.109 Notice dated 2 November 2022, Annex 5.51 dated 28 June 2022 relating to an [✂], slide 3.
[358] Inmarsat, Response to s.109 Notice dated 9 November 2021, Annex 5.14 dated 6 January 2022 relating to [✂], slide 5.
[359] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.14 dated 6 January 2022 relating to [✂], slide 10.
[360] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51 dated 28 June 2022 relating to [✂], slide 3.
[361] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.70 dated 24 August 2022 relating to [✂], slide 13.
[362] See footnote 342 – the same tables also refer to Panasonic.
[363] See for example Inmarsat, Response to s.109 Notice dated 2 November 2022, Annex 5.51 dated 28 June 2022 relating to [✂], slide 33.
[364] See for example See for example: Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00051965 dated 26 July 2021 relating to [✂], slide 13; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00065480 dated 3 February 2022 relating to [✂], slide 2; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00055277 dated 18 August 2022 relating to [✂], slide 6; Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00062991 dated March 2022 relating to [✂], slide 2.

The Parties' assessment of Anuvu

9.175 Anuvu is referred to as a possible rival in the Parties' internal tender documents [✂] less frequently compared to other established rivals (ie Intelsat and Panasonic and each other).

9.176 Both Parties refer to Anuvu as a potential competitor in a number of internal documents relating to narrowbody opportunities.[365] They generally do not include any detailed assessment of Anuvu's capabilities.

9.177 We consider that these documents show that both Parties often regard Anuvu as a rival in tenders, [✂] for narrowbody aircraft [✂].

The Parties' assessment of Starlink

9.178 Inmarsat's recent internal tender documents [✂] typically refer to LEO operators, including Starlink. However, Starlink is [✂]. For example:

(a) 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 [✂]. In each of these internal documents, the following are identified by Inmarsat as weaknesses of LEO solutions: [✂][366] with the following noted as strengths: [✂].[367]

(b) in an internal document from [✂], where Inmarsat [✂], Inmarsat notes that [✂].[368]

(c) as referred to above in relation to Intelsat, in an internal document from [✂] relating to a tender by [✂] for widebody aircraft, Inmarsat refers to [✂][369] showing that the LEO operators (which may include Starlink) are treated as credible competitors on certain tenders.

(d) in some documents Starlink (or LEOs generally) are not referred to. For example, in documents relating to tender opportunities by [✂], there is no reference to Starlink (or other LEO alternatives).

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[365] See for example Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.03 dated 6 December 2022 relating to [✂], Slide 16; Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00062991 dated March 2022 relating to [✂], slide 2.
[366] The exact language used varies in some of the documents.
[367] [✂]
[368] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.51 dated 28 June 2022 relating to [✂], slide 57.
[369] Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04 dated 5 January 2023 relating to [✂], Slide 2.

9.179 We have identified a small number of examples where Inmarsat identifies a LEO solution (including Starlink) as [✂] and [✂]proposes to adjust its commercial offer in response to a LEO offer. For example:

(a) an internal document from [✂] relating to [✂] tender for narrowbody aircraft[370] (for routes mainly between [✂]), notes that [✂].[371] The document notes that Inmarsat plans to [✂].[372]

(b) an internal document from [✂] relating to an opportunity by [✂][373] for narrowbody and widebody aircraft references [✂].[374]

9.180 Viasat's documents [✂] that refer to potential competitors in upcoming tenders also typically refer to LEOs, including Starlink. However, in general, Starlink is [✂] and is sometimes combined with OneWeb where competitors are referenced. For example:

(a) [✂][375] [✂].

(b) [✂].

(c) [✂].[376]

9.181 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.

9.182 [✂]

[✂].

- [✂].

- [✂].[377]

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[370] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.33 dated 19 October 2022 relating to [✂].
[371] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.33 dated 19 October 2022 relating to [✂], slide 2.
[372] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.33 dated 19 October 2022 relating to [✂], slide 4.
[373] Inmarsat, Response to s.109 Notice. 2 November 2022, Annex 5.25 dated 7 December 2021 relating to [✂].
[374] Inmarsat, Response to s.109 Notice, 2 November 2022, Annex 5.25 dated 7 December 2021 relating [✂], slide 6.
[375] See for example, Viasat, Response to s.109 Notice, 2 November 2022, Annex VA00065480 dated 3 February 2022 relating to [✂], slide 2; Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00057300 dated 11 July 2022 relating to [✂], slide 3; Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00050886 dated 7 September 2022 relating to [✂], slide 8.
[376] Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00051965 dated 26 July 2021 relating to [✂], slide 13.
[377] Viasat, Follow up material from MPH (consolidated version), 10 February 2023, Supplemental Annex MPH.28 dated 26 October 2021 relating to [✂], page 1.

9.183 [✂][378] [✂][379] [✂].[380]

9.184 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 [✂]). Although Viasat's internal documents show that Viasat adjusted its prices during the tender, there is no reference in these documents to [✂].

9.185 We consider that overall the internal documents show that both Parties often identify Starlink as a potential competitor in bids, but do not generally [✂]. However, the 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 [✂].

Strategic plans of the Parties and their main rivals

9.186 This section assesses the evidence on the strategic plans of the Parties and their main rivals in IFC.

Strategic plans of the Parties

9.187 We have obtained evidence from the Parties on their competitive strategy and future plans in IFC absent the Merger. This evidence includes internal documents, responses to our questionnaires, and other submissions made by the Parties as part of our investigation.

9.188 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 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,

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[378] Viasat, Follow up material from MPH (consolidated version), 10 February 2022, Supplemental Annex MPH.29 dated 1 November 2021 relating to [✂], page 2.
[379] Viasat, Follow up material from MPH (consolidated version), 10 February 2022, Supplemental Annex MPH.29 dated 1 November 2021 relating to [✂], page 1.
[380] Viasat, Follow up material from MPH (consolidated version), 10 February 2022, Supplemental Annex MPH.32 dated 24 January 2022 relating to [✂], pages 1 and 2.

[✂] and [✂]. Inmarsat does intend to use some NGSO satellite capacity in 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 to rely on VARs in the supply of IFC in 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 [✂]. Inmarsat is also looking to [✂].

Viasat

Future plans

9.189 [✂][381] [✂].[382]

9.190 [✂]

(a) [✂][383] [✂].

(b) [✂][384] [✂].[385]

GEO satellite capacity plans

9.191 As set out at paragraph 9.67, Viasat is planning to launch an additional three GEO satellites, with one each over the Americas, the EMEA region, and the APAC region, known collectively as its ViaSat-3 constellation.[386]

9.192 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.[387] It is expected that ViaSat-3 will provide approximately eight times the current capacity of Viasat's own satellite fleet in service.

9.193 Viasat expects that the complete ViaSat-3 constellation would start to support its IFC activities [✂].[388] As set out in paragraph 9.67, ViaSat-3A is expected to enter into service in the [✂], with ViaSat-3B and ViaSat-3C expected to enter into service [✂].

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[381] Viasat, Response to s.109 Notice, Appendix VA_S.109.I_002, page 15.
[382] Viasat, Response to s.109 Notice, Appendix VA_S.109.I_002, pages 12 – 14.
[383] Viasat, Response to s.109 Notice, Appendix VA_S.109.I_002, pages 8 and 9.
[384] Viasat, Response to s.109 Notice, Appendix VA_S.109.I_002, pages 23.
[385] Viasat, Response to s.109 Notice, Appendix VA_S.109.I_002, pages 24 and 34.
[386] Parties, Merger Notice, 8 August 2022, paragraph 424.
[387] Parties, Merger Notice, 8 August 2022, paragraph 425. [✂].
[388] Parties, Merger Notice, 8 August 2022, paragraph 428.

9.194 Viasat is also currently in the early design stage of its next-generation ViaSat-4 satellite network, [✂][389] [✂].[390]

NGSO satellite capacity plans

9.195 In addition to launching additional GEO satellite capacity, [✂].[391]

9.196 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.[392] Viasat is also seeking a modification to this licence to deploy 288 LEO satellites.

9.197 Viasat also told us that, [✂][393] [✂].[394]

9.198 [✂].[395]

Inmarsat

Future plans

9.199 An internal document obtained from Inmarsat (dated December 2022) which [✂] shows that Inmarsat expects to [✂].[396] 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. Inmarsat plans to [✂] despite increased competitive intensity from existing suppliers and newer suppliers of connectivity services in mobility applications (eg Starlink and OneWeb) but that [✂].[397]

9.200 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.[398]

(a) Inmarsat describes IFC as a [✂] in capacity, certainty, and coverage.

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[389] Parties, Merger Notice, 8 August 2022, paragraph 429.
[390] Viasat, Response to s.109 Notice, Appendix VA_S.109.I_196, page 1.
[391] Parties, Merger Notice, 8 August 2022, paragraph 320, and Viasat, Main Party Hearing transcript, [✂]. Viasat currently operates LEO satellites for a customer in the US government.
[392] Parties, Merger Notice, 8 August 2022, paragraph 321.
[393] Viasat, Main Party Hearing transcript, [✂].
[394] Viasat, Response to s.109 Notice, Appendix VA_S.109.I_348, page 22.
[395] Viasat, Response to s.109 Notice, Appendix VA_S.109.I_196, page 1.
[396] Inmarsat, Response to additional Information request, 26 Jan 2023, 2023 Budget presentation (Final), page 2.
[397] Inmarsat, Response to additional Information request, 26 Jan 2023, 2023 Budget presentation (Final), page 3.
[398] Inmarsat, Response to additional Information request, 26 Jan 2023, 2023 Budget presentation (ABU), pages 3 and 4.

(b) Inmarsat's goals for the year include [✂], which are mainly [✂], and [✂]. Inmarsat also notes that the [✂].

(c) Inmarsat's roadmap for achieving these goals include [✂].

Satellite capacity plans

9.201 As noted in paragraph 9.77, Inmarsat plans to launch three more GEO satellites [✂] and two HEO satellites to provide coverage over the Arctic Circle [✂].[399] All satellites and their associated ground networks are [✂].

9.202 These satellites are collectively referred to as Inmarsat-7.[400] [✂] An internal document obtained from Inmarsat (dated May 2022) notes that [✂].[401]

9.203 The launch of two HEO satellites will allow Inmarsat to serve a new geographic area over the Arctic Circle [✂].[402] An internal document obtained from Inmarsat (dated May 2022) notes [✂][403]

ORCHESTRA

9.204 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.[404] 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).

9.205 An internal document obtained from Inmarsat (dated May 2022) notes that [✂].[405] Another internal document (dated May 2022) sets out a number of benefits of ORCHESTRA for IFC, including [✂].[406]

9.206 Inmarsat told us [✂].[407]

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[399] Parties, Merger Notice, 8 August 2022, paragraph 431.
[400] Parties, Merger Notice, 8 August 2022, paragraphs 434 and 435.
[401] Inmarsat, Response to P2 S.109 Notice, Annex 2.001, page 17.
[402] Parties, Merger Notice, 8 August 2022, paragraphs 437.
[403] Inmarsat, Response to P2 S.109 Notice, Annex 2.001, page 17.
[404] Parties, Merger Notice, 8 August 2022, paragraph 311.
[405] Inmarsat, Response to P2 S.109 Notice, Annex 2.001, page 23.
[406] Inmarsat, Response to P2 S.109 Notice, Annex 2.013, page 1.
[407] Inmarsat, Main Party Hearing transcript, [✂], and [✂]. An internal document obtained from Inmarsat (dated May 2022) [✂]. See: Inmarsat, Response to P2 S.109 Notice, Annex 2.013, page 1

Participation in Airbus' HBCplus programme

9.207 As set out in paragraph 3.38, Inmarsat was announced in June 2022 as the first IFC supplier available to commercial airlines as part of Airbus' HBCplus programme.[408] As set out in paragraph 3.48, Airbus' HBCplus programme will offer a supplier agnostic user terminal (initially in Ka-band) [✂] on all Airbus aircraft.

9.208 An internal document that sets out [✂] indicates that HBCplus is [✂].[409] However, this document also notes that [✂].[410]

Strategic plans of the Parties' main rivals

9.209 We have obtained evidence from the Parties' main rivals on their competitive strategy and future plans in IFC. This evidence includes internal documents, responses to our questionnaires, and other submissions made by the Parties' main rivals as part of our investigation.

