Appendices and glossary

Appendices

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Glossary

Appendix A: Terms of reference and conduct of the inquiry

Terms of reference

1. In exercise of its duty under section 33(1) of the Enterprise Act 2002 (the **Act**) the Competition and Markets Authority (**CMA**) believes that it is or may be the case that:

   (a) arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation, in that:

      (i) enterprises carried on by Viasat, Inc. will cease to be distinct from enterprises carried on by Inmarsat Group Holdings Limited; and

      (ii) the condition specified in section 23(2)(b) of the Act is satisfied; and

   (b) the creation of that situation may be expected to result in a substantial lessening of competition within a market or markets in the United Kingdom for goods or services, including (a) the supply of in-flight connectivity (**IFC**) services to commercial aviation customers, and (b) the supply of IFC services to large business jets.

2. Therefore, in exercise of its duty under section 33(1) of the Act, the CMA hereby makes a reference to its chair for the constitution of a group under Schedule 4 to the Enterprise and Regulatory Reform Act 2013 in order that the group may investigate and report, within a period ending on 30 March 2023, on the following questions in accordance with section 36(1) of the Act:

   (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 within any market or markets in the United Kingdom for goods or services.

Colin Raftery
Senior Director, Mergers
Competition and Markets Authority
14 October 2022

Conduct of the inquiry

1. On 14 October 2022, the CMA referred the anticipated acquisition by Viasat, Inc. (**Viasat**) of Inmarsat Group Holdings Limited (**Inmarsat**) (together **the Parties**) for an in-depth Phase 2 inquiry.

2. We published the biographies of the members of the Inquiry Group conducting the inquiry on the inquiry webpage on 14 October 2022 and the relevant administrative timetable was published on the inquiry webpage on 25 October 2022.

3. We invited interested parties to comment on the anticipated acquisition. We sent detailed requests for information to the Parties' competitors and customers, and a number of these also provided us with further information by video conference calls as well as by responding to supplementary written questions. We received written responses from 31 airline customers (representing 39 airlines). We conducted interviews with airline customers, competitors and other interested parties, of the Parties via MS Teams. We also spoke with the relevant industry regulators. Evidence submitted to the CMA during Phase 1 was also considered in Phase 2.

4. We received written evidence from the Parties in the form of submissions and responses to information requests. A non-confidential version of the Parties' initial submission was published on the inquiry webpage on 9 December 2022.

5. On 8 November 2022, the CMA published an Issues Statement on the inquiry webpage setting out the areas on which the Phase 2 inquiry would focus. A non-confidential version of the Parties' response was published on the inquiry webpage on 9 December 2022.

6. On 16 and 17 November 2022, Members of the Inquiry Group and CMA staff attended a 'site visit' with Inmarsat and Viasat respectively, and their advisers. The site visits were held at Linklaters' office (for Viasat), One Silk Street, London, EC2Y 8HQ and Inmarsat's headquarters, 99 City Road, London, EC1Y 1AX.

7. During our inquiry, we sent the Parties a number of working papers for comment. We also provided the Parties and third parties with extracts from our working papers for comments on accuracy and confidentiality. The Parties were also sent an annotated issues statement, which outlined our emerging thinking to date prior to their respective main party hearings, which were held on 30 January 2023.

8. A non-confidential version of our provisional findings report has been published on the inquiry webpage. Interested parties are invited to comment on this document.

9. We would like to thank all those who have assisted in our inquiry so far.

Appendix B: Analysis of TCs and STCs

Introduction

1. This appendix sets out our analysis of TCs and STCs.

2. As set out in Chapter 2 of the Provisional Findings Report, IFC equipment (eg user terminals) requires an authorisation called a type-approval before it is installed on aircraft for safety reasons. There are two main types of certifications: TCs for line-fit installations of IFC (during the manufacture of new aircraft) and STCs for retro-fit installations of IFC (on post-production or in-service aircraft that either have the IFC solution of another provider installed or are not yet connected).[1]

3. We requested data from the Parties and their main rivals on the TCs and STCs that they currently hold and are in the processing of obtaining for the most popular aircraft used for flights to and from the UK.[2] We have considered TCs and STCs for widebody and narrowbody aircraft separately.

Most popular aircraft used for flights to and from the UK

4. We used data provided by the CAA to identify the aircraft models that account for the largest number of flights to, from and within the UK.[3] This allowed us to focus our analysis on the TCs and STCs held by the Parties and their competitors for aircraft accounting for the substantial majority of flights to, from, and within the UK.

5. Table 1 shows the most popular narrowbody and widebody aircraft used for flights to, from, and within the UK in the period January 2022 – October 2022.

[1] Parties, Merger Notice, 8 August 2022, paragraph 798.
[2] Viasat, Viasat response to P2 RFI1, Annex VA_RFI2.1-002; Inmarsat, Inmarsat response to P2 RFI1, Annex 4.1; Competitors, Competitor, Response to P2 SNO and SSP RFI, question 11.
[3] As set out in paragraphs 8.26 to 8.30 of the PFs Report, while we consider that the relevant geographic scope for the supply of IFC services is global, in our competitive assessment we focus on the competitive dynamics affecting flights to and from the UK and the strength of the competitive constraints between the Parties and rival suppliers to serve customers flying such routes.

Table 1: Most popular narrowbody and widebody aircraft used for flights to, from, and within the UK

Widebody Aircraft		***Narrowbody Aircraft***	
Aircraft	*Proportion of flights*	*Aircraft*	*Proportion of flights*
B787	35%	B737	30%
B777	32%	A320	30%
A330	10%	A319	12%
A350	9%	A321	7%
A380	8%		
B767	7%		

Source: CMA analysis of CAA data.
Note: The widebody proportions sum to 101%. This is due to rounding each proportion to the nearest whole number.

6. Table 1 shows that six widebody aircraft account for almost all flights by widebody aircraft, and that four narrowbody aircraft account for around 80% of all flights by narrowbody aircraft, to, from, and within the UK. The remaining 20% of flights by narrowbody aircraft consist of a long tail of various aircraft, none of which individually account for more than 5% of narrowbody flights to, from, and within the UK.

Limitations of our analysis

7. We have identified the following limitations with the data used in our analysis of TCs and STCs.

8. First, the CAA data does not include information on aircraft variants, only their family/model, which means we cannot match TCs and STCs by aircraft variant. Our analysis does not therefore reflect the ability of Parties and their competitors to win tenders for particular aircraft variants (eg A320 NEO). This likely understates the strength of some SSPs that have certificates for many variants and overstates the strength of others that only have a few variants.

