CMA PHASE 2 INITIAL SUBMISSION

PART II BUSINESS AVIATION

CASE ME/6985/22 ANTICIPATED MERGER BETWEEN



and



25 November 2022

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1 Introduction and Executive Summary

1.1 The approach to business and commercial aviation IFC

- (1) This Phase 2 initial submission responds to the CMA's Issues Statement of 8 November 2022 (the "Issues Statement") and its Phase 1 Decision ("P1D") in relation to the proposed acquisition by Viasat, Inc. ("Viasat") of Inmarsat Group Holding Limited ("Inmarsat" and, with Viasat, the "Parties") (the "Proposed Transaction").
- (2) Part II of this submission explains why the Proposed Transaction cannot be expected to result in a substantial lessening of competition ("SLC") in the global supply of broadband in-flight connectivity ("IFC") services to large private and corporate jets ("large business jets") in the UK.
- (3) It is common ground from the P1D that business aviation and commercial aviation are separate "due to the differing requirements of customers and differing sets of IFC providers".¹ Nevertheless, the P1D concluded that its competitive assessment, including in relation to non-geostationary orbit satellite operators ("NGSOs"), "largely corresponds to commercial aviation".²
- (4) Phase 2 should take a very different approach from Phase 1. For present purposes, the Parties submit that commercial and business aviation share in common: (i) a pattern of NGSO entry and expansion, and partnerships between third-party traditional rivals and NGSOs; and (ii) the ultimate conclusion that no SLC arises on the balance of probabilities.
- (5) There are several reasons why SLC concerns in relation to business aviation in the United Kingdom can be dispelled early in Phase 2 that are unique to this segment. These include:
 - (i) that competition in this global market occurs almost entirely outside the UK for foreign corporate and private jet customers. UK demand is negligible for both Parties' services (less than USD 600,000 for Inmarsat; and less than USD 81,000 for Viasat last year). On the common-sense meaning of this term, the parties' activity in the UK is de-minimis.
 - the impact of competition with market leader Gogo in the region with the lion's share of demand, North America, on competition globally. This will be supplemented by Gogo's new global coverage partnership with OneWeb; and
 - (iii) the gatekeeper role, as sponsors of entry and expansion, of Satcom Direct, Honeywell and Collins Aerospace, the three main global Value Added Resellers ("VARs") based in the United States together with the five global aircraft Original Equipment Manufacturer ("OEMs") based in the Americas (Gulfstream, Bombardier, Embraer and Textron – the latter including the Cessna, Beechcraft and Hawker brands) and the EU (Dassault/Falcon). The parties almost exclusively sell through those three VARs³ and are simply input providers such that competition between the VARs is what determines whether their capacity is sold (or not) and to whom.
- (6) None of these three overarching points apply to commercial aviation in the same way so, whatever the analysis undertaken at Phase 2, it should not "largely correspond" to commercial aviation as was described in Phase 1. This would constitute a fundamental error of approach.

¹ P1D, para. 20; Issues Statement, para. 21. We note that para. 237 P1D limits this to "whether competition from NGSOs in business aviation would effectively constrain the merged entity" but given the wider reference in the overview in para 20 it is not clear that the analysis was so limited.

² P1D, para. 20; Issues Statement, para. 38.

³ [CONFIDENTIAL TO INMARSAT] and Viasat's direct sales to aircraft operators accounted for less than [CONFIDENTIAL TO VIASAT]% of Viasat's service revenues in the financial year FY 2021.

1.2 UK demand for the Parties' services is insubstantial and competition for global demand occurs almost entirely outside the UK

(7) IFC for large business jets is a global market in which over 70% of flights are within North America.⁴ Even demand for intra-European (intra-EMEA) coverage is so limited that [CONFIDENTIAL TO VIASAT].

(8) [CONFIDENTIAL TO VIASAT].⁵

- (9) As far as specifically UK-centric demand is concerned, the P1D therefore reflected a central tension. It understandably "focused its ... assessment on those services that are most likely to affect UK customers and therefore ... on IFC services supplied to large business jets ... used by UK consumers and businesses".⁶ But then it also found that "the evidence available supports the Parties' submission that there is limited UK demand for IFC for business aviation"⁷. This demand is indeed very limited: Inmarsat's revenue is below USD [CONFIDENTIAL TO INMARSAT] in 2021 which in turn dwarfs Viasat's annual revenue from UK-registered jets in each of 2020 and 2021 which, at [CONFIDENTIAL TO VIASAT] was less than a single [CONFIDENTIAL TO VIASAT] (see also paragraph (98) below).⁸
- (10) The Parties' central proposition is (and has from the outset been) that as there is insubstantial in fact only nominal demand – in the UK for IFC for large private and corporate jets, this tiny demand cannot contribute materially to, let alone drive, global competition between the Parties, or indeed with other players. As such there is no substantial competition between the Parties in the UK that could, in principle, be lessened.
- (11) Nor, given negligible UK demand, is it credible to consider that any hypothetical loss of competition abroad, (which is not recognised by the Parties) could adversely impact UK customers to a material degree. The SLC test clearly applies also to markets that are global in geographic scope, but the legislation includes the words "*in the UK*" to establish a material domestic nexus sought by Parliament⁹ and the basis for the CMA to have its own duty to remedy an SLC and any resulting adverse effects.
- (12) The Parties urge, in any event, that the specific constraints and dynamics in this segment are given full attention and not treated as an afterthought to or a derivative of commercial aviation. To be clear, the Parties' case for no SLC does not rest on the notion that a handful of ultra-high net worth private jet users with arguable UK nexus do not merit the protection of competition law. The Parties' case as set out below is that these consumers will be protected because the Parties are and will be subject to effective market discipline by rival suppliers and powerful customers such that there is no SLC on the global market, or any *de minimis* segment of it.