9.210 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. [✂]. Panasonic has secured a distribution agreement with Eutelsat that will provide GEO satellite capacity for the large majority of its IFC activities in 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 considering a number of options in relation to sourcing LEO capacity to offer multi-orbit connectivity in IFC.

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[408] Inmarsat selected as first connectivity provider for new Airbus Airspace Link HBCplus solution (accessed on 14 February 2023).
[409] Inmarsat, Response to additional Information request, 26 Jan 2023, 2023 Budget presentation (ABU), page 47.
[410] Inmarsat, Response to additional Information request, 26 Jan 2023, 2023 Budget presentation (ABU), page 50.

(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 is also working with a number of commercial airlines that have awarded it contracts to start supplying IFC across a variety of aircraft models in the next two years and is actively bidding for IFC contracts with other commercial airlines.

9.211 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.[411] However, these are all at an exploratory stage and, as no agreement had been reached by the time of our Provisional Decision, we do not consider them relevant to our competitive assessment of the Merger.

Intelsat

Current position and future plans

9.212 [✂][412] [✂].

9.213 [✂][413] [✂].[414]

9.214 Intelsat told us that it is enhancing its offering by introducing a new IFC solution.[415] While its GEO only '2Ku' IFC solution will remain available to airlines, Intelsat will use an IFC solution with an ESA developed by Stellar Blu. Intelsat's IFC solution with this ESA 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 single antenna and two modems (one for LEO and one for GEO) to provide multi-orbit connectivity.

[411] See: Competitor, Response to s.109 Notice, Annex IS SA (2022-05-24 and 25); Competitor, Response to P2 SSP and SNO RFI, question 29; Competitor, Response to P2 SSP and SNO RFI 2, questions 7 – 9; Competitor, Response to s.109 notice, Documents 6, 7, 8 and 15; and Competitor, Response to s.109 notice, Annex 4.
[412] Competitor, Response to P2 SSP and SNO RFI, question 29.
[413] Competitor, 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). [✂].
[414] Competitor, Response to s.109 Notice, Annex IS SA (2022-05-24 and 25).
[415] Competitor, Response to phase 2 SSP and SNO RFI, question 9.

9.215 Intelsat recently won its first customer (Alaska Airlines) for its IFC solution with an ESA developed by Stellar Blu that will offer multi-orbit connectivity by utilising both its GEO capacity and OneWeb's LEO capacity.[416] [✂].[417]

Satellite capacity plans

9.216 As set out in paragraph 9.88, [✂][418] [✂].

9.217 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.[419] 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.[420]

Commercial partnership with OneWeb

9.218 Intelsat has entered into a distribution agreement with OneWeb.[421] As noted in Appendix D, OneWeb told us that it expects to start supplying satellite capacity for IFC in early 2024.

9.219 [✂][422] [✂].

9.220 [✂][423] [✂].

9.221 [✂].[424]

9.222 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. [✂][425] [✂][426] [✂].[427]

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[416] Alaska Airlines picks Intelsat for E175 streaming WiFi upgrade | PaxEx.Aero
[417] Competitor, Note of call with competitor, 17 January 2023, paragraph 35.
[418] Competitor Response to P1 competitor questionnaire, question 4.
[419] Competitor Response to P2 SSP and SNO RFI, question 7.
[420] Competitor, Note of call with competitor, 17 January 2023, paragraph 16.
[421] Competitor Response to P2 SSP and SNO RFI, question 29.
[422] Competitor Response to P1 competitor questionnaire, question 9.
[423] Competitor, Response to s.109 Notice, Annex IS SA (2022-05-24 and 25).
[424] Competitor, Response to s.109 Notice, Annex IS SA (2022-05-24 and 25).
[425] Competitor, Response to P2 SSP and SNO RFI2, question 3.
[426] Competitor, Response to P2 SSP and SNO RFI, question 31.
[427] Competitor, Response to P2 SSP and SNO RFI2, question 3.

Panasonic

Current position and future plans

9.223 An internal document obtained from Panasonic (dated December 2021) sets outs its financial forecasts for its IFC activities both with and without its distribution agreement with OneWeb.[428] This analysis shows that Panasonic expects [✂].

9.224 [✂][429] Panasonic told us that, while satellite capacity is expected to increase in the coming years, [✂] this capacity is increasingly controlled by its competitors.[430] However, as noted in paragraphs 9.57 to 9.114, 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).

9.225 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.[431]

9.226 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 [✂].[432]

Distribution agreement with Eutelsat

9.227 As set out in paragraph 9.96, Panasonic expects to source the large majority ([✂]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 [✂].

Distribution agreement with OneWeb

9.228 Panasonic entered into a distribution agreement with OneWeb in October 2022 to use OneWeb's LEO satellite capacity to supply IFC to commercial

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[428] Competitor, Response to s.109 notice, Document 11.
[429] Competitor, Response to P2 SSP and SNO RFI, question 6; and Competitor, Response to P2 SSP and SNO RFI2, question 1.
[430] Competitor, Response to P2 SSP and SNO RFI, question 21.
[431] Competitor, Response to s.109 notice, Documents 2, 6 and 11.
[432] Competitor, Response to s.109 notice, Document 12.

airlines.[433] As set out in Appendix D, OneWeb told us that it expects to start supplying satellite capacity for IFC in early 2024.

9.229 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'.[434]

9.230 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.[435] 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.

9.231 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.[436] 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.

Anuvu

Current position and future plans

9.232 Anuvu told us the importance of IFC continues to grow and it expects its revenues from IFC to grow in the next five years.[437]

9.233 An internal document obtained from Anuvu (dated October 2021) assesses its current position in IFC and sets out its future plans in IFC.[438]

(a) [✂].

[433] Competitor, Response to P2 SSP and SNO RFI, question 7. OneWeb and Panasonic Avionics Corporation to deliver low Earth orbit (LEO) connectivity to airlines worldwide.
[434] Competitor, Response to s.109 notice, Document 20.
[435] Competitor, Response to s.109 notice, Document 11.
[436] Competitor, Response to P2 SSP and SNO RFI, question 31; and Competitor, Response to P2 SSP and SNO RFI 2, question 11.
[437] Competitor, Response to P2 SSP and SNO RFI, question 6.
[438] Competitor, Response to s.109 notice, Annex 4.

(b) Anuvu plans to launch GEO micro-satellites in early 2023;[439] and expects [✂].

(c) Anuvu considers that a source of competitive strength for its IFC solution is [✂].

(d) Anuvu notes that the outsourcing of [✂].

Satellite capacity plans

9.234 As noted in paragraph 9.106, Anuvu is currently planning to launch two GEO micro-satellites in the second half of 2023.[440] 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).

9.235 [✂].[441]

9.236 An internal document obtained from Anuvu (dated October 2021) shows that launching GEO micro-satellites will [✂].[442]

Plans for offering multi-orbit connectivity in IFC

9.237 Anuvu has stated publicly its plans to offer multi-orbit connectivity as part of its IFC solution in the coming years.[443] Anuvu told us it currently expects to have access to [✂].[444]

9.238 [✂][445] [✂].

9.239 [✂][446] [✂].

9.240 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

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[439] 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.
[440] Competitor, Response to P2 SSP and SNO RFI, question 5
[441] Competitor, Note of call with competitor, 8 June 2022, paragraph 17.
[442] Competitor, Response to s.109 notice, Annex 4.
[443] See: Home | Anuvu Constellation.
[444] Competitor, Note of call with competitor, 28 April 2022, paragraph 20.
[445] Competitor, Note of call with competitor, 12 January 2023, paragraphs 26 – 29.
[446] Competitor, Note of call with competitor, 12 January 2023, paragraphs 30 – 38.

capacity sourced from third party SNOs and LEO satellites as part of its IFC solution. [✂][447] [✂].

9.241 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.[448] [✂].

Starlink

Current position

9.242 Starlink has been awarded contracts to start supplying IFC to a number of commercial airlines in the next two years.[449]

(a) Starlink has been awarded a contract by JSX to supply IFC on 100 of its regional jet aircraft.[450] Starlink told us that JSX's routes are in North America and its flights typically last less than three hours.[451] [✂].

(b) Starlink has been awarded a contract by Hawaiian Airlines to supply IFC on around [✂] of its aircraft, both narrowbody and widebody.[452] Hawaiian Airlines flies globally and its flights typically last no more than twelve hours, with all flights starting or ending in Hawaii.[453] [✂].[454]

(c) Starlink has also been awarded contracts by Connect Air (for regional jets), Northern Pacific (for widebody aircraft), and Zip Air (for widebody aircraft) to supply IFC on around [✂] of their aircraft.[455]

9.243 Starlink has recently been awarded a contract by airBaltic, which serves over 70 destinations in Europe, the Middle East, and the Eurasian region.[456] Starlink will supply IFC to airBaltic's entire fleet of Airbus A220-300 aircraft, with Starlink and airBaltic working together to obtain the STC to install Starlink's IFC equipment on this type of aircraft. airBaltic expects Starlink to begin installations later in 2023.

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[447] Competitor, Note of call with competitor, 8 June 2022, paragraph 13.
[448] Competitor, Response to s.109 notice, Annex 4.
[449] Competitor, Response to P2 SSP and SNO RFI, question 8.
[450] Competitor, Response to P2 SSP and SNO RFI2, question 8.
[451] Competitor, Response to P2 SSP and SNO RFI2, paragraphs 13.2, 13.6, and 13.7.
[452] Competitor, Response to P2 SSP and SNO RFI2, question 8.
[453] Competitor, Response to P2 SSP and SNO RFI2, paragraphs 13.2 and 13.7
[454] [✂].
[455] Competitor, Response to P2 SSP and SNO RFI2, question 8.
[456] airBaltic to equip entire fleet with SpaceX's Starlink.

9.244 Starlink confirmed that it has bid for IFC contracts with other commercial airlines in the United States and elsewhere.[457] [✂].

9.245 Starlink has tested its IFC solution on Delta Airlines aircraft.[458] [✂].[459] Starlink expects to be in a position to bid on IFC opportunities with Delta Airlines in future [✂].

Satellite capacity plans

9.246 As set out in paragraph 9.112, Starlink is currently operating around 3,200 LEO satellites, it expects to launch around an additional [✂] satellites in both 2023 and 2024, and plans to continue increasing the number of satellites in its constellation in 2025 and 2026.[460]

9.247 [✂][461] [✂][462] [✂].[463]

9.248 However, Starlink believes it is currently able to provide sufficient capacity for IFC services [✂] in countries where it is licensed to do so, including on intracontinental routes in Europe.[464] 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-enable satellites are brought into service and required [✂]. Based on current timelines, [✂], Starlink hopes that it will be able to offer reliable transoceanic IFC services to aircraft on intercontinental routes to and from Europe [✂].

9.249 [✂][465] This shows that Starlink will eventually be able to offer IFC to commercial aircraft on ocean routes. This could include intercontinental routes to and from Europe, where there is no line of sight to Starlink's ground infrastructure. This is consistent with the most recent internal document obtained from Starlink (dated December 2022), [✂].[466]

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[457] Competitor, Note of call with competitor, 1 December 2022, paragraphs 28 – 30.
[458] See: Delta Air Lines Tested SpaceX's Starlink Internet for Planes, Delta CEO Says - WSJ
[459] Competitor, Response to P2 SSP and SNO RFI2, paragraphs 15.1 – 15.3.
[460] Competitor, Response to P2 SSP and SNO RFI, paragraph 2.2; Competitor, Response to P2 SSP and SNO RFI2, paragraphs 1.1 – 1,3; and Competitor, Response to follow-up questions to P2 call, 1 December 2022, paragraph 9.1.
[461] Competitor, Note of call with competitor, 1 December 2022, paragraph 6.
[462] Competitor, Response to follow-up questions to P2 call, 1 December 2022, paragraph 1.1.
[463] Competitor, Response to follow-up questions to P2 call,1 December 2022, paragraphs 2.1 and 2.2.
[464] Competitor, Response to P2 SSP and SNO RFI2, paragraphs 3.1, 3.2 and 3.4.
[465] Competitor, Response to P2 SSP and SNO RFI2, paragraph 4.2.
[466] Competitor, Response to s.109 notice.