9. Second, we understand that some third parties hold TCs and STCs for the IFC solutions supplied by the Parties and their competitors. For example, Inmarsat does not hold the TC for Safran equipment included as part of its IFC solution offered to commercial airlines.[4] We have included information on the TCs and STCs held by third parties for IFC solutions supplied by the Parties and their competitors in our analysis where available. However, we do not have information on all TCs and STCs held by third parties, and our analysis may therefore understate the strength of some SSPs that rely on

[4] Beside Safran, Inmarsat's other hardware partners are: [✂]. Inmarsat, Attachment on email received on 13 January 2023, P2 ME_6985_22. We did not gather data from these hardware partners as part of our investigation.

third parties to obtain and hold certificates for equipment included in their IFC solution.

10. Third, unless the respondent specified otherwise, we have treated Service Bulletins (SBs) as STCs, as they are used for retro-fit installations. We note there are important differences between STCs and SBs and that SBs share some characteristics with TCs, particularly that an SB is backed by an OEM. The Parties told us that, compared to STCs, being OEM-backed and owned means SBs tend to provide an added degree of confidence to airlines, particularly the less technically sophisticated ones.[5] Therefore, directly comparing SBs and STCs means we may understate the strength of some SSPs that have SBs rather than STCs.

11. Finally, the information provided by the Parties and their competitors does not include the jurisdiction in which the TCs/STCs have been approved by national aviation authorities (eg the CAA in the UK and the FCC in the United States). We do not think this is a significant limitation as once a certification has been approved in one jurisdiction we understand it is easy to get it approved in another.

Results of our analysis

Widebody aircraft

12. Table 2 shows the TCs held by Anuvu, Inmarsat, Intelsat, OneWeb, Panasonic, Starlink, and Viasat for the five most used widebody aircraft models for widebody flights to, from, and within the UK.[6] The table shows:

    (a) Panasonic has TCs covering the [✂] most popular widebody aircraft used for flights to, from, and within the UK, more than any other supplier.

    (b) Inmarsat has TCs covering [✂] of the five most popular widebody aircraft used for flights to, from, and within the UK.

    (c) Viasat has TCs covering [✂] of the five most popular widebody aircraft used for flights to, from, and within the UK. These aircraft cover only [✂] of widebody flights to and from the UK, although Viasat is in the process of obtaining [✂] additional TCs that would bring its coverage level with Inmarsat.

[5] Parties, Parties response to P2 RFI3, 1 February 2023, paragraph 4.
[6] Table 2 does not include the Boeing 767 as we understand that Boeing is no longer delivering passenger versions of this aircraft and it is therefore no longer an option available to commercial airlines.

(d) Intelsat only has a TC for [✂] widebody aircraft which covers only [✂] of widebody flights to, from, and within the UK.

(e) Anuvu, OneWeb, and Starlink have [✂] TCs covering these aircraft. OneWeb is in process of obtaining [✂] and Starlink is in the process of obtaining [✂]. Anuvu is [✂].

Table 2: TCs for most popular widebody aircraft used for flights to and from the UK.

Aircraft	*Anuvu*	*Inmarsat*	*Intelsat*	*OneWeb**	*Panasonic*	*Starlink*	*Viasat*
B787	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
B777	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A330	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A350	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A380	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total (#)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total of flights to and from the UK (%)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis of information on the TCs and STCs currently held by the Parties and their competitors (as well as those they are in the process of obtaining) with data provided by the CAA.
Note: ✓represents holding that TC. ■ represents being in the process of obtaining that TC and expecting to obtain it by the end of 2025. × represents not holding that TC and not being in process of obtaining that TC. ◊ represents not directly holding that TC but it being held by a third party.
Note: [✂], [✂].
Note: Total (#) and total (%) both refer to TCs held or TCs held by a third party.
* [OneWeb told us that it is working with a range of third parties to develop a number of ESAs for user terminals which make use of its satellite capacity. This therefore reflects the certifications obtained and being obtained by third parties rather than OneWeb itself]

13. Table 3 shows the STCs held by Anuvu, Inmarsat, Intelsat, OneWeb, Panasonic, Starlink, and Viasat for the six most used widebody aircraft models for widebody flights to, from, and within the UK. The table shows:

(a) Panasonic has STCs covering the [✂] most popular widebody aircraft used for flights to, from, and within the UK. We have found that Panasonic holds more STCs for widebody aircraft than any other supplier.

(b) Viasat has STCs covering [✂] of the six most popular widebody aircraft used for flights to, from, and within the UK. Viasat is in the process of obtaining [✂] STCs for aircraft which cover [✂] of widebody flights to, from, and within the UK. [✂].[7]

(c) Intelsat has STCs covering [✂] of the six most popular widebody aircraft.

[7] Viasat, Viasat Certification data template.

(d) Inmarsat has STCs covering [✂] of the top six most popular widebody aircraft. These account [✂] of widebody flights to, from, and within the UK.

(e) Anuvu has STCs for [✂] of the top six most popular widebody aircraft.

(f) OneWeb and Starlink currently have [✂] STCs for the most popular widebody aircraft used for flights to, from, and within the UK. Starlink is in the process of obtaining certifications for [✂] of the top six, and OneWeb is in the process of obtaining certifications for [✂] of the top six.

Table 3: STCs for most popular widebody aircraft used for flights to and from the UK.

Aircraft	*Anuvu*	*Inmarsat*	*Intelsat*	*OneWeb**	*Panasonic*	*Starlink*	*Viasat*
B787	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
B777	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A330	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A350	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A380	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
B767	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total (#)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total of flights to and from the UK (%)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis of information on the TCs and STCs currently held by the Parties and their competitors (as well as those they are in the process of obtaining) with data provided by the CAA.
Note: ✓represents holding that STC. ■ represents being in the process of obtaining that STC and expecting to obtain it by the end of 2025. × represents not holding that STC and not being in process of obtaining that STC. ◊ represents not directly holding that STC but it being held by a third party.
Note: [✂].
Note: Total (#) and total (%) both refer to STCs held or STCs held by a third party.
* OneWeb told us that it is working with a range of third parties to develop a number of ESAs for user terminals which make use of its satellite capacity. This therefore reflects the certifications obtained and being obtained by third parties rather than OneWeb itself.

Narrowbody aircraft

14. Table 4 shows the TCs held Anuvu, Inmarsat, Intelsat, OneWeb, Panasonic, Starlink, and Viasat for the four most used narrowbody aircraft models for narrowbody flights to, from, and within the UK. The table shows:

(a) Panasonic and Inmarsat have TCs for the top [✂] most popular narrowbody aircraft used for flights to, from, and within the UK.

(b) Intelsat has TCs covering [✂] of the top four most popular narrowbody aircraft used for flights to, from, and within the UK, and is in the process of obtaining a TC [✂].

(c) Anuvu and Viasat both only have TCs covering [✂] of the top four most popular narrowbody aircraft used for flights to, from, and within the UK. However, Viasat is in the process of obtaining [✂].

(d) OneWeb and Starlink both currently have [✂] TCs for the most popular narrowbody aircraft used for flights to, from, and within the UK. OneWeb is in the process of obtaining TCs for [✂] of the top four. [✂].

Table 4: TCs for most popular narrowbody aircraft used for flights to and from the UK.