1.3 NGSOs are already competing in the global market for forthcoming IFC installations with operations expected at – or within a few months of – the Proposed Transaction closing date

(13) The Issues Statement summarises the P1D as finding that "[a]ny constraint currently exerted by the threat of entry by NGSO operators is negligible"¹⁰ and that there is "not sufficiently robust evidence that

⁴ Viasat WingX Dashboard data for 2021 through 1H 2022 shows 72.4% of connected flights were within North America (dataset: Gulfstream, Dassault, Bombardier and Embraer OEMs; Heavy Jet, Super Mid-Size Jet and Ultra Long Range Jet segments).

⁵ [CONFIDENTIAL TO VIASAT] See ILR, paras 152-153.

⁶ P1D, para. 83.

⁷ P1D, fn. 108.

⁸ [CONFIDENTIAL TO VIASAT]

⁹ Section 22(6) of the Enterprise Act provides that the phrase "market in the United Kingdom" in the SLC test includes in "so far as it operates in the United Kingdom".

¹⁰ Issues Statement, para. 38(c).

entry by NGSO operators would be timely, likely, and sufficient to constrain the Merged Entity and thereby prevent an SLC".¹¹

- (14) These conclusions can no longer stand for purposes of the CMA's Phase 2 Provisional Findings. This is not a case about entry as a possible future competitive constraint. NGSOs competitors are in the market, and not merely putative entrants, with respect to strategic competition to acquire broadband satellite capacity that is readily available for the business aviation vertical.¹²
- (15) With respect to the aviation vertical in general, and the business jet segment within it specifically, once a customer has installed an IFC solution, competition has already occurred. The measure of when a player is "in the market" for IFC competition purposes is not its installed base *per se*, but when they start credibly competing to win customers for subsequent installation. Credible competition can, and in this case does, take place on a pre-operational launch basis, with a potentially substantial period of time between decision on installation and actual implementation.

1.3.1 Starlink Aviation is being marketed directly to jet operators

- (16) The most prominent example of why the Phase 1 analysis is already obsolete is Starlink's launch of Starlink Aviation on 19 October 2022¹³– an online offer for both commercial and business aviation customers via a dedicated Starlink Aviation webpage advertising "high-speed, low-latency, in-flight internet with connectivity across the globe" with the ability to make reservations now for delivery in 2023. Starlink has therefore clearly developed the key technologies Inter-satellite Links ("ISLs") and Electronically Steered (Phased Array) Antennae ("ESAs") which will allow Starlink to service its customers in 2023. The website also includes a substantial list of aircraft types on which Starlink has Supplemental Type Certificates ("STCs") in development, making the Starlink system available on a variety of aircraft platforms in which the Parties already have a presence. This launch has been the topic of much discussion at recent industry events, in particular the National Business Aviation Association's (NBAA) Business Aviation Conference and Exhibition (BACE) that took place in Orlando, Florida during the week of 17 October 2022, as well as the Corporate Jet Investor (CJI) conference that took place in Miami Beach, Florida on 1-2 November 2022.
- (17) In addition, [CONFIDENTIAL TO VIASAT]. These developments constitute tangible evidence that Starlink's competitive entry in business aviation has occurred, and it is exercising a competitive constraint. Starlink's launch demonstrates a fundamental fact of its NGSO constellation: it is inherently global by definition (including the poles). On this dimension of competition, Starlink is *ahead* of Viasat, and has *already* achieved global coverage in an extraordinarily short period of time.

¹¹ Issues Statement, para. 38(b).

¹² See further the Parties' Phase 2 Initial Submission Part I, Section 3.2

¹³ Aviation, Starlink, available at: https://www.starlink.com/aviation. Accessed on 9 November 2022. See also, SpaceX rolls out Starlink aviation product for satellite internet to private jets, EVA, 21 October 2022, available at: https://www.evaint.com/spacex-rolls-out-starlinkaviation-product-for-satellite-internet-to-private-jets/.