Future plans

9.250 Starlink told us that its strategy in IFC [✂][467] [✂].

9.251 [✂][468] [✂].

9.252 The change in strategy shown in these internal documents was confirmed by Starlink.[469] [✂].

9.253 Starlink obtained its first STC in December 2022 for Embraer ERJ-145 aircraft. Starlink has publicly stated that STCs are in development for a range of aircraft including Embraer ERJ-135 and ERJ-140, a range of smaller jets typically used as private jets, and the Airbus A321, A330, and Boeing 737 and 787.[470]

9.254 Other internal documents obtained from Starlink indicate that Starlink has held discussions with [✂] and [✂].[471] Starlink confirmed that it has held discussions with [✂][472] Starlink believes that there could be short term benefits to working with [✂] as it would allow Starlink to get to market quicker, albeit not before [✂].

Evidence from airlines

9.255 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 A) and calls. This section sets out this evidence.

9.256 As noted in paragraph 9.11, 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 that the market for broadband IFC services is fast moving, and that there have been significant

[467] Competitor, Response to P2 SSP and SNO RFI, paragraph 5.2.
[468] Competitor, Response to s.109 notice, Annexes 9, 11, 12, 15 and 17.
[469] Competitor, Note of call with competitor, 1 December 2022, paragraphs 28 – 33.
[470] See: https://support.starlink.com/
[471] Competitor, Response to s.109 notice, Annexes 11 and 12.
[472] Competitor, Note of call with competitor, 1 December 2022, paragraphs 25 and 26.

market developments since we launched our first questionnaire to airlines in October 2022. We have viewed the evidence from airlines in this context.

9.257 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 account the factors they considered important when choosing an IFC supplier.[473] We also asked respondents to provide reasons for their ratings.

9.258 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

9.259 The Parties were both rated strong or very strong by all but one of the respondents (17 of 18) who rated them. Both were rated moderate by one (different) respondent each.

9.260 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.[474]

(b) Four respondents referred to Viasat's vertical integration or ownership of satellite capacity.[475]

(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.[476]

(d) Three respondents noted Viasat's Ka capacity.[477]

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[473] 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 to 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 and IFC supplier respectively. We received at least one rating for a supplier from 20 respondents representing 25 airlines.
[474] Customers, Responses to the P2 RFI1, question 14.
[475] Customers, Responses to the P2 RFI1, question 14.
[476] Customers, Responses to the P2 RFI1, question 14.
[477] Customers, Responses to the P2 RFI1, question 14.

(e) Three respondents referred to Viasat's good reputation or track record.[478]

(f) One respondent mentioned Viasat's line-fit offerability on a range of aircraft.[479]

(g) One respondent said that Viasat's solution was heavy for narrowbody aircraft.[480]

9.261 For Inmarsat:

(a) Seven respondents mentioned Inmarsat's coverage as a strength, with five specifically referring to its global coverage.[481]

(b) Six respondents referred to Inmarsat's vertical integration or ownership of satellite capacity.[482]

(c) Three respondents mentioned Inmarsat's Ka capacity.[483]

(d) Three respondents referred to Inmarsat's reliability, consistency, or track record.[484]

(e) One respondent mentioned Inmarsat's speed.[485]

(f) One respondent referred to Inmarsat's line-fit offerability as a positive,[486] while another told us the fact it had a range of solutions for long and short-haul aircraft was a positive.[487]

(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.[488]

(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.[489]

9.262 Three respondents identified the Parties as the two major operators that operate in the Ka-band frequency. One respondent told us this would mean

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[478] Customers, Responses to the P2 RFI1, question 14.
[479] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[480] Customer, Response dated 16 November 2022 to the P2 RFI1, question 14.
[481] Customers, Responses to the P2 RFI1, question 17.
[482] Customers, Responses to the P2 RFI1, question 14.
[483] Customers, Responses to the P2 RFI1, question 14.
[484] Customers, Responses to the P2 RFI1, question 14.
[485] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[486] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[487] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[488] Customer, Response dated 16 November 2022 to the P2 RFI1, question 14.
[489] Customers, Responses dated 16 November 2022 to the P2 RFI1, question 14.

the Parties would have a monopoly post-Merger,[490] and another that the Merger would reduce competition and limit the Merged Entity's incentive to innovate.[491] 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.[492]

Airlines' views on the competitive strengths of the Parties' main rivals

Intelsat

9.263 Intelsat was rated strong or very strong by 11 of the 13 respondents that rated it, the other two rating it moderate:

(a) Three respondents described Intelsat's potential future coverage as a reason for its strength.[493]

(b) Three respondents referenced Intelsat's current coverage as a positive.[494]

(c) Three respondents told us its integration of satellite ownership with the provision of IFC services made it a strong supplier.[495]

(d) Two respondents also told us that Intelsat has a good track record/reputation.[496]

(e) One respondent told us that Intelsat's relationship with OneWeb puts it in a good place for the future.[497]

(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.[498]

[490] Customer, Response dated 11 November 2022 to the P2 RFI1, question 15.
[491] Customer, Response dated 8 February 2023 to the P2 RFI1, paragraph 4.
[492] Customer, Note of Call, 21 December 2022, paragraph 51.
[493] Customers, Responses to the P2 RFI1, question 14.
[494] Customers, Responses to the P2 RFI1, question 14.
[495] Customers, Responses to the P2 RFI1, question 14.
[496] Third party responses to the P2 RFI1, question 14.
[497] Customer, Response dated 18 November 2022 to the P2 RFI1, question 15.
[498] Customer, Response dated 18 November 2022 to the P2 RFI1, question 15.

Panasonic

9.264 Panasonic was rated strong or very strong by 12 of the 19 respondents that rated it. 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,[499] with one describing it as the Ku market leader.[500]

(b) Four respondents considered Panasonic's ability to offer IFC *and* IFE a positive.[501]

(c) Two respondents mentioned its partnership with OneWeb as a positive move for its competitive standing.[502]

(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.[503]

9.265 However, some airlines also noted Panasonic had some weaknesses:

(a) Three respondents noted that Panasonic's solution was technologically inferior.[504]

(b) Two other respondents considered Panasonic's need to contract capacity from others to be a weakness.[505]

9.266 Based on their responses, airlines appear to rate Panasonic and Intelsat as the next strongest IFC suppliers behind the Parties. It is difficult to directly compare 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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[499] Customers, Responses to the P2 RFI1, question 15.
[500] Customer, Response dated 11 November 2022 to the P2 RFI1, question 15.
[501] Customers, Responses to the P2 RFI1, question 15.
[502] Customers, Responses dated 19 November 2022 to the P2 RFI1, question 14 and Customers, Responses dated 16 November 2022 to the P2 RFI1, question 15.
[503] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[504] Customer, Response, Phase 2 call note, 2 December 2022, paragraph 39; Customers, Responses to the P2 RFI1, question 14.
[505] Customers, Responses to the P2 RFI1, question 14.

Anuvu

9.267 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.[506]

(b) Another respondent also mentioned Anuvu's new technology as a positive.[507]

(c) On the other hand, two respondents pointed to Anuvu's lack of a track record as an issue,[508] and three further respondents expressed concerns about capability/capacity and coverage.[509]

(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.[510]

(e) One respondent said that Anuvu's lack of certification on widebody aircraft was a weakness.[511]

Starlink

9.268 Starlink was rated strong or very strong by nine of the 14 respondents that rated it. Four respondents rated Starlink as moderate, and one rated it weak:

(a) Two respondents mentioned Starlink's speeds as a strength.[512]

(b) Three respondents told us Starlink's coverage was a positive.[513]

(c) Three respondents said that Starlink's vertical integration or satellite ownership was a strength.[514]

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[506] Customer, Response dated 22 November 2022 to the P2 RFI1, question 14.
[507] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[508] Customers, Responses to the P2 RFI1, question 14.
[509] Customers, Responses to the P2 RFI1, question 14.
[510] Customer, Response dated 8 February 2023 to the P2 RFI1, question 14.
[511] Customer, Response dated 10 November 2022 to the P2 RFI1, question 14.
[512] Customers, Responses to the P2 RFI1, question 14.
[513] Customers, Responses to the P2 RFI1, question 14.
[514] Customers, Responses to the P2 RFI1, question 14.

9.269 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'.[515]

(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'.[516]

(c) One respondent also mentioned that while Starlink is unproven for IFC, its scale and capacity makes it a 'strong' competitor.[517]

9.270 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.[518] The remaining 9 respondents who rated Starlink did not comment on its readiness to supply.

9.271 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

9.272 Thales was rated as strong or very strong by five of the 13 respondents that rated it. Five rated Thales as moderate, and three rated it as weak:

(a) One respondent said Thales has good capacity over its relevant routes,[519] and another respondent said that Thales is developing a new Ka technology and has a strong maintenance network.[520] 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 9.57 to 9.114).

(b) Another respondent noted its Ka-band offering as a positive.[521]

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[515] Customers, Responses to theP2 RFI1, question 14.
[516] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[517] Customer, Response dated 18 November 2022 to the Phase 2 RFI, question 14.
[518] Customers, Responses to the P2 RFI1, question 14.
[519] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[520] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[521] Customer, Response dated 22 November 2022 to the P2 RFI1, question 14.

(c) Two respondents told us Thales' ability to supply IFC and IFE was a positive.[522]

(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'.[523] Another respondent also said Thales is a VAR but does not add value that it finds relevant,[524] and a further respondent, which rated it 'moderate' described Thales as an Inmarsat reseller.[525]

SITAONAIR

9.273 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.[526] 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.[527]

(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.[528]

(c) Another respondent said that SITAONAIR does not have capacity over relevant routes,[529] and another described its solution as 'high cost' and heavy for narrowbody aircraft.[530]

(d) One respondent described SIATONAIR's service as poor and unreliable.[531]

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[522] Customers, Responses to the P2 RFI1, question 14.
[523] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[524] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[525] Customer, Response dated 10 November 2022 to the P2 RFI1, question 14.
[526] Customer, Response dated 22 November 2022 to the P2 RFI1, question 14.
[527] Customer, Response dated 8 February 2023 to the P2 RFI1, question 14.
[528] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[529] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[530] Customer, Response dated 16 November 2022 to the P2 RFI1, question 14.
[531] Customer, Response dated 6 February 2023 to the P2 RFI1, question 14.

OneWeb

9.274 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'.[532] Another respondent [✂] noted its partnership with Panasonic,[533] and one other respondent said it had potential to offer future hybrid solutions.[534] 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.[535] 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

9.275 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'.[536]

(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 respondent, and weak by two; and Taqnia Space was rated weak by both respondents that rated it.

Airlines' views on the entry and expansion of NGSO/LEO based IFC services

9.276 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:

[532] Customer, Response dated 15 February 2023 to the P2 RFI1, question 14.
[533] Customer, Response dated 16 November 2022 to the P2 RFI1, question 14.
[534] Customer, Response dated 18 November 2022 to the P2 RFI1, question 14.
[535] See Appendix D for more on OneWeb's distribution agreements with IFC suppliers.
[536] Customers. Responses to the P2 RFI1, question 14.

(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.

9.277 Given the relevance of the emergence of NGSO/LEO satellite operators to our assessment, we gathered further evidence from six respondents (representing [✂] 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.

9.278 The airlines we spoke with thought that the potential offering of Starlink and/or 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'.[537]

(b) Another respondent told us that Starlink/LEO solutions were, in theory, very interesting and that their benefits were low latency and polar coverage.[538] This respondent also told us that proposed hardware solutions it has seen for LEO antennae are much smaller and likely easier to install.[539] Latency was mentioned by another respondent as a significant advantage of LEO-based IFC solutions,[540] as was polar coverage.[541]

(c) Another respondent told us it [✂].[542]

(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.[543] 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

[537] Customer, Phase 2 call note, 12 December 2022, paragraph 32.
[538] Customer, Phase 2 call note, 15 December 2022, paragraphs 48 and 50.
[539] Customer, Phase 2 call note, 15 December 2022, paragraph 52.
[540] Customer, Phase 2 call note, 6 December 2022, paragraph 34.
[541] Customer, Phase 2 call note, 7 December 2022, paragraphs 42 and 43.
[542] Customer, Phase 2 call note, 21 December 2022, paragraphs 28 to 39.
[543] Customer, Phase 2 call note, 2 December 2022, paragraph 35.