Aircraft	*Anuvu*	*Inmarsat*	*Intelsat*	*OneWeb**	*Panasonic*	*Starlink*	*Viasat*
B737	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A320	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A319	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A321	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total (#)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total of flights to and from the UK (%)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis of information on the TCs and STCs currently held by the Parties and their competitors (as well as those they are in the process of obtaining) with data provided by the CAA.
Note: ✓represents holding that TC. ■ represents being in the process of obtaining that TC and expecting to obtain it by the end of 2025. × represents not holding that TC and not being in process of obtaining that TC. ♢ represents not directly holding that TC but it being held by a third party.
Note: [✂].
Note: Total (#) and total (%) both refer to TCs held or TCs held by a third party.
* OneWeb told us that it is working with a range of third parties to develop a number of ESAs for user terminals which make use of its satellite capacity. This therefore reflects the certifications obtained and being obtained by third parties rather than OneWeb itself.

15. Table 5 shows the STCs held by Anuvu, Inmarsat, Intelsat, OneWeb, Panasonic, Starlink, and Viasat for the four most used narrowbody aircraft models for narrowbody flights to, from, and within the UK. The table shows:

(a) [✂].

(b) [✂].

Table 5: STCs for most popular narrowbody aircraft used for flights to and from the UK.

Aircraft	*Anuvu*	*Inmarsat*	*Intelsat*	*OneWeb**	*Panasonic*	*Starlink*	*Viasat*
B737	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A320	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A319	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
A321	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total (#)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total of flights to and from the UK (%)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis of information on the TCs and STCs currently held by the Parties and their competitors (as well as those they are in the process of obtaining) with data provided by the CAA.
Note: ✓represents holding that STC. ■ represents being in the process of obtaining that STC and expecting to obtain it by the end of 2025. × represents not holding that STC and not being in process of obtaining that STC. ♢ represents not directly holding that STC but it being held by a third party.
Note: Total (#) and total (%) both refer to STCs held or STCs held by a third party.
* OneWeb told us that it is working with a range of third parties to develop a number of ESAs for user terminals which make use of its satellite capacity. This therefore reflects the certifications obtained and being obtained by third parties rather than OneWeb itself.

Appendix C: Airline Sample

1. In our provisional assessment, we have drawn on evidence we gathered from a sample of airlines (customers). Based on data we requested from the Civil Aviation Authority (**CAA**) on commercial flights to and from the UK, we consider the sample of airlines we have gathered evidence from covers a significant proportion of UK flights, both overall and when considering narrowbody and widebody aircraft separately.

2. This appendix sets out our approach to constructing this sample and provides detail on how it compares to the population of airlines that are potentially relevant for our assessment.

Airlines we have obtained evidence from and how we summarise it.

3. As set out in paragraphs 8.27 to 8.30 of the Provisional Findings Report, our provisional conclusion is that the relevant geographic scope for the supply of IFC services is global. In our provisional competitive assessment (see Paragraphs 9.302 to 9.454 of the Provisional Findings Report) we have focussed on the competitive dynamics affecting flights to and from the UK and the strength of the competitive constraints between the Parties and rival suppliers to serve customers flying such routes.

4. To gather evidence from airlines relevant to this assessment, we contacted airlines serving a wide range of short, medium, and long-haul routes both within and outside of the UK and Europe. We contacted these airlines using details (submitted by the Parties) of the Parties' largest commercial aviation customers by number of committed aircraft.[8] We received 31 responses representing 39 airlines.[9] Of the 31 respondents that completed our questionnaire, a small number provided information on behalf of several airlines in the same corporate group [✂]. We also held calls with 14 of these

[8] Parties, Parties' response to the P1 RFI 2 dated 14 April 2022, question 1. As part of the phase 2 investigation, we also contacted a second batch of airlines who had recently contacted the Parties to participate in tenders in the period 1 July 2022 to 31 November 2022. Few airlines responded to this request and many of the airlines had very few or no flights from/to the UK. As such, the vast majority of our sample of airlines are from the contact details provided by the Parties on their largest commercial customers by number of committed aircraft.
[9] We received evidence from a total of 39 airlines. Of these, we contacted 33 as part of the initial third-party evidence gathering. We also contacted an additional 15 airlines that had contacted the Parties (with details submitted by the Parties) regarding tenders for IFC services between 1 July 2022 to 31 November 2022 and received a response from 2. In addition, as we explain in the evidence from tender data section of the PFs Report (from paragraph 8.128) in more detail, we also identified seven airlines in data submitted by the Parties that i) were not in our initial airline sample ii) operated flights from/to the UK (according to data from the CAA) and iii) had tenders in the period relevant for our assessment. We contacted these seven airlines to provide information on recently concluded and ongoing tenders, aircraft penetration rates, and their views on suppliers. We received responses from four of the seven airlines.

airlines (six respondents) to supplement the information we gathered through our questionnaire.

Table 6: Sample of responding airlines.

	Airline		*Airline*
1	[✂]	21	[✂]*
2	[✂]	22	[✂]
3	[✂]*	23	[✂]*
4	[✂]	24	[✂]
5	[✂]	25	[✂]†
6	[✂]	26	[✂]
7	[✂]	27	[✂]
8	[✂]†	28	[✂]
9	[✂]	29	[✂]
10	[✂]	30	[✂]†
11	[✂]	31	[✂]*
12	[✂]†	32	[✂]
13	[✂]	33	[✂]
14	[✂]	34	[✂]
15	[✂]	35	[✂]
16	[✂]	36	[✂]
17	[✂]	37	[✂]
18	[✂]*	38	[✂]
19	[✂]	39	[✂]†
20	[✂]		

Source: CMA analysis of third-party response to the Phase 2 RFI 1. * indicates airlines who provided a partial response to the Phase 2 RFI 1 questionnaire. † Indicates airlines who responded they are not interested in providing IFC in the next five years.

5. Five airlines, all of which are 'low-cost carriers' (LCCs), told us they do not currently provide or plan to provide IFC services on their routes in the next five years and did not complete our questionnaire. As a result, although we use the intentions of these airlines as evidence in our provisional assessment, these five LCCs are not included from our analysis in chapter 9 (in particular the sections on Nature of Competition and Evidence from Airlines) because they did not provide responses.

6. More generally, some respondents did not provide answers to every question (or sub-questions) in our questionnaire. In the vast majority of cases, we were not given reasons for these non-responses,[10] meaning we are not able to infer anything about airlines' beliefs or behaviour from them. Throughout our provisional assessment, when we summarise evidence from airlines, we therefore exclude airlines who did not provide a response to the question(s) being analysed. For example, if only 20 airlines responded to a question, we

[10] In some instances, very few respondents told us, for example, that they didn't have the necessary knowledge to answer the question.

have considered this in our analysis, for example by using the phrasing: 'one of the 20 respondents who provided a response said….'.[11]

Airline sample coverage of UK relevant flights

7. In order to understand how frequently the airlines in our sample fly to and from the UK, we requested flight data from the Civil Aviation Authority (CAA) covering their period 1 January 2017 to 31 October 2022 (we sent our initial questionnaire to airlines in October 2022). The data included, among other things, information on the number of flights operated by each airline to and from all airports in the UK, including by type of aircraft (narrow-body or wide-body) and aircraft model (eg, A320).