1.3.2 OneWeb partnership reinforces the existing Gogo constraint as global market leader

(i) Global coverage partnership between the #1 in business aviation and OneWeb

- (18) In contrast to Starlink's direct to-market approach in IFC, the second-largest NGSO constellation player, OneWeb, has partnered with the largest business aviation player globally, Gogo, in May 2022¹⁴ to offer global coverage to Gogo.
- (19) The P1D dismissed this partnership because it (unlike Gogo) takes the view that the provision of OneWeb's services is not sufficiently timely and certain. Yet Gogo has demonstrated a track record of historical and recent success in this segment, so its public trust in OneWeb to deliver its global coverage expansion goals cannot be brushed aside at Phase 2. On its face, this partnership is a credible strategic move to deliver IFC coverage globally outside North America by the biggest incumbent in business aviation, Gogo. Further details were provided by both Gogo and OneWeb during the NBAA-BACE 2022 conference in October 2022, as the two hosted a dedicated session to this partnership. A critical review of internal documents obtainable from Gogo and OneWeb will provide the CMA with the best view of these plans.
- (20) These developments reinforce the conclusion that business jet customers are showing faith in multiple forms of billionaire-backed low earth orbit ("LEO") capacity and coverage, and that the general consensus in the industry supports the success of NGSOs. As noted, NGSO rivals have significant competitive advantages that are particularly attractive to business aviation customers lower latency services, polar coverage (which, in the Parties' experience, is increasingly becoming a critical coverage area for business aviation) and smaller and lighter terminals and are expected to lead market expansion and win a significant proportion of demand going forward.
- (21) To understand the overall competitive effect of the Gogo/OneWeb partnership, it is necessary to first understand the existing constraint of Gogo. The Issues Statement summarises the P1D conclusion that: "Gogo's ATG solution, despite its large share of supply, only provides a weak alternative to the satellitebased IFC services provided by the Parties, as it cannot compete for aircraft that intend to fly outside the US".¹⁵

(ii) North American coverage is key for the majority of large business jet customers where Gogo Air-to-Ground ("ATG") is the clear market-leading incumbent

(22) In this respect, the P1D does not meaningfully elaborate on its proposition that:

"The CMA [...] considers it unlikely that Gogo could act as an effective competitive constraint on providers offering a different service that allows for a wider (potentially global) reach that – as the evidence suggests – is largely seen as key by large business jet operators and end-users."¹⁶

- (23) As to what is "*largely seen as key*" by users, it is clear from data on what customers want based on what they actually do in practice (so-called "revealed preferences"), rather than what one or two may say ("stated preferences"): IFC installation patterns and IFC usage patterns indicate that, for the vast majority of global business IFC demand, North American coverage is key.
- (24) As the Parties noted in the Final Merger Notice dated 8 August 2022 ("**FMN**")¹⁷, the business aviation IFC segment is largely focused on North America, which accounts for some 87% of the world's business

¹⁴ OneWeb Partners with Gogo Business Aviation to revolutionise in-flight connectivity for business jet users worldwide, 23 May 2022, available at: https://oneweb.net/resources/oneweb-partners-gogo-business-aviation-revolutionise-flight-connectivity-business-jet. Accessed on 3 November 2022.

¹⁵ Issues Statement, para. 38(a)(i).

¹⁶ P1D, fn. 345.

¹⁷ FMN, para. 40.

jet flights, and rest of the world excluding North America ("**ROW ex NA**") coverage is either a low priority, used in limited amounts, or not required.

- (25) As IFC service entails both hardware and service costs, even business jet customers are unlikely to pay substantial sums for subscriptions over time for a service that they use sporadically, if at all. For the majority of customers who value North American coverage but attach little or no weight to coverage outside (based on expected jet usage, and in turn IFC usage, in ROW ex NA), it cannot seriously be argued that Gogo ATG is not the leading incumbent and an effective or close competitor. This conclusion equally holds true in the future, e.g. Valour Consultancy predicts that North America will account for just over three quarters of connectivity installations between 2021 and 2031.
- (26) Within North America, the IFC services offered, including, *inter alia*, by Geostationary Earth Orbit ("GEO") satellites and ATG systems, are substitutable as they provide the same functionality, including as demonstrated by SmartSky's recent launch of its 5G ATG network across the US.¹⁸ Most operators choose one service type or the other for each aircraft and so these two types of service compete directly against each other.

1.3.3 For the minority of business jet users seeking global coverage, the evidence shows that Gogo ATG does exert a constraint on the Viasat customer offer in practice

- (27) Gogo ATG plays a competitive role outside the scope of its network coverage, in essence, because that ATG network spans the large majority of global IFC demand for business jets, i.e. in North America.
- (28) If Gogo ATG were truly irrelevant to pricing for "global coverage" because the ATG network spans only North America – one might expect the Parties to engage in price discrimination today: in other words, pursue a strategy of offering lower regional prices in North America, where they directly compete with Gogo ATG, and higher prices where Gogo ATG allegedly is irrelevant, i.e. for global packages, which Gogo ATG cannot offer, or for regional packages other than North America. In practice, neither Party does this. [CONFIDENTIAL TO INMARSAT]

(29) [CONFIDENTIAL TO VIASAT]

(30) [CONFIDENTIAL TO VIASAT]

(31) As noted above, this existing constraint will soon be intensified by virtue of the Gogo/OneWeb partnership. For further details with respect to OneWeb's expansion path to serve aviation IFC generally, see Part I of this Initial Submission on commercial aviation.