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.[544] 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.[545] It also invited OneWeb to its 2022 RFP process but OneWeb declined as it proposes to use VARs.

9.279 However, for either practical or commercial reasons, all six respondents told us there was a degree of uncertainty about 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.[546] 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.[547] 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 [✂].[548] 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.[549] Another respondent, told us that it considered the lack of ISLs, and therefore coverage over oceans, as a limitation of Starlink's offering.[550]

(b) Four of the six respondents told us that Starlink's commercial model is currently not in line with what airlines typically expect, including its pricing model and unwillingness to provide SLAs.[551] However, one respondent said that it would expect Starlink to resolve this issue as it tries to build its market share,[552] and another said that it would expect Starlink to revisit its contractual approach to adapt to airline needs (although this will take time).[553]

(c) 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

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[544] Customer, Phase 2 call note, 2 December 2022, paragraph 36.
[545] Customer, email received 3 February 2023.
[546] Customers, Phase 2 call notes.
[547] Customers, Phase 2 call notes.
[548] Customer, Phase 2 call note, 21 December 2022, paragraph 32 and 35.
[549] Customer, Phase 2 call note, 12 December 2022, paragraphs 34 and 35.
[550] Customer, Phase 2 call note, 21 December 2022, paragraph 28.
[551] Customers, Phase 2 call notes.
[552] Customer, Phase 2 call note, 15 December 2022, paragraph 49.
[553] Customer, Phase 2 call note, 21 December 2022, paragraph 37.

trials showed Starlink's IFC solution is 'technically capable' of offering services [✂].

(d) 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.[554] 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.[555] One of these airlines is currently seeking internal approval to conduct its own trial on Starlink's solution on [✂].[556]

(e) One of the six respondents [✂].[557] Another of the six respondents said it expects that there will be a [✂] in the market between 2025 and 2027 driven by LEO and multi-orbit solutions.[558] One respondent said that it thinks LEOs/Starlink could be ready to supply IFC services from as early as two to five years from the time we spoke with it (December 2022),[559] 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.[560]

9.280 Another of the six respondents told us that the participation of LEO constellations in its most recent tender had created significant competitive pressure [✂][561] [✂].[562]

9.281 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 of the commercial aviation market. Overall, this respondent told us

[554] Customers, Phase 2 call notes.
[555] Customer, Phase 2 call note, 7 December 2022, paragraphs 33(a) to 33(c).
[556] Customer, Phase 2 call note, 21 December 2022, paragraph 29.
[557] Customer, Phase 2 call note, 6 December 2022, paragraph 27.
[558] Customer, Phase 2 call note, 15 December 2022, paragraph 54.
[559] Customer, Phase 2 call note, 12 December 2022, paragraph 39.
[560] Customer, Phase 2 call note, 21 December 2022, paragraph 39.
[561] Customer, Phase 2 call note, 12 December 2022, paragraphs 52 to 56.
[562] Customer, Phase 2 call note, 12 December 2022, paragraph 55.

OneWeb's partnership with Panasonic would give it more confidence that OneWeb would be able to get its equipment onto an aircraft.[563]

(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.[564]

(c) Another respondent told us that while at the time of our call it did not consider OneWeb's equipment ready, it has since had conversations with OneWeb [about supplying its aircraft]. This respondent told us it has also recently had conversations with OneWeb about the partnerships it is forming, in particular [✂] 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 them 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 where that could help overcome the congestion issues at high density airport areas.[565]

9.282 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.[566]

Evidence from competitors

9.283 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

[563] Customer, Phase 2 call note, 12 December 2022, paragraphs 47 and 48.
[564] Customer, Phase 2 call note, 15 December 2022, paragraphs 43 to 45.
[565] Customer, Phase 2 call note, 21 December 2022, paragraphs 40 to 45.
[566] Customer, email received 31 January 2023.

main rivals as part of our questionnaire.[567] We also asked SSPs and VARs to provide reasons for their ratings of each supplier. We note that the market for broadband IFC services is fast moving, and that there have been significant market developments since we launched our first questionnaire to SNOs and SSPs in October 2022. We have viewed the evidence from the Parties' competitors in this context.

9.284 This section sets out our provisional assessment of this evidence and what it shows about closeness of competition between the Parties as well as between the Parties and rival suppliers.

9.285 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

9.286 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

9.287 All respondents to our questionnaire rated Viasat as either strong or very strong.[568] The five respondents [✂] who identified one supplier as the strongest supplier of IFC identified that supplier as Viasat.[569]

9.288 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 respondents told us that Viasat's strength will increase in the future with the launch of ViaSat-3, providing global coverage.[570]

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[567] 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.
[568] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19
[569] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19
[570] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

(b) Three out of six respondents indicated that Viasat's ability to self-supply satellite capacity is a key factor that makes it strong.[571]

(c) Three respondents emphasised Viasat's major presence in North America as a source of competitive strength.[572]

(d) Two respondents pointed to Viasat being a strong Ka provider.[573]

Inmarsat

9.289 Five [✂] out of the six respondents to our questionnaire that rated Inmarsat, rated Inmarsat as strong.[574] The sixth respondent [✂] rated Inmarsat as moderate to strong.[575]

9.290 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.[576] With one respondent describing Inmarsat as the *'only global Ka-Band IFC'* supplier.[577]

(b) Three respondents point to Inmarsat's strong legacy in IFC and large installed base as a factor that makes it strong.[578]

(c) Two respondents told us that Inmarsat will remain strong or become even stronger in the future due to its satellite launch plans.[579] One respondent told us that Inmarsat has strong relationships with OEMs, and this helps add to its strength.[580]

(d) Another respondent pointed to Inmarsat being the only contracted supplier of IFC to Airbus for Airbus' HBCplus programme.[581]

(e) One respondent rated Inmarsat as 'moderate to strong', due to its reliance on resellers in IFC (eg Thales and SITA).[582]

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[571] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19
[572] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[573] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[574] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19
[575] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[576] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[577] Competitor, Response to Phase 2 SNO and SSP RFI, question 19
[578] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[579] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[580] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[581] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[582] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.

Competitors' views on the Parties' main rivals

9.291 The Parties' main rivals were all generally seen as weaker than the Parties, for several reasons. However, Intelsat, Panasonic, and Starlink were expected 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 gains experience working with commercial airlines. Both Intelsat and Panasonic have multi-orbit strategies with OneWeb which were seen by SSPs and VARs to likely enhance their strength in the future.

Intelsat

9.292 Intelsat's strength as an IFC supplier was rated as moderate by three respondents [✂] strong by one respondent [✂] and weak by one respondent [✂].[583] However one of the moderate ratings was a strong/moderate.[584] 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.

9.293 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.[585] One respondent considered Intelsat to have the *'largest Ku-Band IFC installed base'.*[586]

(b) One respondent also told us that Intelsat's vertical integration and multi-orbit strategy with OneWeb are key factors behind its rating.[587]

Panasonic

9.294 Two SSPs/VARs [✂] rated Panasonic as a strong IFC supplier and three [✂] rated it as moderate.[588] Panasonic is viewed as generally stronger than Anuvu and Starlink currently, although not as strong as the Parties.

9.295 Panasonic's strong legacy in IFC was commonly raised as a key reason behind respondents' rating of Panasonic as strong. However, its lack of

[583] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[584] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[585] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[586] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[587] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[588] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

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,[589] as a key strength.[590]

(b) Two respondents told us that Panasonic has an inferior IFC offering and as such is rated as a moderate.[591]

(c) Two respondents told us the fact its capacity is leased from third parties (who are sometimes IFC competitors) reduces its strength.[592]

(d) One respondent told us Panasonic's global network makes it strong.[593]

(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.[594]

(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.[595]

Anuvu

9.296 Three competitors [✂] rated Anuvu as a moderate supplier of IFC and three [✂] rated it as a weak supplier.[596]

9.297 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.[597]

(b) Two respondents pointed to Anuvu's strong business with Southwest airlines (by fleet size the world's largest LCC[598]), as a key strength of

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[589] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[590] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[591] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[592] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[593] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[594] Competitor, Response to Phase 2 SNO and SSP RFI, questions 19 and 21.
[595] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[596] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19
[597] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[598] A Look At The World's 5 Largest Low-Cost Carriers By Fleet Size (simpleflying.com)https://simpleflying.com/southwest-lcc-model/

Anuvu.[599] However, one respondent said that whilst Anuvu has strong business with Southwest, overall Anuvu has a small number of customers.[600]

(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.[601]

(d) One respondent told us that Anuvu's financial position is weak and that it needs to secure funding, potentially impacting its competitive strength.[602]

Starlink

9.298 Three respondents [✂] rated Starlink as a moderate supplier of IFC and one [✂] rated it as weak.[603]

9.299 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.[604]

(b) Two respondents pointed to Starlink's current lack of coverage or capacity as a reason why Starlink is not currently as strong.[605]

(c) Two respondents raised the fact that Starlink does not offer SLAs or value-added services as reason why it is a weaker competitor.[606] Similarly, another 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.[607]

(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 told us that this uncertainty creates risks for airlines in selecting Starlink as their IFC supplier.[608]

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[599] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[600] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[601] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[602] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[603] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[604] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[605] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[606] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[607] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[608] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.

9.300 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.[609]

(b) One respondent claimed 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.[610]

(c) Another respondent claimed Starlink is a disruptor that is attracting interest from commercial airlines.[611]

(d) Another respondent said Starlink is getting stronger and claimed it is likely to continue to become stronger over the next few years.[612]

(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.[613]

Other SSPs and VARs

9.301 Other SSPs and VARs were generally viewed as weak by competitors.

(a) Two competitors [✂] rated Thales as a moderate supplier of IFC, and three [✂] rated it as a weak supplier.[614] Two respondents said Thales has a regional and small customer base.[615] One respondent said it lacks coverage.[616] Another respondent also raised Thales' dependence on third parties for capacity and its historic focus on IFE rather than IFC.[617]

(b) SITA was seen as weak by all three respondents [✂] who provided a rating.[618] Two respondents noted that SITA is only active in IFC as a VAR as reasons for their rating.[619]

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[609] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[610] Competitor, Response to Phase 2 SNO and SSP RFI, question 17.
[611] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[612] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[613] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[614] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19
[615] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[616] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[617] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.
[618] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19
[619] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.

(c) Taqina Space was seen as weak by all four respondents [✂] who provided a rating.[620] Respondents noted that it is only a regional provider of IFC.[621]

(d) Aircom Pacific were seen as weak by the two respondents [✂] who provided a rating.[622] One respondent noted that it has a limited regional presence and no established performance in IFC.[623]

Competitive assessment for commercial aviation

Introduction

9.302 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 evidence set out in previous sections. For this assessment, we focus on competitive dynamics affecting routes to and from the UK.

9.303 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.

9.304 As explained in Chapters and , 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.

9.305 As explained in Chapter 7, our assessment of mergers is forward-looking and we have therefore accounted for the future evolution of competitive conditions

[620] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19
[621] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19.
[622] Competitors, Responses to Phase 2 SNO and SSP RFI, question 19
[623] Competitor, Response to Phase 2 SNO and SSP RFI, question 19.

when assessing the Merger.[624] 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.

9.306 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 based on each tender) and longer-term variables (such as innovation/product development, which are set as part of long-term investment decisions).