8. Using the CAA data, we estimate that the airlines that responded to our questionnaire accounted for:

   (a) 80% of all flights;[12]

   (b) 75% of widebody flights; and

   (c) 80% of narrowbody flights to and from the UK in the period 1 January 2022 to 31 October 2022.

9. We also used the CAA data to construct our final tender sample (see paragraphs 9.1332 to 9.134). To focus on tenders most relevant for the UK, we used the CAA data to exclude tenders for aircraft body types (narrow-body and wide-body) that airlines did not fly to and from the UK the period 1 January 2022 to 31 October 2022.

10. Given we obtained the CAA data early in our Phase 2 evidence gathering, the most it covers up to 31 October 2022. When comparing the number of flights per week by airline to and from the UK in 2019 for the full year and the same 10-month period there is not a material difference. We therefore consider it extremely unlikely that using a 10-month period as opposed to a full calendar year in 2022 would impact our results.

[11] This is also in line with the CMA's principles for (a) analysing responses from a relatively small sample of respondents; and (b) carefully considering 'don't know' responses in surveys: CMA, Good practice in the design and presentation of customer survey evidence in merger cases, paragraphs 2.31-2.33 and 4.23-4.24.,
[12] This represents 34 airlines. Five airlines did not have flights to and from the UK.

Appendix D: Evidence from SNOs

1. This appendix sets the evidence obtained from SNOs that supply satellite capacity for IFC in both commercial and business aviation.

2. We have assessed evidence from suppliers of satellite capacity for IFC (ie SNOs) as we have found that access to satellite capacity is a key aspect of an SSP's competitive strength.

3. The evidence obtained from SNOs relate to their current activities in IFC, competitive strategy, and future plans and includes internal documents and responses to our questionnaires as well as publicly available information.

4. We discuss in turn below the evidence from Amazon, Eutelsat, OneWeb, SES, and Telesat.

Amazon

5. Amazon operates in the retail space through online and physical stores offering products sold by Amazon and by third-party sellers across dozens of product categories. It also manufactures and sells electronic devices, develops and produces media content, and serves developers and enterprises of all sizes through AWS, which offers a broad set of on-demand technology services.[13]

6. Amazon does not currently supply satellite capacity for IFC to SSPs, nor does it supply IFC directly to commercial and business aviation customers.[14] However, it has announced plans to own and operate a LEO constellation of more than 3,000 satellites.[15] This initiative is called Project Kuiper.

7. Amazon received FCC approval for Project Kuiper in July 2020 to supply both fixed and mobile satellite connectivity services in Ka-band frequencies.[16]

8. 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.[17] The LEO constellation

[13] See: https://ir.aboutamazon.com/overview/default.aspx.
[14] Competitor, Response to P2 SSP and SNO RFI, page 1.
[15] Project Kuiper.
[16] Amazon receives FCC approval for Project Kuiper satellite constellation.
[17] International Bureau Grants Kuiper Satellite Modification | Federal Communications Commission.

deliver high-capacity, low-latency broadband communications services to unserved and underserved customers globally once it is complete.

9. Amazon told us that it plans to deploy its LEO satellites in [✂] phases over the coming years.[18] To date Amazon has not launched any satellites or bid for or won any contracts with airlines.[19]

10. An industry report submitted by the Parties states that Amazon has secured launch contracts for all satellites it currently plans to deploy as part of Project Kuiper.[20] This report also notes that Amazon will launch two satellites (ie KuiperSat-1 & KuiperSat-2) for testing and demonstration in early 2023 and that it has publicly stated that it is on track to meet its FCC commitment to launch 50% of the satellites that will form its LEO constellation by the end of July 2026.

11. [✂].[21]

12. [✂].[22]

Eutelsat

13. Eutelsat is an SNO that currently supplies 'raw' satellite connectivity capacity to the Parties' SSP rivals in the supply of IFC to commercial and business aviation customers. Eutelsat announced plans to acquire OneWeb in July 2022.

Business model and distribution channels

14. Eutelsat does not supply satellite connectivity services directly to airlines or business aviation customers and instead uses a wholesale model to supply 'raw' satellite capacity to SSPs that use Eutelsat's capacity (either individually or in combination with capacity procured from other SNOs), to supply IFC services to airlines and business aviation customers.[23]

15. Eutelsat has recently launched 'managed' satellite connectivity services, marketed as Eutelsat Advance, allowing it to become a provider of 'managed' satellite connectivity services and not just a 'raw' capacity supplier.[24] These

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[18] International Bureau Grants Kuiper Satellite Modification | Federal Communications Commission.
[19] Amazon's Project Kuiper test satellites to fly on first Vulcan Centaur rocket (aboutamazon.com).
[20] Euroconsult, NGSO Constellation Tracker, Q3 2022 update, pages 24 – 26.
[21] Competitor, Response to P2 SSP and SNO RFI, pages 1 and 2.
[22] In particular, Amazon has yet to enter into a distribution agreement to supply satellite capacity for IFC to an SSP or VAR active in either commercial or business aviation.
[23] Competitor, Response to P2 SSP and SNO RFI, question 2.
[24] Competitor, Response to P2 SSP and SNO RFI, question 2.

'managed' satellite connectivity services are intended to be sold to SSPs, rather than to IFC customers (such as airlines), and this is therefore an evolution of Eutelsat's wholesale distribution model rather than a change to a more direct distribution model.

16. Eutelsat confirmed that its Eutelsat Advance service does not currently have any customers that are active in the supply of IFC in commercial or business aviation in the UK and Europe.[25] [✂].

Satellite capacity

17. Eutelsat currently operates three satellites which provide the necessary HTS connectivity to supply satellite capacity for IFC.[26] These three satellites offer coverage in Africa, Central & South America, Europe, North Pacific Ocean, Western North America, and Russia.

18. Eutelsat told us that its recently launched Eutelsat 10B satellite and Eutelsat Konnect VHTS satellite will provide additional HTS capacity and can also support activities in IFC.[27] Eutelsat 10B will add capacity over EMEA, Atlantic and Indian Ocean and Eutelsat Konnect VHTS will add capacity over Europe and MENA in both cases in the second half of 2023. [✂].