1.4 The gatekeeper role of VARs and OEMs for the Parties' existing competitors

(32) In addition to Starlink, and OneWeb/Gogo, constraints on the merged firm arise from the buyer power of the three main global VARs, who control access to end customers. These should not be viewed in isolation from the analysis of supply-side constraints: they work in tandem. This facilitates competition between IFC providers, including sponsoring NGSO entry, such as: (i) the partnership between OneWeb and Satcom Direct; (ii) the preferred business aviation partnerships with satellite operators other than the Parties, namely 'LuxStream', the partnership between Collins Aerospace and SES launched in 2019, and 'FlexExec', the partnership between Satcom Direct ('Plane Simple' terminals) and Intelsat launched in 2021.¹⁹

¹⁸ SmartSky, available at: https://smartskynetworks.com/. Accessed on 9 November 2022.

¹⁹ See further detail in Parties ILR, paras.176-179 and 185. Please refer to https://www.ses.com/press-release/collins-aerospace-ses-and-vista-global-launch-luxstream-connectivity-service. Accessed 22 November 2022. Please refer to https://www.satcomdirect.com/inflight-connectivity/connectivity-solutions/. Accessed 22 November 2022. Intelsat's FlexExec is described as Satcom Direct's "preferred Ku-

(33) A similar point applies to OEMs: they effectively decide whether an IFC provider will be certified and whether its business aviation IFC system will form part of the options offered to business aircraft operators for the different types of aircraft, and in turn whether the IFC equipment will be installed – whether line-fit or retro-fit – on an aircraft. The CMA's Phase 2 analysis must take into account the incentives of the VARs and OEMs to resist price increases, which could only be detrimental to demand for the products and services on which they make margins, via their ability to sponsor entry and/or promote the services of their partners or sponsored entrants.

1.5 Conclusion

(34) As explained in more detail in the remainder of this Initial Submission, the Proposed Transaction does not give rise to the expectation of an SLC for private and corporate users of large business jets in the UK.

2 IFC demand for large private and corporate jets is insubstantial in the UK

2.1 Centre of gravity of demand today and in future

- (35) Historical, current and growing demand in the business aviation IFC market is centred on North America. Most flights covered by large business jets take place within North America. Data from the Viasat Wing-X Dashboard shows that c. 72% of global flights by large business jets between January 2021 and June 2022 were flights within or to/from North America.²⁰
- (36) This general picture is not expected to change. Valour Consultancy predicts that North America will account for just over three quarters of VVIP and Business Aircraft connectivity installations between 2021 and 2031.²¹ Valour Consultancy's predicted penetration rates in Europe compared to global rates also confirm that European demand is growing much slower than global demand, which is largely centred in North America as shown below.

Year	% Penetration Europe	% Penetration Global
2019	n/a	42%
2020	n/a	44%
2021	18%	49%
2022	22%	54%
2023	26%	60%
2024	32%	66%
2025	38%	72%
2026	44%	78%
2027	51%	83%

Table 1 Penetration Rates for IFC on large business jets globally and in Europe

band satellite solution". FlexExec rebounds with new terminal from Satcom Direct, PaxEx.Aero, 15 February 2022, available at: https://paxex.aero/intelsat-flexexec-terminal-satcom-direct/. Accessed 22 November 2022.

²⁰ [1] Timeframe of the data pulled is between 1/1/2021 and 30/6/2022; [2] Aircraft OEMs limited to Gulfstream, Dassault/Falcon, Bombardier and Embraer; [3] Aircraft segments limited to Heavy Jet, Super Midsize Cabin jet and Ultra Long Range Jet.

²¹ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 6 (attached as Annexes ISBA.001 and ISBA.002).

Year	% Penetration Europe	% Penetration Global
2028	58%	88%
2029	64%	92%

Source: Period 2021-2029 based on The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022 (attached as Annexes ISBA.001 and ISBA.002); and Period 2019-2020 based on The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, August 2020 (Annex 019.24 to the FMN).²²

2.2 UK-centric demand

- (37) As noted in the FMN, only [CONFIDENTIAL TO VIASAT] of Viasat's connected business jets, and only [CONFIDENTIAL TO INMARSAT] of Inmarsat's, are UK-registered. As such, the UK represents no more than [CONFIDENTIAL TO BOTH PARTIES]% of each Party's relevant global aircraft connections or revenue and, on a combined basis, the Parties therefore account for only [CONFIDENTIAL TO BOTH PARTIES] jets registered in the UK with revenue of less than GBP [CONFIDENTIAL TO BOTH PARTIES] in 2021.²³
- (38) At Phase 1, the CMA noted in the P1D that it:

focused its competitive assessment on those services that are **most likely to affect UK customers** and therefore focused on the potential effects of the Merger on IFC services supplied to large business jets that are **used by UK consumers and businesses** (paragraph 83, emphasis added).