Closeness of competition between the Parties

The Parties' views

9.307 Viasat told us that both Parties are strong competitors,[625] but 'do not compete in the same way' and that their 'approaches to the market have been very, very different'.[626]

9.308 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'.[627] Viasat told us that 'today until at least 2024 and maybe 2025, Viasat is purely a regional player'[628] that has [✂].[629] Conversely, due to Inmarsat's history in maritime safety, Inmarsat has 'prioritised building global coverage with comparatively limited depth relative to Viasat'.[630] Viasat told us that 'Inmarsat is strong in global coverage and weak in regional bandwidth depth and density, including in Europe.'[631]

9.309 The Parties submitted that geographic coverage and capacity are 'key strategic parameters'[632] that drive how they compete, with capacity affecting both the service levels and prices a supplier can offer, and coverage affecting

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[624] MAGs, paragraph 4.16(b).
[625] Viasat, Transcript of Main Party Hearing, 30 January 2023, page 8, lines 8-9.
[626] Viasat, Transcript of Main Party Hearing, 30 January 2023, page 8, lines 6-11.
[627] Parties, Parties submission, Part 1 – Commercial Aviation, paragraph 16.
[628] Viasat, Transcript of Main Party Hearing, 30 January 2023, page 8, line 14.
[629] Viasat, Transcript of Main Party Hearing, 30 January 2023, page 25, lines 7-13.
[630] Parties, Parties submission, Part 1 – Commercial Aviation, paragraph 16.
[631] Viasat, Transcript of Main Party Hearing, 30 January 2023, page 9, lines 5-6.
[632] Parties, Parties submission, Part 1 – Commercial Aviation, heading 4.

whether passengers can get online for all or most of an airline's flights.[633] At the main party hearing, Viasat also said that Inmarsat's satellites [✂].[634]

Our assessment

9.310 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.

9.311 For the reasons set out in paragraph 9.115, we consider that shares of supply provide limited insight into current and future competitive strength, as they reflect contracts that were awarded many years ago. However, they do enable us 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. We have therefore looked at how shares of supply have evolved over time as part of our assessment (see paragraphs 9.115 to 9.129).

Shares of supply

9.312 As set out in paragraph 9.124, 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, and Inmarsat's share doubled from [0-5%] in 2018 to [5-10%] in 2022.

9.313 Both Parties have held 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 9.126).

9.314 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 9.128).

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[633] Parties, Parties submission, Part 1 – Commercial Aviation, paragraphs 71 and 73.
[634] 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.

Evidence from tender data

9.315 As set out in paragraph 9.130, 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 9.130 to 9.152). 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.

9.316 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.

9.317 As well as analysing recent completed tenders with a UK nexus, we also asked airlines for details of ongoing tenders (see paragraph 9.139). 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

9.318 As set out in paragraphs 9.159 to 9.165, 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.

9.319 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 [✂]. For example, in internal documents from 2022 relating to tenders by [✂], Inmarsat states that [✂] Viasat.

9.320 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 [✂]. For example, in internal documents from 2022 relating to tenders by [✂], Viasat [✂].

Evidence from airlines

9.321 As explained in paragraphs 9.255 to 9.282, we asked airlines to rate the strength of IFC suppliers having regard to the factors they consider important 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.

9.322 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.[635]

9.323 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.

9.324 Inmarsat was considered to be strong by airlines for many of the same reasons. Respondents referred to Inmarsat's global coverage, vertical integration or ownership of satellite capacity, Ka capacity, and reliability, consistency or track record to explain their rating.

[635] 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 8.258.

Evidence from SSPs/VARs

9.325 As explained in paragraphs 9.283 to 9.301, 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.

9.326 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 with 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.

9.327 Most SSPs/VARs described Inmarsat as 'strong' and a number thought it would remain strong or become stronger in the future. The reasons given by SSPs/VARs were similar to 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

9.328 As explained in paragraphs 9.17 to 9.23, 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 9.17 to 9.23 the relative importance of these factors to airlines.

9.329 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 9.57 to 9.67 and Appendix B for more details on the Parties' offerings including the certifications they hold).

9.330 While, for the reasons set out in paragraphs 9.1 to 9.56, we do not consider that all of these are pre-requisites 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.

9.331 As noted at paragraphs 9.307 and 9.308, the Parties submitted that Viasat is currently a regional player and that Inmarsat's capacity is limited and that these are important strategic differences between them.

9.332 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 9,67).[636] The evidence shows that the planned launch of ViaSat-3 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 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 [✂] and [✂] 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 9.260).

(c) A number of Inmarsat's recent internal documents relating to tenders show that Inmarsat expects Viasat to bid, and [✂], for opportunities for aircraft that will fly long-haul routes outside North America (see paragraph 9.160). For example, internal documents from 2022 relating to tenders for widebody aircraft by [✂] all [✂].[637]

[636] 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). [✂].
[637] See paragraph .

(d) [✂].[638] 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.

9.333 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.[639] While we consider that Viasat's capacity is a source of competitive strength for Viasat given the importance that airlines attach to capacity (see paragraphs 9.18), there is evidence that Inmarsat competes closely with Viasat and would continue to do so notwithstanding its lesser capacity and [✂]:

(a) Inmarsat is bidding for and winning tenders. As noted above, it won four of the ten 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 9.51), 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.[640]

(c) Inmarsat's long range business plan for 2022 to 2026 forecasts significant revenue growth in IFC from $[✂] in 2022 to $[✂] in 2026.[641]

(d) Inmarsat told us that it will assess whether [✂],[642] although Inmarsat told us that it was [✂].[643] A number of Inmarsat's internal documents suggest that [✂].[644]

(e) As noted in paragraphs 3.15 to 3.17, satellite capacity across the sector as a whole is growing rapidly.[645] With the exception of Starlink, most of

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[638] Parties, Parties' response to P2 Working Papers and Annotated Issues Statement, 27 January 2023, paragraph 112.
[639] 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.
[640] See for example, Inmarsat, Response to s.109 Notice dated 2 November 2022, Annex 5.51 dated 28 June 2022 relating to an [✂] narrowbody and widebody tender, slide 6. The document notes [✂]
[641] Inmarsat, Merger Notice, Annex 009.1, [✂] slide 41.
[642] Inmarsat, Transcript of Main Party Hearing, 30 January 2023, page 20 line 25 and page 21, lines 3-7.
[643] Inmarsat, Transcript of Main Party Hearing, 30 January 2023, page 21, lines 10-16.
[644] Inmarsat, Response to s.109 Notice dated 2 November 2022, Annex 1.198 [✂], slides 2 and 3 where Inmarsat states that [✂]. Further, in Inmarsat's, [✂], date unknown, slide 52, Inmarsat states that its [✂].
[645] See also Parties, Parties submission, Part 1 – Commercial Aviation, paragraphs 4, 10 and 11

that capacity, both GEO (SES, Eutelsat) and LEO (OneWeb), will be owned by SNOs that are not active downstream as SSPs.[646] 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.[647] 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.[648]

Provisional conclusion on closeness of competition

9.334 The evidence shows that both Parties have been growing faster than other established IFC suppliers, 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.

9.335 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.

9.336 We therefore provisionally conclude that the Parties compete closely and would likely remain close competitors in the next few years absent the Merger.

Competitive constraints from established players

9.337 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

9.338 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'.[649]

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[646] We note that SES has signed a letter of agreement with Airbus to become the second managed service provider on the HBCplus programme: https://aircraft.airbus.com/en/newsroom/news/2022-10-airbus-on-track-to-expand-the-airspace-link-hbcplus-catalogue-with-ses.
[647] Inmarsat, Transcript of Main Party Hearing, 30 January 2023, page 31, lines 16-19.
[648] 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 [✂].
[649] Parties, Response to AIS and WP, paragraph 9.

Our assessment

9.339 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.

9.340 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 within the relevant time-horizon of our competitive assessment (see above paragraph 7.11). In this assessment, we have assessed potential expansion which would have occurred irrespective of the Merger.[650] 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

9.341 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'.[651]

Shares of supply data

9.342 As set out in paragraph 9.124, 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.[652]

9.343 Although its overall share of supply has declined, Intelsat has increased its share of supply to widebody aircraft from [10-15%] to [20-30%] between 2017 and 2022 (see paragraph 9.128).

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[650] In view of our provisional finding 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.
[651] Parties, Parties submission, Part 1 – Commercial Aviation, paragraph 138.
[652] [✂].

9.344 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 9.126).

Evidence from tender data

9.345 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 9.130 to 9.138). 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.

9.346 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 on 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'.[653] Viasat highlighted Intelsat wins with Air France and Alaska Airlines, during the period it was in Chapter 11, or just emerging from it.[654] Viasat said it was seeing more of Intelsat since it emerged from Chapter 11.[655]

9.347 In terms of recent performance, we note that that Intelsat recently won contracts with Air Canada (June 2022)[656] and [✂] to install IFC.[657] 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.[658] However, we nevertheless consider that these demonstrate that Intelsat is capable of winning IFC contracts.

9.348 As noted at paragraph 9.215, 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. [✂].

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[653] Viasat, Transcript of Main Party Hearing, 30 January 2023, page 58, lines 3-7.
[654] 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.
[655] Viasat, Transcript of Main Party Hearing, 30 January 2023, page 57, lines 19-22.
[656] 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
[657] Customer, Response to the P2 RFI1, question 6.
[658] We contacted as part of our evidence gathering but received no response.

9.349 Intelsat is also competing against both Parties to a greater extent in the ongoing tenders covered by our tender sample (see paragraph 9.139). Intelsat bid on all 10 of the ongoing tenders that Inmarsat and Viasat have bid on.

Evidence from internal documents relating to tenders

9.350 As set out in paragraphs 9.166 to 9.168, 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 [✂]. 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 [✂]. The strengths identified, again vary by tender, but often include [✂].

9.351 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 [✂] (see paragraph 9.169).

Evidence from airlines

9.352 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.

9.353 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 record/reputation. One respondent said that Intelsat's relationship with OneWeb puts it in a good place for the future.

Evidence from SSPs/VARs

9.354 SSPs/VARs saw Intelsat as weaker than the airlines did, with most describing it as a moderate supplier (a few 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

9.355 As set out in paragraph 9.87, [✂].

9.356 [✂].

9.357 As set out in paragraphs 9.212 to 9.222, since the middle of 2022, Intelsat has taken significant concrete steps to enhance its IFC offering. 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.

9.358 The OneWeb constellation remains under development, but OneWeb expects its constellation to support IFC globally from Q1 2024. Following successful satellite launches on 23 October 2022,[659] 8 December 2022,[660] and most recently 10 January 2023,[661] 80% of OneWeb's fleet is now in orbit.[662] OneWeb has two launches remaining to complete its first generation constellation at which point it will offer global coverage. OneWeb told us that it has the ground infrastructure and the satellite coverage to support IFC on transatlantic flights and intra-continental European flights today, up to fifty degrees north, with the gating item for supporting these flights being the user terminal.[663]

9.359 In addition to partnering with OneWeb to supply LEO satellite capacity, Intelsat is taking steps to improve its access to GEO satellite capacity.[664] [✂] Based on data from Euroconsult, Intelsat's satellite capacity (in Gbps) will .more than triple by the end of 2025.[665]

9.360 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.[666] Stellar Blu has also developed an ESA that is able to utilise GEO and LEO satellite capacity that Intelsat plans to use. [✂].

9.361 The ESA will need to be certified before it is installed on commercial aircraft. [✂] (see paragraph 9.222). Alaska Airlines has said publicly that it expects the service to go live on some of its fleet in early 2024.[667] We note that both

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[659] 36 OneWeb satellites successfully launched by ISRO/ NSIL from Sriharikota
[660] OneWeb confirms successful deployment of 40 satellites launched with SpaceX
[661] OneWeb confirms successful deployment of 40 satellites launched with SpaceX
[662] OneWeb confirms successful deployment of 40 satellites launched with SpaceX
[663] Third party call on 23 January 2023, paragraph 2.
[664] https://www.intelsat.com/resources/blog/the-making-of-an-intelsat-satellite/
[665] Parties, Parties submission, Part 1 – Commercial Aviation, table 1. Based on data from Euroconsult.
[666] STELLAR BLU Solutions (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.
[667] Alaska Airlines plans streaming-fast satellite Wi-Fi upgrades to our E175 regional jets - Alaska Airlines News

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.

9.362 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 9.281, 9.293 and 9.295.

9.363 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.[668]

9.364 In January 2023, Intelsat won its first customer for its hybrid GEO/LEO IFC solution. [✂].[669]

9.365 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 [✂] and [✂] both refer to potential competition from Intelsat in partnership with OneWeb. Although these identify [✂], in the more recent document, Inmarsat notes [✂] 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.