Importance of IFC

19. While less than [✂] of Eutelsat's revenues were earned from the supply of 'raw' satellite capacity for IFC in the period 2018 – 2021,[28] Eutelsat told us that IFC is an important end-use application for its satellite capacity.[29]

20. An internal document obtained from Eutelsat (dated October 2022) provides an overview of the future opportunity across its four key end-use applications (ie fixed data, government, mobility, and consumer broadband).[30]

    (a) Eutelsat expects the mobility market segment (which includes IFC and maritime applications) to grow by 17% in the period 2020 – 2030, which is faster than the growth expected in other market segments in which Eutelsat operates. Eutelsat considers the drivers of this growth in mobility

[25] Competitor, Response to P2 SSP and SNO RFI 2, question 1.
[26] Competitor, Response to P1 competitor questionnaire, question 3.
[27] Competitor, Response to P1 competitor questionnaire, question 4; and Future Eutelsat Satellite Launches | Eutelsat.
[28] Competitor, Response to P2 SSP and SNO RFI, question 1.
[29] Competitor, Response to P1 competitor questionnaire, question 8.
[30] Competitor, Response to P2 s109, question 1 and Eutelsat Strategic Update - vF2.pdf.

to be *'[g]rowing number of aircraft / ships … [i]mproved equipment / take-up rates … [e]nhanced service leading to higher usage'*.

(b) Eutelsat also expects the mobility segment to continue to grow beyond 2030. This is due to both increased penetration of IFC on aircraft as *'up to ~40% of commercial aircraft not yet equipped with IFC in 2030'*, and increased use of bandwidth by airlines through *'[d]ata-intensive innovations for aerial mobility'* that Eutelsat expects to *'gain traction after 2030'*.

Future plans

21. Eutelsat told us that its future strategy is to focus more on connectivity applications given the market opportunity in these verticals and less on broadcasting and other one-way applications.[31]

22. Eutelsat told us that its evolution in strategy is expected to be executed through a mix of organic growth (ie the development of managed services through its Eutelsat Advance platform), acquisitions (ie its anticipated acquisition of OneWeb), and commercial partnerships with downstream service providers worldwide (which are seen as a key focus in future years to ensure the distribution of Eutelsat's services).[32] Eutelsat said that its change in strategy is not expected to shift again significantly over the next five years, with it focusing on the execution of its strategy and the development of hybrid GEO and NGSO products.

23. [✂].[33]

Anticipated acquisition of OneWeb and plans for a multi-orbit network

24. A part of Eutelsat's change in strategy is its anticipated acquisition of OneWeb.[34] OneWeb will provide Eutelsat with a constellation of LEO satellites which provide global coverage with low-latency connectivity.

25. Eutelsat announced plans to acquire OneWeb in July 2022. [✂].[35]

26. A presentation prepared by OneWeb and Eutelsat for investors (dated October 2022) provides a detailed overview of the anticipated acquisition.[36] This document assesses the complementarity of the two businesses and

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[31] Competitor, Response to P2 SSP and SNO RFI, question 29.
[32] Competitor, Response to P2 SSP and SNO RFI, question 29.
[33] Competitor, Response to P2 SSP and SNO RFI, question 4.
[34] Competitor, Response to P2 SSP and SNO RFI, question 29.
[35] Competitor, Response to P2 SSP and SNO RFI 2, question 4.
[36] Competitor, Response to P2 s109, question 1; and Eutelsat Strategic Update - vF2.pdf.

competitive strength of the merged entity across all end-use applications in relation to which both firms supply satellite connectivity capacity.

(a) An assessment of the complementarity of Eutelsat's GEO satellite network and OneWeb's network highlights that bringing together GEO and LEO networks will provide the merged entity with:

(i) A *'geographical advantage'* compared to Eutelsat's current position, by combing Eutelsat's GEO *'[c]apacity density'* which allows these satellites to *'focus capacity over high-demand regions'* with OneWeb's LEO *'[f]ull global coverage'* as expected in Q4 2023.

(ii) A 'key value proposition' for its customers, by combining Eutelsat's GEO '[l]ow-cost sellable capacity' as these satellites have 'higher fill-rates than NGSO systems and longer lifetime[s]' with OneWeb's LEO '[l]ow latency' which is 'critical for some applications and improve[s] quality of experience for many others'.

(iii) 'Access to customers' with Eutelsat's '[l]arge installed base [of] major legacy customer base with well established relationships' and OneWeb's '[a]ccess to untapped market pockets'.

(iv) A balanced '[f[inancial profile' with Eutelsat's '[h]igh cash flow generation' and OneWeb's '[i]nvestment requirements in early years'.

(b) The presentation notes that the spectrum secured by OneWeb means that the *'[b]urden of coordination in Ku-band is on other operators not to interfere with OneWeb' and that '[o]ther LEOs need to coordinate with or work around OneWeb to avoid interference'*.

(c) An overview of the geographic coverage of OneWeb's satellite constellation shows that OneWeb will have *'[f]ull global coverage by Q4 2023'* and that *'[a]ll remaining launches [have been] contracted'* by OneWeb.

(d) The presentation benchmarks GEO, MEO, LEO, and LEO/GEO networks in relation to their *'[c]overage ubiquity, [c]apacity densification, [r]esilience / availability, [l]atency, [and] [e]ase of installation'*. The presentation considers that LEO/GEO networks are better performing than standalone GEO, MEO, or LEO networks, with a combination of LEO and GEO overcoming the poor latency and ease of installation/bulkiness of GEO networks and the poor capacity densification of LEO networks.

(e) An assessment of the opportunity available to the merged Eutelsat/OneWeb entity describes its value proposition as able to

'[l]everage the best available network (nominal LEO/GEO in dense area) with optimized operating costs versus separate links' and provide *'[e]nriched responsiveness for latency-sensitive applications, like credit card authorizations, secure transactions, or online buying'*. The document also benchmarks the merged Eutelsat/OneWeb entity's competitive advantages against standalone GEO and LEO networks including against Starlink.

(f) The document includes an illustration of the combined geographic coverage of Eutelsat's GEO constellation and OneWeb's LEO constellation. Eutelsat and OneWeb note that the combination of their two satellite networks will provide *'[h]igh volumes of connectivity demand concentrated in specific geographical area'*, whereas LEO constellations can only accommodate such local demand peaks on a standalone basis *'at the cost of deploying significant capacity on a global scale'*.

(g) Eutelsat and OneWeb's assessment of the advantages OneWeb has in the launch and operation of its Gen2 constellation relative to new LEO entrants, which includes *'[s]pectrum'*, *'[l]anding rights'*, and OneWeb's existing customer base.

(h) Eutelsat and OneWeb's *'clear roadmap to integration'* provides an estimate for when the merged entity will be able to rely on only one antenna to provide satellite connectivity services (not until 2025 – in the short term two will be required, one for LEO and one for GEO) and when it will be able to offer a *'[f]ully integrated LEO/GEO'* offering to customers (not until 2028).

(i) Eutelsat and OneWeb consider that their merger will 'unlock new revenue streams' based on current and future use cases, with Eutelsat highlighting the '[n]eed for high throughput around regional hubs and main routes requiring GEO density' and '[s]ervice continuity requiring LEO ubiquity' in aviation. The document notes that the '[b]usiness drivers' in aviation are '[e]ase of installation / bulkiness', '[l]ocalized capacity densification', '[c]overage ubiquity', and '[r]esponsiveness / [l]atency'.