(39) The Parties had argued that:

The Parties cannot identify *any substantial demand in the UK or from UK aircraft or operators or end users* as such for the Parties' solutions. Given the lack of demand, it is fair to suggest there is *no substantial competition* today between the Parties ... *as far as the UK is concerned*. Viasat's IFC terminals are currently installed in only [CONFIDENTIAL TO VIASAT] large business aircraft registered in the UK, generating only [CONFIDENTIAL TO VIASAT] in both financial years 2020 and 2021 (FMN paragraph 887, emphasis added).²⁴

- (40) The P1D acknowledged in a footnote that that "the evidence available supports the Parties' submission that there is limited UK demand for IFC for business aviation" and dealt with the point merely by noting that the Parties had not submitted a *de minimis* market argument.²⁵ The P1D in the remainder of its analysis, which in turn has framed this section of the Issues Statement, does not engage further with the direct tension in its findings that:
 - (i) there is limited UK demand, which necessarily implies limited rivalry in the UK for that demand and a negligible contributing role to global competition for global demand, but

²⁵ P1D, fn. 108.

²² The August 2020 report can be used to calculate the global penetration rates for 2019 and 2020. However, the report does not offer the level of granularity necessary to provide the penetration rates at a regional level. As a result, we are unable to provide the penetration rates for Europe in 2019 and 2020. The September 2022 report only contains information from 2021 onwards, therefore, it cannot be used to calculate the penetration rates for 2019 to 2020.

²³ FMN, para. 864.

²⁴ See also Issues Letter response, para. 153: "None of this [evidence] suggests substantial demand from UK aircraft operators or end users for IFC solution for large business jets".

- (ii) the loss of that limited competition for limited UK demand gives rise to a realistic prospect of a substantial lessening of competition in the UK.²⁶
- (41) In this case, competition with alternative suppliers in the global market takes place outside the UK, a *de minimis* amount of business is conducted with customers located in the UK, and it cannot reasonably be argued either that (i) there is substantial demand, or rivalry for that demand between the Parties in the UK or that (ii) UK demand contributes materially to substantial global rivalry outside the UK.
- (42) The Parties respectfully submit that Phase 2 must resolve the tension in the P1D as it is directly relevant to the determinative SLC question under section 36(1)(b) of the Enterprise Act 2002. Nor does this question of necessity require months of evidence-gathering and analysis, as the proposition put forward is a threshold question and the relevant data are not in dispute.
- (43) In any event, there are in any event no grounds for an expectation of SLC on the global market given competitive dynamics set out in the remainder of this Initial Submission.

3 Nascent market dynamics under disruption

(44) As per the P1D, the Parties agree with the CMA that there should be limited emphasis on historic shares of supply in a market characterised by growing demand (in this case at global/North American level).²⁷ Instead, the Parties submit that, given the nascency of the market and the complexity of the market structure, the Parties' competitive strengths should be assessed holistically to account for the growing demand for IFC on business jets, the constraint exercised by VARs on the Parties (which effectively control the Parties' access to the market) and the significant buyer power held by OEMs and Maintenance, Repair and Overhaul operators ("**MROs**").

3.1 Nascent and largely uncontested demand

- (45) Business aviation IFC remains in a nascent stage. Apart from Gogo, most competitors, including the Parties, have been offering business aviation IFC for only a few years.²⁸
- (46) While the penetration rate of broadband-capable IFC terminals on large business aircraft was less than 49% in 2021 according to Valour Consultancy, the number of such terminals is expected to increase by 67% between 2021 and 2025 (from 4,444 terminals to 7,406 terminals) and more than 174% by 2031 (from 4,444 terminals to 12,187 terminals) increasing penetration rates to 72% by 2025 and more than 99% by 2031.²⁹ This growth (illustrated in Figure 1 below) will create further opportunities and an incentive for entry and expansion, in particular for LEO providers (as described below) which will only increase competition in the market.

²⁶ As the CMA is aware, the *de minimis* market exception to the duty to refer, which has a general market ceiling size of £15m, an assessment for markets in the £5m to £15m range of whether the expected customer harm outweighs the cited average public cost of a phase 2 reference (which in 2018 was cited as c. £400,000), and a presumption *against* reference when the market is worth £5m or less. Given the Parties' combined revenue of **[CONFIDENTIAL TO BOTH PARTIES]** does not reach even **[CONFIDENTIAL TO BOTH PARTIES]** the lower £5m threshold, this is a fair question. However, the *de minimis* exception has a formal constraint in CMA guidance: for the case to be a meaningful candidate, it only works if it applies to all relevant reference markets in aggregate – in other words to both aviation IFC markets combined. It was not open to the CMA at Phase 1, for sake of argument, simultaneously to refer commercial aviation for in-depth inquiry and declare business aviation a *de minimis* market regardless of the merits of the latter point on a standalone analysis.

²⁷ P1D, para. 204.

²⁸ Inmarsat has been providing broadband service for less than six years. Viasat has been providing Ka-band satellite service for business aviation only since 2019. The SES/Collins LuxStream service also launched in 2019 and Intelsat launched the FlexExec service in October 2018.