9.366 As explained in paragraphs 7.8 to 7.11, 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.

9.367 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

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[668] For example, see [✂] which Inmarsat told us is an [✂]; Viasat, [✂]; Competitor, Response to s.109 Notice, [✂]; and Competitor, Response to s.109 notice, Document 20. See also Appendix D.
[669] For example, one airline 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, response to RFI dated 24 January 2023.

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.

9.368 Finally, although we recognise there is some uncertainty (given that [✂] 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.

9.369 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 provisional conclusion on Intelsat

9.370 Although Intelsat's position in IFC globally has declined in recent years, it has bid and is bidding on a wide range of opportunities, is regarded as a strong supplier by most airlines and has had recent success winning new contracts. 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 and the launch of its hybrid GEO/LEO solution and additional GEO satellite capacity will improve its competitive offer.

9.371 We therefore provisionally conclude that Intelsat would likely be a significant constraint on the Merged Entity in the next few years.

Panasonic

9.372 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'.[670]

Shares of supply data

9.373 As set out in paragraph 9.124, 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.

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[670] Parties, Parties submission, Part 1 – Commercial Aviation, paragraph 148.

9.374 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 9.128).

9.375 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 9.126).

Evidence from tender data

9.376 Our analysis of recent concluded tenders with a UK nexus shows that Panasonic regularly competes with both Parties in tenders (see paragraphs 9.130 to 9.138). 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).

9.377 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, 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.

9.378 In addition, in 2022 Lufthansa renewed a contract for IFC for [✂] widebody aircraft (covering multiple Boeing and Airbus models) with Panasonic.[671]

9.379 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 9.139). Panasonic has bid on all ten of the ongoing tenders that Viasat and Inmarsat have bid on.

Internal documents relating to tenders

9.380 As set out at paragraphs 9.171 and 9.172, 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 [✂]. For example, Panasonic is identified by Inmarsat as [✂] in internal documents relating to tenders by [✂] in the last few years. A number of these internal documents provide a brief overview of

[671] Customer response dated 15 November 2022 to the P2 RFI1, question 6.

Panasonic's strengths and weaknesses. Weaknesses vary slightly by tender, but typically include [✂]. Strengths also vary by tender, but often include [✂].

9.381 Where Viasat's documents for upcoming tenders refer to competitors Panasonic is mentioned as a potential rival in most of these.[672] Where Viasat includes an assessment of Panasonic's capabilities it refers to Panasonic's [✂] as strengths (see paragraph 9.173).

Evidence from airlines

9.382 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

9.383 SSPs/VARs described Panasonic as a strong or moderate 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 OneWeb was also raised by one respondent as a potential source of future strength.

Panasonic's future plans

9.384 As set out in paragraph 9.226, Panasonic's internal documents [✂].

9.385 Panasonic has taken a number of significant steps recently to improve its competitive position, in particular its access to satellite capacity.

9.386 As noted at paragraph 9.96, Panasonic has agreed with Eutelsat to source GEO satellite capacity from Eutelsat's 10B satellite from the second half of

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[672] See for example Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00051965 dated 26 July 2021 relating to [✂], slide 13; Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00065480 dated 3 February 2022 relating to [✂], slide 2; Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00055277 dated 18 August 2022 relating to [✂], slide 6; Viasat, Response to s.109 Notice dated 2 November 2022, Annex VA00062991 dated March 2022 relating to [✂], slide 2.

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 Q1/2023.[673] Under the [✂], this will provide Panasonic with a secure source of capacity until [✂].

9.387 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.[674] [✂] 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), 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 player (and therefore well placed to navigate the certification processes, for example).

Our provisional conclusion on Panasonic

9.388 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, 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.

9.389 We therefore provisionally conclude that Panasonic would likely be a significant constraint on the Merged Entity in the next few years.

Anuvu

9.390 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.[675]

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[673] Future Eutelsat Satellite Launches | Eutelsat
[674] OneWeb and Panasonic Avionics Corporation to deliver low Earth orbit (LEO) connectivity to airlines worldwide
[675] Parties, Parties submission, Part 1 – Commercial Aviation, paragraph 157.

Shares of supply data

9.391 As set out in paragraph 9.124, Anuvu's share of supply by active aircraft globally has fallen from [10-20%] in 2017 to [10-20%] in 2022.

9.392 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 9.126).

9.393 Anuvu does not have a material presence in the supply of IFC to widebody aircraft (its solution is installed on only [✂] widebody aircraft worldwide).

Tender data

9.394 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 9.130 to 9.138). Anuvu was invited to bid and bid on three tenders in our sample. These were all narrowbody opportunities. It did not win (and was not the runner-up) in any.

9.395 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 9.139).

9.396 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.[676] This contract is also not reflected in Anuvu's share of supply of IFC to European aircraft.[677]

Internal documents relating to tenders

9.397 As set out in paragraphs 9.175 and 9.177, 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 [✂] less frequently compared to other established rivals.

9.398 Both Parties do refer to Anuvu as a potential competitor in a number of internal documents relating to narrowbody opportunities (such as tenders by [✂]). We have not identified any internal documents that refer to Anuvu as a

[676] Based on data from the CAA on flights to and from the UK between January and October 2022.
[677] European shares include all aircraft operated by airlines headquartered in the EEA or the UK, see paragraph 8.116.

potential competitor for widebody opportunities among the documents we have reviewed.

Evidence from airlines

9.399 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.

Evidence from SSPs

9.400 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 provisional conclusion on Anuvu

9.401 Having regard to the evidence above, we therefore provisionally conclude 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

9.402 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 [✂] for tenders where one of its resellers is bidding [✂].[678] Inmarsat's internal documents are consistent with its submission that it does not compete with resellers.[679] We therefore consider that these suppliers do not have a market position independent from the relevant SNOs whose products they resell.[680]

9.403 SITAONAIR (one of the largest resellers) has in any event decided to exit the market.[681]

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[678] Inmarsat, Transcript of Main Party Hearing, 30 January 2023, page 23, lines 11-19.
[679] 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 [✂].
[680] 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.
[681] [✂], email received, 24 January 2023. SITA informed us that [✂].

Competitive constraints from emerging players

9.404 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.

9.405 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.

9.406 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).[682] 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.[683] To date Amazon has not launched any satellites or bid for or won any contracts with airlines.[684] [✂].

(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 aviation 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.

9.407 Given the status of Amazon's and Telesat's plans, we do not consider that there is sufficient evidence that their entry/expansion will be 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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[682] Project Kuiper.
[683] International Bureau Grants Kuiper Satellite Modification | Federal Communications Commission.
[684] Amazon's Project Kuiper test satellites to fly on first Vulcan Centaur rocket (aboutamazon.com).

9.408 [✂]. We therefore do not consider that there is evidence that the threat of their entry/expansion is constraining the Parties when competing for contracts.

9.409 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 [✂],[685] 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 provisional 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.

9.410 We therefore consider that Starlink is the only emerging supplier which might be able 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

9.411 The Parties submitted that Starlink is making rapid headway in expanding into Europe and 'looms as an ever larger threat'.[686] They submitted that, 'looking forward, Starlink is already on the way to being the #1 strongest competitor to Viasat'.[687] 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'.[688] 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.[689]

9.412 Viasat said that a good example of how seriously it was taking the threat from Starlink is that [✂] to understand the threat from Starlink.[690]

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[685] For example: Inmarsat, Response to s.109 Notice dated 2 November 2022, Annex 2.005 [✂] dated June 2022, slide 2 states that [✂]; and Inmarsat, Response to s.109 Notice dated 2 November 2022, Annex 1.086 [✂], slide 6 states that [✂].
[686] Parties, Response to AIS and WP, paragraphs 9 and 10.
[687] Parties, Response to AIS and WP, paragraph 1.7.
[688] Parties, Response to AIS and WP, paragraph 35.
[689] Viasat, Transcript of Main Party Hearing, 30 January 2023, page 10, lines 1-5.
[690] Viasat, Transcript of Main Party Hearing, 30 January 2023, page 61, lines 8-13.

Our assessment of Starlink

Starlink's commercial development to date

9.413 As noted at paragraphs 9.242 and 9.243, Starlink has won a number of contracts since April 2022 (the date of its first contract win). These include contracts with Hawaiian Airlines, JSX Connect Air, Northern Pacific, 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 already 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.[691]

9.414 The Parties' internal documents show that [✂] and [✂][692] and that [✂],[693] but [✂]. airBaltic told us that it chose Starlink [✂] 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'.[694, 695]

Starlink's participation in tenders and other competitive interactions

9.415 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.

9.416 Starlink is bidding for IFC contracts, including against the Parties. Starlink told us that it continues to pursue IFC opportunities including for aircraft that will fly routes to and from Europe. 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 has also submitted a bid in two of the ten tenders with a UK nexus included in our analysis of ongoing tenders. It is bidding against both Parties in these tenders.

9.417 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 [✂]. Inmarsat's internal documents also

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[691] Customer, email received, 31 January 2023.
[692] Parties, Follow up material from main party hearing consolidated response, 10 February 2023, page 18.
[693] Viasat, Annex MPH.21, [✂]. [✂]. Customer, email received, 31 January 2023.
[694] Customer, email received, 31 January 2023.
[695] We contacted Hawaiian Airlines during our investigation, but it declined to respond.

note that Starlink is [✂], although they also reference [✂] as Starlink's strengths. In the most recent document we have seen (from January 2023), relating to a tender [✂][696] [✂].[697]

9.418 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 [✂] note that: [✂].[698] In response to feedback from the airline that its offer was too expensive, Viasat revised its proposal.[699]

(b) Call notes from a meeting between [✂] and Viasat note that [✂].[700] The documents show that Viasat subsequently sent [✂] a revised discounted proposal.[701]

(c) In an internal document relating to an opportunity by [✂], Inmarsat references [✂].[702] 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.

9.419 These examples are considered in more detail in paragraphs 9.178 to 9.185. 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 already using competition from LEOs (including Starlink) as leverage to 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. [✂].

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[696] Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04 dated 5 January 2023 relating to [✂], Slide 2.
[697] Inmarsat, Follow up material from MPH, 3 February 2022, Supplemental Annex 7.04 dated 5 January 2023 relating to [✂], Slide 2.
[698] Viasat, Annex MPH.02, Viasat call notes of meeting with [✂] held on 3 May 2022.
[699] Viasat, Annex MPH.02, Email from [✂] of Viasat dated 11 May 2022 regarding [✂]; Annex MPH.03, Email from [✂] of Viasat dated 2 June 2022 regarding [✂]. Annex MPH.04, Viasat call notes of meeting with [✂] held on 3 June 2022.
[700] Viasat, Follow up material from MPH (consolidated version), 10 February 2022, Supplemental Annex MPH.28 dated 26 October 2021 relating to [✂], page 1.
[701] Viasat, Follow up material from MPH (consolidated version), 10 February 2022, Supplemental Annex MPH.29 dated 1 November 2021 relating to [✂], page 1.
[702] Inmarsat, Response to s.109 Notice dated 2 November 2022, Annex 5.25 dated 7 December 2021 relating to [✂], slide 6.

Evidence from airlines

9.420 As explained in paragraphs 9.225 to 9.258, 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 and from the UK and/or have recently run tenders where a LEO operator has participated.

9.421 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.

9.422 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', another said it is 'growing and may soon become established',[703] another said it is 'quickly becoming a competitive LEO solution',[704] and two others said it is a 'potential future option/supplier'.[705]

9.423 Many airlines that responded to our questionnaire were interested in exploring Starlink as a potential IFC supplier. One airline has trialled its technology [✂] and another is seeking funding to do so [✂]. Six airlines have invited Starlink to bid for contracts [✂]. Another airline has held exploratory discussions with Starlink (and other LEO providers) [✂].