Distribution agreements in IFC

27. Eutelsat told us that since October 2020 it has entered into a number of distribution agreements with suppliers of IFC to provide 'raw' satellite connectivity capacity, [✂].[37]

[37] Competitor, Response to P2 s109, question 3.

OneWeb

28. OneWeb plans to supply 'managed' satellite connectivity services to suppliers of IFC in commercial and business aviation once its Gen1 constellation is complete and is able to support IFC, which is expected in early 2024.

29. OneWeb has entered into distribution agreements in commercial aviation with, among others, Intelsat and Panasonic and in business aviation with Gogo and Satcom Direct. As set out above, Eutelsat announced plans to acquire OneWeb in July 2022.

Business model and distribution channels

30. OneWeb does not plan to supply 'raw' satellite capacity to SSPs and VARs in commercial and business aviation.[38] Instead, OneWeb's satellite capacity is sold as managed service plans with options for different service levels, speeds, and data allowances. SSPs and VARs will then bundle these managed satellite services with other products and services as part of the IFC solutions they offer to airlines and business aviation customers.

31. OneWeb does not intend to develop its own equipment (eg user terminals, ESAs) for IFC solutions which make use of its satellite capacity and is instead working with a range of third parties (including Stellar Blu) who are developing these.[39] This approach allows OneWeb to partner with key players in the supply chain in order to offer a high quality end to end service to end users.

Satellite capacity

32. 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,[40] 8 December 2022,[41] and most recently 10 January 2023,[42] 80% of OneWeb's fleet is now in orbit.[43] OneWeb has two launches remaining to complete its first generation constellation at which point it will offer global coverage.

33. OneWeb told us that it expects to start supplying satellite capacity for IFC globally once its Gen1 constellation is complete in early 2024.[44] It will test its

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[38] Competitor, Response to P2 SSP and SNO RFI, question 3.
[39] Competitor, Response to P2 SSP and SNO RFI, question 3.
[40] 36 OneWeb satellites successfully launched by ISRO/ NSIL from Sriharikota
[41] OneWeb confirms successful deployment of 40 satellites launched with SpaceX
[42] OneWeb confirms successful deployment of 40 satellites launched with SpaceX
[43] OneWeb confirms successful deployment of 40 satellites launched with SpaceX
[44] Competitor, Response to P2 SSP and SNO RFI 2, question 3

'managed' satellite connectivity services for IFC with a range of distribution partners and other third parties throughout 2023.

34. 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.[45]

35. OneWeb expects to launch satellites for its Gen2 constellation in the next five years, [✂].[46] A presentation prepared by OneWeb and Eutelsat for investors (dated October 2022) notes that OneWeb's Gen2 constellation is expected to come into service in 2028.[47] However, OneWeb considers that its Gen1 constellation will be capable of supporting IFC.[48]

Importance of IFC

36. OneWeb did not earn revenue from the supply of satellite capacity for IFC in the period 2018 – 2021.[49]

37. OneWeb told us that IFC is an important end-use application for its satellite capacity, rating IFC of equal importance to its activities in its three other focus end-use applications: fixed-broadband, government, and maritime.[50]

Future plans

38. OneWeb told us that it plans to grow its business activities by 'selling out' the capacity of its current Gen1 satellite constellation and deploying its Gen2 satellite constellation, [✂].[51] OneWeb aims to supply its satellite capacity globally across its four end-use applications and, in future, expects to develop user terminal equipment with manufacturers to enter new end-use applications that OneWeb can supply with satellite capacity.

39. An internal document obtained from OneWeb (dated October 2022) is consistent with its submissions on its future plans to utilise its Gen1 constellation's capacity.[52] [✂].

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[45] Competitor, Note of call, 23 January 2023, paragraph 2.
[46] Competitor, Response to P2 SSP and SNO RFI, question 2.
[47] Eutelsat Strategic Update - vF2.pdf.
[48] Competitor, Response to P2 SSP and SNO RFI 2, question 8.
[49] Competitor, Response to P2 SSP and SNO RFI, question 1.
[50] Competitor, Response to P1 competitor questionnaire, question 8.
[51] Competitor, Response to P2 SSP and SNO RFI, question 29.
[52] Competitor, Response to P2 s.109 Notice.

Anticipated acquisition by Eutelsat and plans for a multi-orbit network

40. As set out above, OneWeb told us that it is in the process of being acquired by Eutelsat.[53] OneWeb expects to grow its activities in IFC upon close of the proposed transaction by utilising Eutelsat's knowledge of the aviation segment and combining its LEO satellite constellation with Eutelsat's GEO network to provide a hybrid GEO and LEO offering to SSPs.[54]

41. OneWeb currently expects that the acquisition will gain regulatory approvals in all relevant jurisdictions in the second half of 2023. [55]

42. OneWeb considers that GEO and LEO satellite capacity will most likely be deployed together in the supply of IFC.[56] OneWeb believes that, since LEO is a new technology and the infrastructure currently used in the market is predominantly GEO, the offerings supplied by LEO operators will be best served by developing a technology that is compatible with the existing GEO infrastructure to win customers across end-use applications. OneWeb told us, where feasible, its strategy is to develop technology with third parties (eg ESAs) that is compatible with both GEO and LEO satellite capacity.

Distribution agreements in IFC

43. OneWeb told us that it has distribution agreements for the supply of satellite capacity for IFC in commercial and/or business aviation with Eutelsat, Gogo Business Aviation, Intelsat, Panasonic, and Satcom Direct among others.[57]

    (a) Eutelsat's agreement with OneWeb the supply of satellite capacity for IFC in both commercial and business aviation.

    (b) Gogo's agreement with OneWeb covers the supply of satellite capacity for IFC in business aviation.

    (c) Intelsat's agreement with OneWeb covers the supply of satellite capacity for IFC in commercial aviation.

    (d) Panasonic's agreement with OneWeb covers the supply of satellite capacity for IFC in both commercial and business aviation.

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[53] Competitor, Response to P2 SSP and SNO RFI, question 2.
[54] Competitor, Response to P2 SSP and SNO RFI, question 29.
[55] Competitor, Response to P2 SSP and SNO RFI 2, question 2.
[56] Competitor, Note of call, 1 June 2022, paragraph 13 and 19.
[57] Competitor, Response to P2 section 109 notice, question 8; and Competitor, Response to P2 SSP and SNO RFI 2, question 3.

(e) Satcom's Direct agreement with OneWeb covers the supply of satellite capacity for IFC in business aviation.

44. OneWeb explained that its distribution agreements with these partners have been signed on a non-exclusive basis and are for the global provision of satellite capacity for IFC.[58] These agreements will start once OneWeb's Gen1 constellation can supply satellite capacity for IFC.