²⁹ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022 (attached as Annexes ISBA.001 and ISBA.002).



Figure 1 Number of Active IFC Terminals on Large Business Aircraft from 2019 to 2031

Source: The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022 (attached as Annexes ISBA.001 and ISBA.002).

- (47) Key market drivers for this rapidly increasing demand include passengers' growing expectation to have access to broadband connectivity at all times as well as the increase in Ultra-High-Net-Worth Individuals (people with investable assets of at least USD 30 million) – which grew by 9.3% in 2021 and is expected to grow by 28% by 2026.³⁰
- (48) The above estimates only focus on large business jets, which, as explained in the FMN, cover "Bizliners", "Large Cabin" jets and "Super Midsize Cabin" jets and are the only aircraft which can currently accommodate GEO satellite IFC terminals. However, as set out in more detail below, NGSOs will be expanding the total addressable market for broadband IFC on smaller airframes that cannot accommodate today's GEO satellite antennas, such as the ones required to access the Parties' owned or leased capacity. Those estimates therefore underestimate the future demand for business aviation IFC by excluding smaller business jets, namely mid-cabin jets, small-cabin jets, very light jets and turboprops, which are now target customers for smaller and lighter NGSO narrowband IFC terminals.
- (49) Contrary to the P1D's focus on line-fit installations as a source of closeness of competition that rivals allegedly cannot match, retro-fit installations are expected to constitute the majority of annual IFC installations until 2030, increasing between 2022 and 2025 (from 58% of annual IFC installations in 2022 to 65% in 2025), and then slightly decreasing from 2025 onwards, as the relative pool of unconnected aircraft decreases.³¹ Retro-fit opportunities therefore have played and will continue to play a crucial access point to the business aviation IFC market alongside line-fit installations and open up more competition in the market. See further discussion in Section 8.4 of Part I of this Initial Submission.

³⁰ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 64 (attached as Annexes ISBA.001 and ISBA.002).

³¹ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 10, Table 3 (attached as Annexes ISBA.001 and ISBA.002).

Table 2 Global Business Aircraft Production and Annual In-Flight Connectivity Installations (2021-2031)

Table 3												
Global Business Aircraft Production and Annual In-Flight Connectivity Installations (2021 - 2031) Aircraft Production, Line Fitments, Retrofits, Attach Rate												
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	SUM (21 - 31)
Annual Aircraft Production	1,053	1,118	1,121	1,111	1,176	1,131	1,241	1,332	1,392	1,434	1,489	13,598
Attach Rate	63.7%	64.7%	68.2%	72.1%	72.2%	73.6%	74.3%	75.5%	76.5%	77.5%	80.4%	
Line Fitments	671	723	765	801	849	832	922	1,006	1,065	1,111	1,197	9,942
Retrofits	633	1,027	1,365	1,392	1,547	1,515	1,421	1,328	1,269	1,112	1,081	13,690
TOTAL INSTALLATIONS	1,304	1,750	2,130	2,193	2,396	2,347	2,343	2,334	2,334	2,223	2,278	23,632
Source: Valour Consultancy September 2022												

Source: The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022 (attached as Annexes ISBA.001 and ISBA.002).

Line Fitments

Figure 2 Annual Installations of IFC on VVIP and Business Aircraft by Fitment Type



Source: The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022 (attached as Annexes ISBA.001 and ISBA.002).

3.2 VARs and OEMs act as gatekeepers and sponsors of competition in IFC

3.2.1 The three global VARs

(50) The CMA has recognised VARs as an important feature unique to the business aviation segment.³² The significance of their role as gatekeepers between the Parties and end customers is a key consideration for assessing the competitive dynamics. As previously outlined, the three main VARs (i.e. Honeywell, Satcom Direct and Collins Aerospace) are used by the Parties and other satellite network operators ("SNOs") for the vast majority of their sales³³ and thus effectively (i) control the Parties' access to end customers, (ii) have significant buyer power when negotiating pricing and other terms with the Parties, and (iii) are very sensitive to cost of airtime and bandwidth. [CONFIDENTIAL TO VIASAT].

³² P1D, para. 198. The Parties would note, however, that VARs are not unique to the business aviation segment – they also play an important role in other verticals, including commercial aviation – albeit their role in business aviation is particularly important.

³³ Direct sales to aircraft operators accounted for less than [CONFIDENTIAL TO VIASAT]% of Viasat's service revenues in the financial year FY 2021 with the remaining service revenues all generated through the above three VARs, while Inmarsat's large business jet services revenues are [CONFIDENTIAL TO INMARSAT].