9.424 Only one airline that responded to our questionnaire has selected Starlink as its IFC supplier [✂]. As noted above, some have ongoing tenders in which Starlink is participating. Others 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 9.276 to 9.282:

(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 have been overcome (see paragraph 9.433), suggesting that

[703] Customer, Response dated 15 November 2022 to the P2 RFI1.
[704] Customer, Response dated 18 November 2022 to the P2 RFI1.
[705] Customers, Responses to the P2 RFI1, question 14.

some of the views on Starlink were based on an outdated understanding of its technological capabilities.[706]

(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.[707]

(c) Four of the six respondents that we spoke with said Starlink's commercial model, such as its unwillingness to agree to SLAs and lack of user portal, is commercially unattractive. One airline [✂] also noted that Starlink lacks the support infrastructure for customer support and maintenance.[708]

(d) Five of the respondents that we spoke with said that they would need to see how Starlink performs in live/real-life commercial flights and/or see the results of rigorous testing before they would consider installing its solution.

9.425 The evidence we have reviewed shows that airlines' approaches to weighing these considerations when taking procurement decisions varies, but we note that Starlink has already won IFC contracts in spite of them.

9.426 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. 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,[709] and another said that it would expect Starlink to revisit its contractual approach to adapt to airline needs (although this will take time).[710] Starlink told us that [✂].

9.427 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 a number of its other contracts are due to go live [✂] (including for long haul routes on Hawaiian Airlines aircraft and on short haul routes in Europe on airBaltic aircraft).[711] These contracts, and any future wins, will enable Starlink to obtain

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[706] See Customer Note of call.
[707] Customer, Note of call, 12 December 2022, paragraph 32; Customer, Note of call, 21 December 2022, paragraph 7; Customer, Note of call, 2 December 2022, paragraph 24.
[708] Customer, Note of call, 12 December 2022, paragraph 26.
[709] Customer, Phase 2 call note, 15 December 2022, paragraph 49.
[710] Customer, Phase 2 call note, 21 December 2022, paragraph 37.
[711] airBaltic to equip entire fleet with SpaceX's Starlink

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 a broader range of opportunities than it is now.

9.428 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. [✂]. [712] [✂][713] [✂].[714] We consider that this uncertainty (particularly concerning the airline's preferences and risk tolerance) 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 and OEMs).

9.429 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.

9.430 [✂] told us that they are in discussions with Starlink [✂]. Airbus told us that it is [✂].

Technological considerations

9.431 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 solution would be ready for commercial use in aviation.[715]

9.432 The evidence shows that Starlink has since overcome technical barriers and that it is already providing a high quality IFC service on some routes:

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[712] Parties, Follow up material from MPH, 4 February 2022, summary table.
[713] Customer, phase 2 call note, 12 December 2022, paragraph 33.
[714] Customer, phase 2 call note, 12 December 2022, paragraph 55.
[715] CMA, Phase 1 Decision, paragraph 180(c).

(a) In December 2022, Starlink started supplying IFC to passengers flying with JSX aircraft in the United States, showing that its IFC solution works. 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 [✂].

(b) Data obtained by Inmarsat on JSX flights in January 2023 shows that [✂].[716] [✂].

(c) During the course of 2022, Starlink launched more than 1,700 satellites (averaging one launch every 11 days) including a number of launches in December 2022 and January 2023. Since the end of 2022, around 55% of its satellite constellation has been equipped with ISLs. Starlink told us that [✂]. Starlink believes it has sufficient 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 enhancing its software.

9.433 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 of high demand (ie airport hubs and congested flight zones) and offering global coverage – by launching more ISL enabled satellites.

9.434 As noted in paragraph 9.113, Starlink obtained FCC authorisation to launch an additional 7,500 satellites in December 2022, and plans to launch these over the coming years. [✂].[717]

9.435 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.[718]

9.436 Starlink has a sufficient number of ISL-enabled satellites to provide some IFC services to aircraft on intercontinental routes to and from Europe and that the number of flights and/or quality of service on the routes will improve as more ISL-enabled satellites are brought into service and required [✂]. Based on current timelines, [✂], Starlink expects to be able to offer reliable transoceanic IFC services to aircraft on intercontinental routes to and from

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[716] Inmarsat, Inmarsat P2 Supplemental Annex 10.01 [✂]..
[717] Competitor [✂].
[718] Viasat, Transcript of Main Party Hearing, 30 January 2023, page 25, line 24.

Europe [✂] (see paragraph 9.248).The Parties and third parties have also expressed confidence that Starlink will overcome technological challenges (see paragraphs 9.279 and 9.300).[719]

9.437 Moreover, as discussed in detail in paragraphs 9.276 to 9.282, 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 are advantages of GEO based solutions.

9.438 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 provide on certain routes. However, the evidence we received [✂] shows that these issues are likely to be resolved through the deployment of additional satellites in the next few years.

Regulatory considerations

9.439 In December 2022, Starlink obtained its first STC and it is in the process of obtaining more STCs and one TC. As explained at paragraph 3.24, a supplier's IFC solution 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.

9.440 However, as discussed in more detail in paragraph 9.29, 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.

9.441 As explained at paragraph 9.253, Starlink has obtained its first STC – demonstrating that it is capable of getting its equipment certified. It is also in

[719] For example, in an internal document from June 2022, Inmarsat notes that [✂]. 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 dated June [✂], slides 81-85 which [✂].

the process of obtaining STCs and a TC for a number of other aircraft models (including models that are popular for flights to and from the UK). Given the average time it takes to obtain these (see paragraphs 3.24 to 3.31), we expect Starlink will obtain a number of TCs and STCs within the next few years (and will have started the process of obtaining others).

9.442 Consequently, although it is likely that there will be some 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 will have a material impact on Starlink's competitiveness given that airlines can and do award contracts to suppliers that do not have TCs in place at the time the contract is awarded and have the option of retro-fitting equipment on new aircraft post-production.

Provisional conclusion on constraint from Starlink

9.443 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.

9.444 Its IFC service is also now live on passenger flights on JSX aircraft in the United States and test data shows the quality of its IFC 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.

9.445 Most airlines consider that Starlink is a strong or very strong supplier of IFC. Although some airlines will only choose Starlink once they have seen how it performs in real-life commercial flights, or see the results of rigorous testing, feedback from airlines overall suggest that they have confidence that Starlink is likely to succeed and to be a strong competitor.

9.446 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.

9.447 Although we recognise there is some uncertainty, we expect Starlink to become a stronger competitor to the Merged Entity over the next few years as it launches additional satellites, obtains more TCs and STCs, builds its customer support network, adapts its commercial model, gains more experience and data from serving customers and can demonstrate to other potential customers that its technology is mature.

9.448 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 routes the aircraft will fly, whether the opportunity is for line-fit or retro-fit installation and the airline's appetite for risk, but that overall it will increase over the next few years.

9.449 We therefore provisionally conclude that the constraint from Starlink will likely grow and that Starlink would likely become a significant constraint on the Merged Entity in the next few years.

Our provisional conclusion on horizontal effects in Commercial Aviation

9.450 As set out in Chapter 7, 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.

9.451 For the reasons set out in this Section, we provisionally conclude that the Parties compete closely and would likely remain close competitors absent the Merger. We also provisionally conclude that Intelsat and Panasonic would likely be significant constraints on the Merged Entity (see paragraphs 9.341 to 9.389), and that the constraint from Starlink will likely grow and that Starlink would likely become a significant constraint on the Merged Entity in the next few years (see paragraphs 9.411 to 9.451). We also provisionally conclude that the Merged Entity would likely face a moderate constraint from Anuvu for narrowbody opportunities in the next few years (see paragraphs 9.390 to 9.401).

9.452 As such, we provisionally conclude that the aggregate constraints the Merged Entity would likely face are significant and will likely 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 commercial airlines serving UK customers.

10. Horizontal effects in the supply of broadband IFC services to Business Aircraft Owners

Competitive assessment for business aviation IFC

Introduction

10.1 This section 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 aviation customers. For this assessment, we focus on competitive dynamics affecting routes to and from the UK (see paragraphs 9.32 to 9.33 above).

10.2 We note that the Parties' activities in business aviation in the UK are very limited and together they supply IFC to only [✂] UK-registered aircraft accounting for less than [✂] revenue in 2021.[720]

10.3 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.[721] There is also a significant overlap in the evidence relevant to this theory of harm and the evidence set out in the previous Chapter in relation to commercial aviation.

10.4 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

10.5 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.[722] 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.[723]

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[720] Parties, Initial Submission Part II Business Aviation, paragraphs 37-39.
[721] MAGs, paragraph 2.20.
[722] Parties, Initial Submission Part II Business Aviation, paragraphs 44-45.
[723] Parties, Initial Submission Part II Business Aviation, sections 4 and 5.

Nature of competition

10.6 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 aviation, 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.

10.7 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 operators running tenders. The majority of SSPs, including the Parties,[724] rely on VARs to supply IFC to business aviation customers, rather than supplying customers directly. Although Viasat has recently started selling directly to customers, [✂]. We note that Starlink is marketing its IFC service directly to business aviation owners and operators.

10.8 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.[725]

10.9 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. In addition to the role of VARs, 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-fitting, ie STCs, is easier than getting the certifications for line-fitting, ie TCs, (see paragraphs 9.24 to 9.29), barriers to entry and expansion are lower. In addition, Starlink told us it considers that barriers to winning customers are

[724] 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 P1 RFI2, Annexe RFI2.018, [✂], April 2022 and Inmarsat, Response to P1 RFI2, Annex RFI2.017, [✂], May 2022.
[725] Parties, Merger Notice, 8 August 2022, paragraph 939, and responses to business aviation customer and VAR questionnaires.

[✂][726] and OneWeb told us that business customers make quicker decisions.[727]

10.10 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.[728] 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.[729] OneWeb told us that the small antennae used by LEO-based solutions are attractive to business aviation customers (given that business aircraft are smaller).[730]

The Parties and their main rivals

10.11 The main current providers of business aviation IFC are:[731]

(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.[732] Its main solution is ATG-based and limited to North America where [✂]% 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.[733]

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[726] Competitor, Note of call, 1 December 2022, paragraph 31.
[727] Competitor, Note of call, 11 January 2023, paragraph 25.
[728] Competitor, Note of call, 11 January 2023, paragraph 17.
[729] Parties, Initial Submission Part II Business Aviation, paragraph 20.
[730] Competitor, Note of call, 11 January 2023, paragraph 25.
[731] CMA's global shares of supply estimates of broadband IFC to large business aircraft owners based on number of connected aircrafts 2022, based on third-party data collected from VARs and competitors during the CMA's Phase 1 investigation.
[732] About Gogo Business Aviation | Gogo Business Aviation (gogoair.com).
[733] Parties, Merger Notice, 8 August 2022, paragraph 942.

(e) **Intelsat** launched its business aviation IFC service called FlexExec in 2018.[734]

10.12 There are also a number of emerging competitors, notably Starlink and SatCom Direct, which are discussed in more detail below.

10.13 Panasonic with limited exceptions no longer competes in this market and is therefore not discussed further in this section.[735]

10.14 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.

10.15 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 aviation customers for a number of reasons.

10.16 As for IFC to commercial aviation customers, 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 less than 4,500 terminals to over 12,000 terminals).[736] This is faster than the expected growth in the number of connected commercial aircraft.

10.17 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 [✂] UK-registered aircraft which generated less than [✂] in 2021.[737]

10.18 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 (10.16 to 10.17), 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).

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[734] Parties, Parties' P2 Initial Submission Part II Business Aviation, 25 November 2022, paragraph 115.
[735] Competitor, Response to the P1 competitor questionnaire: [✂].
[736] Parties, Initial Submission Part II Business Aviation, paragraph 46.
[737] Parties, Initial Submission Part II Business Aviation, paragraphs 37-39.

Closeness of competition between the Parties

Parties' submissions

10.19 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.[738]

Our assessment

10.20 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

10.21 The Parties both offer broadband IFC solutions in Ka-band that provide global or semi-global coverage:

(a) Inmarsat's IFC solution, JetConnex, provides global coverage in Ka-band.[739]

(b) Viasat offers three Ka-only plans providing either regional or semi-global coverage.[740] To provide truly 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.

10.22 Given the Parties' significant ongoing satellite expansion plans, these differences in Viasat's and Inmarsat's coverage are, however, expected to disappear soon.

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[738] 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.
[739] Parties, Merger Notice, 8 August 2022, paragraph 662. See also: Parties, Parties' response to P1 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.
[740] 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.