45. An internal document obtained from OneWeb (dated January 2022) indicates the relative importance of these commercial partnerships to OneWeb's revenue [✂].[59] This document sets out that OneWeb expects to receive more annual revenue from its activities in business aviation than commercial aviation by 2030. OneWeb told us that it believes it will generate more revenue in business aviation than in commercial aviation in the medium term as it is likely LEO IFC solutions will be adopted much more quickly by business aviation customers than commercial airlines, which have a longer lead in time for orders to earn revenue.

Development of ESAs

46. OneWeb told us that it is working with a range of third parties to develop a number of ESAs for user terminals which make use of its satellite capacity.[60]

47. A user terminal developed by Stellar Blu (which incorporates an ESA from Ball Aerospace) has been successfully tested on a test flight involving a Boeing 777.[61] This test flight demonstrated that the Stellar Blu terminal is capable of delivering IFC using OneWeb's satellite network.[62] [✂].

48. [✂][63] [✂] OneWeb confirmed that this IFC solution will utilise both GEO capacity (which will be sourced by OneWeb's distribution partners) and OneWeb's LEO capacity once its satellite network is able to support IFC. The IFC solution terminal will include one user terminal (with one ESA) and two modems (one for GEO and one for LEO).

49. OneWeb currently expects Stellar Blu and other third parties to obtain a range of other STCs for terminals that utilise its satellite capacity across aircraft

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[58] Competitor, Response to P2 SSP and SNO RFI 2, question 3.
[59] Competitor, Response to P2 s109.
[60] Competitor, Response to P1 competitor questionnaire, question 9.
[61] OneWeb Stellar Blu Solutions successfully deliver LEO inflight connectivity (oneweb.net)
[62] 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. Maximum speeds of 260Mbps download/80 upload and file transfer scenarios of 5GB demonstrated in approximately 20 seconds.
[63] Competitor, Response to P2 SSP and SNO RFI 2, question 10.

manufactured by OEMs before the end of 2024.[64] The first TC for an IFC solution which will offer multi-orbit connectivity on [✂] aircraft is currently expected to be obtained towards the end of 2024, with others to follow in the first half of 2025.

SES

50. SES is an SNO that currently supplies 'raw' satellite capacity and 'managed' connectivity services to the Parties' rivals in the supply of IFC to commercial and business aviation customers.

Business activities in IFC

51. SES is a wholesale supplier of both 'raw' satellite capacity and 'managed' connectivity services to SSPs. SES currently does not supply IFC solutions directly to commercial aviation customers and does not have the capability to install IFC equipment on aircraft.[65]

52. SES currently supplies a number of SSPs active in the supply of IFC in commercial and business aviation, including Panasonic, Gogo, Anuvu, Thales, and Collins Aerospace).

53. Around [✂] of SES's revenue has been earned from the supply of satellite capacity for IFC in the period 2018 – 2021.[66]

Satellite capacity

54. SES operates a number of GEO and MEO HTS satellites that provide global coverage in both Ka- and Ku-bands.[67] Two of SES's HTS GEO satellites, SES-14 and SES-17, are capable of providing services in Europe (SES-17 is dedicated to the Americas region and the Atlantic Ocean region with limited coverage of Europe).[68]

55. SES plans to launch a range of satellites relevant to the supply of satellite capacity for IFC before the end of 2025:[69]

    (a) An additional 11 MEO satellites between the second half of 2022 and the end of 2024. These are known as the O3b mPOWER constellation, which

[64] Competitor, Response to P2 SSP and SNO RFI 2, question 10.
[65] Competitor, Response to P2 SSP and SNO RFI, page 1.
[66] Competitor, Response to P2 SSP and SNO RFI, question 1.
[67] Competitor, Response to P1 competitor questionnaire, question 3.
[68] Competitor, Response to P2 SSP and SNO RFI, question 2.
[69] Competitor, Response to P2 SSP and SNO RFI, question 2.

is the next generation to follow on to the successful O3b MEO constellation.

(b) Three additional GEO satellites in 2024 at the earliest, which are all replacements of existing, older satellites.

Future plans

56. In October 2022, Airbus announced that SES had been added as the second managed service provider to its Airspace Link HBCplus catalogue offering for airlines.[70] Under HBCplus, SES may in the future end up contracting directly with airlines to provide the IFC satellite connectivity. However, as yet, the HBCplus programme is at a very early stage, [✂]. No IFC services are yet provided by SES under this arrangement.[71]

57. [✂].[72]

Telesat

58. Telesat is an SNO that currently supplies satellite connectivity capacity to the Parties' rivals in the supply of IFC to commercial and business aviation customers.

Business activities in IFC

59. Telesat is a wholesale provider of satellite capacity.[73] Telesat expects to remain a wholesale provider of satellite services.[74]

60. Telesat estimates that approximately [✂] of its wholesale revenue is used by its customers to deliver IFC services.[75]

Satellite capacity

61. Telesat owns and operates a GEO satellite network, consisting of five satellites which provide coverage over North America, the Caribbean, the Andean Region, the coastal regions of Brazil, the Mediterranean, and Indonesia.[76] The majority of Telesat's satellite capacity is over the Americas.

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[70] Airbus on track to expand the Airspace Link HBCplus catalogue with SES, creating its first agnostic cabin satcom offer | News | Airbus Aircraft
[71] Competitor, Response to P2 SSP and SNO RFI, page 1.
[72] Competitor, Response to P2 s109.
[73] Competitor, Response to P2 SSP and SNO RFI, question 2.
[74] Competitor, Response to P2 SSP and SNO RFI, question 3.
[75] Competitor, Response to P2 SSP and SNO RFI, question 1.
[76] Competitor, Response to P1 competitor questionnaire, question 3.

Telesat does not plan to launch additional satellites to increase the capacity of its GEO satellite network before the end of 2025. Telesat will continue to provide GEO capacity to IFC service providers and will look to grow its GEO business.[77]

62. Telesat is currently developing a LEO constellation.[78] This is intended to position the company to capture the growing global broadband market. Telesat is in the final stages of financing its program known as Telesat Lightspeed. Telesat does not currently expect its LEO satellite constellation to be active before the end of 2025.

Future plans

63. Telesat's existing plans for its GEO network is to sell connectivity services to IFC providers. [✂].[79]

64. An internal document obtained from Telesat focussed on IFC highlights the advantages of Telesat Lightspeed compared to both GEO and LEO alternatives.[80] Compared to GEO, the benefits of Telesat Lightspeed include better quality of internet access, polar coverage, and lower latency. Compared to LEOs, benefits include seamless service gate-to-gate and the ability to support multiple third-party antennae.

65. 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 at the earliest. [81]

[77] Competitor, Response to P2 SSP and SNO RFI, question 29.
[78] Competitor, Response to P1 competitor questionnaire, question 3.
[79] Competitor, Response to P2 SSP and SNO RFI, page 5.
[80] Competitor, Response to P2 s109.
[81] Competitor, Response to P1 competitor questionnaire, question 9.