- (51) The VARs' technological know-how from their often vertically integrated offering, covering multiple aviation products and services (e.g. cockpit and flight ops solutions including flight route planning and cabin solutions including telephony, Wi-Fi as well as W-IFE, broadcast and connected entertainment) as well as the direct relationship with business jet operators and the manufacture of IFC terminals,³⁴ gives them a functional/operational advantage and strong position from which to negotiate with satellite service providers (***SSPs**^{*}) such as the Parties, and ability to switch between providers, thus imposing a real competitive constraint. The Satcom Direct Router, for instance, the first generation of which was launched in 2013, is one of the most popular routers in the industry and is installed on over 1,000 aircraft and more than 50 airframe types.³⁵ This advantage also enables VARs to sponsor NGSO entry, such as the partnership between OneWeb and Satcom Direct, which is further enabling the rapid entry of NGSO solutions in the business aviation IFC segment.
- (52) In addition, two of the three main VARs active in the business aviation segment have developed preferred business aviation partnerships with satellite operators other than the Parties, namely 'LuxStream', the partnership between Collins Aerospace and SES launched in 2019, and 'FlexExec', the partnership between Satcom Direct and Intelsat launched in 2021.³⁶ As explained further below, the CMA was incorrect to dismiss the competitive threat posed by these VAR-sponsored solutions³⁷ and has not given sufficient weight to their market influence and growth potential.
- (53) Whilst Satcom Direct and Collins Aerospace also distribute other IFC solutions (e.g., Satcom Direct distributes Inmarsat's Jet ConneX solution based on Inmarsat's GX satellites as well as Viasat's IFC solution for business aviation), they could have commercial incentives to direct customers towards their own in-house solutions (for which they sell both the hardware and the connectivity services) and away from the Parties' offerings. For instance, as the leading business aviation VAR, Satcom Direct would be able to steer customers to its own FlexExec Ku-band terminal and service if Inmarsat were to increase its price for IFC services.
- (54) Further, some OEMs also have certain VARs as preferred service providers ("PSPs"), which they recommend to aircraft operators, e.g. Satcom Direct for Embraer and Gulfstream, Collins Aerospace for Bombardier, and Honeywell for Dassault/Falcon. These relationships provide the VARs with even greater buyer power (vis-à-vis SSPs) as they have more ability to influence aircraft operators to prefer their solutions and therefore can use these strong relationships in negotiations with SSPs to drive a better deal.

3.2.2 OEMs

(55) In addition, due to their strategic role in the supply chain and their small numbers, OEMs are able to significantly constrain the Parties.³⁸ In the business aviation market, OEMs and MROs are responsible for the certification, negotiation, purchase, and installation of IFC equipment/hardware (e.g. antennas and terminals) on business aviation aircraft and thus act as gatekeepers between IFC providers and end users, i.e. business aircraft operators, as they are in charge of delivering certifications for IFC

³⁴ ILR, para. 183.

³⁵ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 167 (attached as Annexes ISBA.001 and ISBA.002). See also, Satcom Direct's Webpage available at: https://www.satcomdirect.com/aviation-in-flightconnectivity/devices-terminals/cabin-routers/.

³⁶ See further detail in the Parties ILR, paras.176-179 and 185. Please refer to: https://www.ses.com/press-release/collins-aerospace-sesand-vista-global-launch-luxstream-connectivity-service. Accessed 8 February 2022. https://www.satcomdirect.com/inflightconnectivity/connectivity-solutions/. Accessed 8 February 2022. Intelsat's FlexExec is described as Satcom Direct's "*preferred Ku-band satellite solution*". FlexExec rebounds with new terminal from Satcom Direct, PaxEx.Aero, 15 February 2022, available at: https://paxex.aero/intelsat-flexexec-terminal-satcom-direct/. Accessed 17 February 2022.

³⁷ P1D, paras. 219-220.

³⁸ ILR paras. 188-191; FMN, paras. 933-938.

equipment.³⁹ OEMs effectively decide whether an IFC provider will be certified and whether its business aviation IFC system will form part of the options offered to business aircraft operators for the different types of aircraft and in turn whether the IFC equipment will be installed on the aircraft, and thus have material leverage over IFC providers such as the Parties.

3.3 Recent third-party forecast concerning NGSO disruption in aviation

- (56) The evidence below clearly contradicts the third-party evidence cited by the P1D that "*it could take five years or more for NGSOs to enter business aviation*".⁴⁰ As set out in paragraphs (65) to (68) below, Starlink's win of Textron (Cessna, Beechcraft, Hawker and Bell Helicopter) aircraft is imminent, while current installation on Elon Musk's Gulfstream business jet and other wins for Starlink are in the pipeline, and OneWeb is also making clear progress through its many partnerships.
- (57) Before looking in detail into each NGSO IFC provider, it is important to highlight that, since the P1D, industry experts from Valour Consultancy have published their annual reports on the business aviation market for IFC.⁴¹ Valour Consultancy's forecast of NGSOs' trajectories in business aviation is summarised below.
 - (i) Overall, LEO solutions are forecasted to gain traction rapidly in all market segments in all regions of the world.⁴²
 - (ii) The number of NGSO terminals (excluding Iridium which is a LEO constellation of narrowband capacity) is projected to reach 4,491 by the end of 2031 vs 9,289 GEO terminals (i.e. nearly 50% of the total number of terminals by 2031) (see Figure 3 below).⁴³
 - (iii) Annual installations of NGSO terminals (excluding Iridium) are expected to overtake those of GEOs by 2028 (and to already make up more than half of GEO installations by 2026) (see Figure 3 below).⁴⁴
 - (iv) LEO solutions will be priced favourably to win market shares and it is expected that "the arrival of LEO solutions should have a further depreciative effect on pricing".⁴⁵ The report also notes: "it would be naïve of us to disregard the prospect of Elon Musk selling the Starlink service well below cost in order to drive out competition. Indeed, the SpaceX CEO has the deepest pockets of anyone in the market and could conceivably sustain a loss-making business for quite some time, if it was deemed advantageous to do so".⁴⁶