10.23 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;[741]

(b) the Parties are actively targeting the segment in which the other has historically been stronger;[742] and

(c) both Parties have won contracts in both segments.[743]

Evidence from third parties

10.24 Third parties generally told the CMA during its Phase 1 investigation that the Parties were close competitors:

(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.[744] The other customer told us that the Parties' geographic coverage differs and that their offers could be quite complementary.[745] Viasat and Inmarsat were also generally described as 'strong' competitors by customers.

(b) [✂] VARs submitted that the Parties closely compete for the same business, with strong and similar offerings.[746] One VAR also noted that, although their coverage differs to some extent today, they both have similar satellite roadmaps.[747]

(c) Competitors submitted that the Parties are strong competitors which closely compete.[748]

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[741] 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, Parties' response to P2 RFI2, May 2022, Annex RFI2.022.
[742] For instance, Inmarsat [✂]. Inmarsat, Inmarsat's response to the second Notice, Annex 9.5, pages 18-19. Viasat's 2021 business aviation strategy document explains that [✂]. Viasat, Viasat's response to the first Notice, October 2021, Annex VA00011123, pages 4 to 8.
[743] See Parties, Merger Notice, 8 August 2022, Annex 22.36, Tables 6 and 7.
[744] Customers, Responses to P1 business aviation customer questionnaire.
[745] Customers, Response to P1 business aviation customer questionnaire.
[746] Customers, Responses to P1 business aviation VAR questionnaire.
[747] Customer, Response to P1 business aviation VAR questionnaire.
[748] Customers, Responses to P1 business aviation competitor questionnaire

Provisional conclusion on closeness of competition

10.25 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.

10.26 We therefore provisionally conclude that the Parties compete closely and would likely remain close competitors in the next few years absent the Merger.

Competitive constraints from established players

10.27 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 7.8 to 7.11).

Parties' submissions

10.28 The Parties submitted that Gogo exerts a constraint on the Parties through its strong presence in the US (where most demand is located)[749] and that Collins Aerospace/SES has significant growth potential.[750] 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.[751] 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.[752]

Our assessment

10.29 We consider the constraints that the Merged Entity would face from Gogo, Collins Aerospace/SES and Intelsat in turn. We have considered the same

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[749] Parties, Merger Notice, 8 August 2022, paragraph 663.
[750] Parties, Merger Notice, 8 August 2022, paragraph 911(ii).
[751] Parties, Phase 2 Initial Submission Part II Business Aviation, 20 November 2022, section 5.
[752] Parties, Phase 2 Initial Submission Part II Business Aviation, 20 November 2022, paragraph 110.

range of evidence as we considered in our assessment of closeness of competition between the Parties.

Gogo

*Go*go's offering and future plans

10.30 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,[753] which partly explains its strong position in the market.

10.31 Gogo told us that while it currently generates [✂] of its business aviation revenues in North America, it plans to expand its global customer base.[754] 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.[755] While the OneWeb constellation remains under development, OneWeb expects its constellation to support IFC globally from Q1 2024. Following a number of launches during our investigation, 80% of OneWeb's fleet is now in orbit and OneWeb has two launches remaining to complete its first generation constellation at which point it will offer global coverage (see paragraph 9.358 for a discussion of OneWeb's constellation).

(b) Gogo announced that it is developing a new ESA that will utilise OneWeb's LEO network in partnership with Hughes.[756] Hughes has developed a prototype which is capable of connecting to the OneWeb constellation within seconds.[757] Hughes expects the ESA to be available in early 2023.

10.32 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.[758] 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.[759]

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[753] Gogo has been offering broadband IFC services since the late 2000s. See Gogo's webpage, History of Innovation.
[754] Competitor, Response to P2 SSP and SNO RFI, question 29.
[755] https://oneweb.net/resources/oneweb-partners-gogo-business-aviation-revolutionise-flight-connectivity-business-jet
[756] Hughes ESA to Power Gogo's Global LEO Broadband Service for Business Aviation | Hughes
[757] Flat Panel, Electronically Steered Antenna Boasts First of Its Kind Technology | Hughes
[758] Competitor, Response to P2 SSP and SNO RFI, question 31.
[759] Competitor, Response to P2 SSP and SNO RFI, question 31.

Evidence from third parties

10.33 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.[760]

10.34 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.[761] The other two VARs did not mention Gogo as an alternative supplier for their end-customers.

Our provisional conclusion on Gogo

10.35 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 [✂]. 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 aviation customers 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 knowledge and success in winning customers in North America will further contribute to the strength of the constraint it will impose.

10.36 We therefore provisionally conclude 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

10.37 Collins Aerospace supplies its own business aviation IFC solution called 'Luxstream' using capacity supplied from SES at the wholesale level.[762] Like Viasat's business aviation IFC offering, Luxstream was launched in 2019.

10.38 The Parties submitted that Luxstream is likely to benefit from SES's new O3b mPOWER MEO constellation.[763] The first two O3b mPOWER satellites were

[760] Customers, Responses to P1 business aviation customer questionnaire.
[761] VAR, Response to P1 business aviation VAR questionnaire.
[762] Parties, Merger Notice, 8 August 2022, paragraphs 897 and 942; Competitor, Note of call and Competitor, Response to P1 competitor questionnaire.
[763] Parties, Merger Notice, 8 August 2022, Table 25.

launched in December 2022 with commercial service expected to be in the third quarter of 2023.[764] 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.[765]

Evidence from third parties

10.39 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.[766]

*Our p*rovisional conclusion on Collins Aerospace/SES

10.40 Having regard to the evidence above, we provisionally conclude that the constraint Collins Aerospace would exert on the merged entity in the next few years, if any, is likely to be limited.

Intelsat

Intelsat's offering and future plans

10.41 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.[767]

10.42 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.[768]

(b) As discussed in the commercial aviation section, Intelsat is also taking steps to improve its access to GEO satellite capacity and has plans [✂].

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[764] https://www.ses.com/press-release/first-two-o3b-mpower-satellites-successfully-launched.
[765] Customer, Responses to P1 business aviation questionnaires.
[766] Customer, Response to P1 business aviation customer questionnaire; VARs, Responses to P1 business aviation VAR questionnaire; and Competitor, Response to P1 competitor questionnaire.
[767] Parties, Phase 2 Initial Submission Part II Business Aviation, 25 November 2022, paragraph 119.
[768] Parties, Merger Notice, 8 August 2022, paragraphs 897 and 942; Competitor, Response to the competitor questionnaire and Parties, Parties' P2 Initial Submission Part II Business Aviation, 25 November 2022, paragraph 115.

10.43 [✂].[769]

*Third-p*arty feedback

10.44 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.[770]

*Our p*rovisional conclusion on Intelsat

10.45 Having regard to the evidence above, we provisionally conclude 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 relative 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.

10.46 We therefore provisionally conclude that Intelsat would likely exert a moderate constraint on the Merged Entity in the next few years.

Competitive constraints from emerging players

10.47 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).

10.48 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 10.30 to 10.36 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.

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[769] Competitor, response to s.109 Notice.
[770] Customers, Responses to the P1 business aviation customer questionnaire; VARs, Responses to the P1 business aviation VAR questionnaire; and competitor, Response to P1 competitor questionnaire.

Starlink

Parties' submissions

10.49 The Parties submitted that Starlink is a disruptive competitor with strong OEM support and a direct marketing approach.[771]

*O*ur assessment

10.50 As set out in the commercial aviation competitive assessment (see paragraphs 9.431 to 9.439), 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 9, we expect Starlink to become a stronger competitor to the Merged Entity in the supply of IFC to commercial airlines over the next few years.

10.51 The satellite constellation and much of the technology (such as ISLs) required to serve business and commercial aviation customers is the same. We also consider that Starlink's successes winning contracts with commercial airlines, securing TCs/STCs and successfully deploying its technology on commercial aircraft is likely to help build its credibility with business aviation customers.

10.52 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.

10.53 Starlink told us that it is competing for business aviation as well as commercial aviation customers. Starlink launched a website to allow business aviation customers to sign up to its service on 19 October 2022.[772] It has also marketed its offering through tenders. As of 15 December 2022, it had fully signed up fewer than [✂] customers.[773] The most recent internal document obtained from Starlink (dated December 2022) notes that [✂].[774]

10.54 Starlink expects to begin providing IFC services to business aircraft by mid-2023. It expects to have its first certifications ready at launch and has a wide

[771] Parties, Phase 2 Initial Submission Part II Business Aviation, 25 November 2022.
[772] Competitor, Competitor response to P2 RFI, 8 December 2022.
[773] Competitor, Competitor response to P2 RFI, 8 December 2022.
[774] Competitor, response to request for further information, 17 February 2023.

range of STCs for business aircraft in development.[775] [✂].[776] As set out in paragraph 9.253, 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.

10.55 As set out above in paragraph 10.9, Starlink told us it considers that barriers to winning customers are [✂].

Our provisional conclusion on Starlink

10.56 Starlink is currently supplying IFC to passengers on commercial flights and we expect it to continue to make progress in commercial aviation. It expects to start supplying business aviation customers in the next six months and has already signed up some customers and is looking to win more. 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.

10.57 Given the evidence above, and the evidence on Starlink's progress in commercial aviation (see paragraphs 9.411 to 9.451), we provisionally conclude that the 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

10.58 In May 2022, Satcom Direct (one of the three leading VARs in business aviation) entered into a distribution agreement with OneWeb (see paragraph 9.358 for discussion of OneWeb's LEO constellation).[777] 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.[778]

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[775] Customer Support - Starlink lists the following aircraft: ERJ-135, ERJ-140, ERJ-145, G650, G550, Falcon 2000
G450, Challenger 300/350, Challenger 600, 601, 604, 605, 650, Global Express, Global 5000, Global 6000, Global 7500, King Air 200/300, Caravan C208, ATR 72-500, 72-600, E170, E175, E190, E195, Phenom 300, Dash Q400 (8-400), Q300 (8-300), A321, A330, 737, 757, 787.
[776] Competitor, Competitor response to s.109 Notice, internal document states that the 'going forward strategy' will be [✂].
[777] https://oneweb.net/resources/satcom-direct-oneweb-and-qest-ratify-development-electronic-phased-array-antenna-together.
[778] Competitor, response to P2 RFI 2.

Satcom Direct expects to begin offering services utilising OneWeb's LEO satellite capacity from the first quarter of 2024.[779]

10.59 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."[780] As noted in paragraph 9.360, 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.

10.60 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 provisional conclusion on Satcom Direct

10.61 Having regard to the evidence above, we provisionally conclude that Satcom Direct would likely exert a moderate constraint on the Merged Entity in the next few years.

Our provisional conclusion on horizontal effects in the supply of IFC to business aviation customers

10.62 As set out in Chapter 9, 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.

10.63 While noting that the Parties' activities in IFC for business aviation in the UK are very limited, for the reasons set out in paragraphs 9.307 to 9.336, we provisionally conclude that the Parties compete closely and would likely remain close competitors absent the Merger.

10.64 However, we also provisionally conclude that:

(a) Gogo would likely be a significant constraint on the Merged Entity in relation to business aircraft owners in the UK in the next few years.

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[779] https://oneweb.net/resources/satcom-direct-oneweb-and-qest-ratify-development-electronic-phased-array-antenna-together.
[780] Stellar Blu Solutions names Satcom Direct as preferred service provider for Sidewinder business aviation connectivity services | Satcom Direct.

(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.

10.65 As such, we provisionally conclude 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 business aircraft owners serving UK customers.

11. Provisional Decision

11.1 We have provisionally concluded that the anticipated acquisition by Viasat of Inmarsat, if carried into effect, would result in the creation of a relevant merger situation.

11.2 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 business aircraft owners, focussing our analysis on routes that are likely to affect UK customers.

11.3 Evidence we have assessed has led us to provisionally 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 business aircraft owners.

11.4 On that basis, we have provisionally concluded that the Merger may not be expected to result in a substantial lessening of competition within any market in the UK.

11.5 We invite any parties to make representations to us on these provisional findings by no later than 17.00 GMT, on Tuesday 21 March 2023. Please make any response to these findings by email to Viasat.Inmarsat@cma.gov.uk. We will take all submissions received by this date into account in reaching our final decision.