Appendix E: Additional tables from our tender analysis

Table 7: list of tenders submitted by the Parties as being won by close competitors with a UK-nexus that are omitted from our tender analysis.

Airline	*Parties' estimated award date*	*Airframe*	*WB/NB*	*Quantity*	*Airline's avg. annual flights to/from UK*	*Reason we have not considered tender(s)*
						Panasonic wins
TAP Air Portugal	19/20	A321neo	NB	14	7,748	[✂]
ITA airways	2021	A220	NB	22	3,588	[✂]
Iberia	2021	A350, A321XLR	WB/NB	18	5,980	[✂]
Lufthansa	2022	B747	WB	19	21,944	[✂]
Air Vistara	2020	787-9	WB	6	676	[✂]
EVA air	2020	A330, B777	WB	48	260	[✂]
						Anuvu wins
Turkish Airlines	2022	A321, B737NG	NB	104	12,584	[✂]
						Starlink wins
airBaltic	2023	A220	NB	39	1,768	[✂]
						Intelsat wins
Air France	2021	A220	NB	60	9,932	[✂]
Air Canada	2022	A321XLR, A321neo	NB for LH	30	5,148	[✂]

Table 8: sample of 24 tenders, including those for aircraft tendering airlines did not fly to and from the UK in 2022.

Airline	*Aircraft type*	*In-service or ordered aircraft*	*Opportunity type*	*Total aircraft*	*Award date*	*Winner*	*Runner-up*
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
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[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis of third Party response to the Phase 2 RFI 1, question 6.

Table 9: Frequency of invitations to bid, bids submitted, wins by the Parties and IFC suppliers in the sample of 24 tenders including those for aircraft tendering airlines did not fly to and from the UK in 2022.

	Invited to bid		*Submitted a bid*		*Won*	
IFC suppliers	*Frequency*	*%*	*Frequency*	*%*	*Frequency*	*%*
Anuvu	9	38%	9	38%	0	0%
Inmarsat	24	100%	23	96%	5	21%
Intelsat	14	58%	13	54%	5	21%
Panasonic	18	75%	18	75%	3	13%
Starlink	9	38%	3	13%	0	0%
Thales	16	67%	11	46%	0	0%
Viasat	19	79%	16	67%	11	46%

Source: CMA analysis of third-party response to the Phase 2 RFI 1, question 6.

Table 10: Overlap between IFC suppliers and each of the Parties in invitations to bid and bids submitted in the sample of 24 tenders including those for aircraft airlines did not fly to and from the UK in 2022.

	Inmarsat		*Viasat*	
IFC suppliers	*Invited to bid*	*Submitted a bid*	*Invited to bid*	*Submitted a bid*
Anuvu	38%	39%	47%	38%
Inmarsat	0%	0%	100%	94%
Intelsat	58%	52%	74%	63%
Panasonic	75%	74%	68%	69%
Starlink	38%	13%	47%	19%
Thales	67%	48%	58%	38%
Viasat	79%	65%	0%	0%
Total bids	24	23	19	16

Source: CMA analysis of third-party response to the Phase 2 RFI 1, question 6.

Table 11: Ongoing tenders among airlines in our sample, after excluding tenders not relevant to UK competition (paragraphs 9.133(a) to 9.133(f))

Airlines	*Aircraft type*	*Opportunity*	*Total Aircraft*	*Anuvu*	*Inmarsat*	*Intelsat*	*Panasonic*	*Starlink*	*Thales*	*Viasat*
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis of third-party response to the Phase 2 RFI 1, question 6. Of the seven tenders which airlines provided the date for, all these tenders were launched in 2022.

Table 12: The final sample of tenders we use for our analysis, after excluding tenders not relevant to recent UK competition (paragraphs 1.4(a) to 1.4(e)), with additional bidders.

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

Source: CMA analysis of third-party response to the Phase 2 RFI 1, question 6. For the purposes of our assessment, and in line with our approach to calculating market shares (see paragraph 9.118) 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 and bids by Inmarsat's partners have attributed to Inmarsat.

Glossary

the **Act**	The Enterprise Act 2002.
ATG	Air-To-Ground connectivity.
CAA	Civil Aviation Authority.
CMA	Competition and Markets Authority.
DOJ	U.S Department of Justice.
EC	European Commission.
EASA	European Union Safety Agency
ESA, (sometimes ESA Antenna)	Electronically Steerable Antennas
ESAs	Electronically-Steered Antennas.
FAA	Federal Aviation Administration.
FCC	Federal Communications Commission.
GEOs	Geostationary Earth Orbit Satellites.
Gbps	Gigabytes per second
IFC	In-flight Connectivity Services for passengers based on broadband satellite and non-satellite technology.IFC solution refers to a package including IFC equipment and IFC services.
IFE	In-flight Entertainment
ISL	Inter Satellite Link.
Inmarsat	Inmarsat Group Holdings Limited. Inmarsat is a private company incorporated 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, as well as members of Inmarsat's management.

Inquiry Group	Group of CMA panel members.
LCC	Low cost carrier.
LEOs	Low Earth Orbit Satellites.
Line-fit	Where equipment is installed when an aircraft is manufactured.
MEOs	Medium Earth Orbit Satellites.
Merged Entity	The post-Merger business of **Viasat** and **Inmarsat**.
the **Merger**	The anticipated acquisition of **Inmarsat** by **Viasat**.
NGSOs	Non-Geostationary Earth Orbit Satellites.
OEM	Original Equipment Manufacturer of aircraft.
Parties	**Inmarsat** and **Viasat**.
Phase 1 Decision	The CMA's phase 1 decision.
RFP	Request for proposal
RMS	Relevant merger situation.
Retro-fit	Where equipment is installed on aircraft post-production.
SB	Service bulletin.
Share of supply test	Test that the enterprises which 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.
Share Purchase Agreement	the Share Purchase Agreement (dated 8 November 2021), entered into by Viasat with Inmarsat's shareholders pursuant to which Viasat agreed to acquire 100% of Connect TopCo Limited's issued share capital.
SLA	Service level agreement

SLC	Substantial Lessening of Competition.
SNOs	Satellite Network Operator.
SSPs	Satellite Service Provider.
STCs	Supplemental Type Certificates needed for retro-fit installations on post-production or in-service aircraft.
Switching opportunity	Tenders for IFC solutions where IFC equipment is already installed on an aircraft and any new supplier (other than the incumbent) would have to replace that equipment to install their own IFC solution.
TCs	Type Certificates needed for line-fit installations on new aircraft.
Turnover test	Test that the UK turnover associated with the enterprise which is being acquired must exceed £70 million.
UK	United Kingdom.
VAR	Value added reseller.
Verticals	End-use applications that satellite connectivity capacity is used for by customers, such as fixed-broadband, government, mobility (including aviation, maritime, offshore energy, and land).
Viasat	Viasat, Inc. Viasat is a public company based in the United States listed on NASDAQ.