⁴⁵ Ibid, p. 79.

³⁹ OEMs deliver Type Certificates which certify systems on their production aircraft. Those certifications are specific to each airframe for each OEM (e.g. if Viasat is certified on a certain type of aircraft with Gulfstream, for instance, it would have to apply to be certified for that same type of system with Embraer for each of its airframes).

⁴⁰ P1D, para. 240.

⁴¹ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022 (attached as Annexes ISBA.001 and ISBA.002).

⁴² Ibid, p. 7.

⁴³ Ibid, p. 111 and Chart 8.

⁴⁴ Ibid, Table 4.

⁴⁶ Ibid, p. 107.





Source: The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022 (attached as Annexes ISBA.001 and ISBA.002).

Table 3Global Annual In-Flight Connectivity Installations on Business Aircraft by
Frequency Band (2021-2031)

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Table 4	Al fa	h	Dd //									
Global Annual In-Flight Connectivity Installations on Busin Annual Installations	ess Aircraft	by Freque	ncy Band (A	2021 - 203	1)							
												SUM
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	(21 - 31)
ATG	870	1,119	1,340	1,258	1,361	1,239	1,146	1,042	979	831	780	11,965
L-band	132	138	140	152	143	124	88	57	42	30	25	1,071
Ku-band	50	191	312	381	458	572	680	747	768	777	788	5,724
Ka-band	247	298	336	401	434	412	429	488	545	585	685	4,860
Hybrid	5	4	2	1	0	0	0	0	0	0	0	12
TOTAL INSTALLATIONS	1,304	1,750	2,130	2,193	2,396	2,347	2,343	2,334	2,334	2,223	2,278	23,632
Broadband	1,172	1,612	1,990	2,041	2,253	2,223	2,255	2,277	2,292	2,193	2,253	22,561
Narrowband	132	138	140	152	143	124	88	57	42	30	25	1,071
GSO	356	547	630	722	720	659	628	603	568	515	477	6,425
NGSO (inc. Iridium)	78	84	160	213	315	449	569	689	787	877	1,021	5,242
NGSO (exc. Iridium)	0	5	82	127	226	363	501	644	754	851	998	4,551
Source: Valour Consultancy											Sept	ember 2022

Source: The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022 (attached as Annexes ISBA.001 and ISBA.002).

3.3.1 NGSOs' lower latency is a key advantage in business aviation

(58) Out of all of the NGSOs' advantages set out at Section 7.5 of Part I of the Initial Submission (on commercial aviation), latency is of paramount importance to business travellers in particular.⁴⁷ Latency is indeed a key consideration for access to virtual private networks, in particular business networks, as well as upload speeds and cloud connections, which are key applications for business jet customers.

⁴⁷ See for instance, ILR, para. 193.

Valour Consultancy's most recent report confirms once again this conclusion and states: "*Business travellers are much more inclined to use video conferencing software, have VoIP conversations, connect to a VPN and work with documents stored in the cloud. For each of these applications, latency is of paramount importance. Online in-flight gaming is another emerging application that can require a very low latency system*".⁴⁸

(59) It is therefore no surprise that OEMs, such as Bombardier (as highlighted below at paragraph ((70)(ii)), have started to issue RFPs with specific latency requirements which can in practice only be met on a global basis by NGSO solutions that have the inherent advantage of orbiting closer to the Earth thereby reducing the time it takes for the signal to travel from the aircraft to a given satellite and back.

3.3.2 Smaller NGSO terminals will expand the market

- (60) NGSO satellites are forecasted to expand the total addressable market for high-bandwidth connectivity on smaller airframes⁴⁹ that do not operate within reach of an ATG network and that cannot accommodate today's bulky gimballed (i.e., mechanically steered) GEO satellite Ku- and Ka-band antennas.⁵⁰ The small-cabin jet, very light jet and turboprop segments are therefore anticipated to be the three fastest growing segments for IFC systems between 2021 and 2031.⁵¹
- (61) Although the Parties are currently unable to compete for those aircraft, the possibility for NGSOs to access this largely untapped (other than by ATG in North America) demand further makes the business aviation segment particularly attractive especially for NGSOs, as they will be able to target more aircraft specific segments within the business aviation with their smaller and lighter antennas.

4 As a disruptive competitor, Starlink is on the front line with strong OEM support and a direct marketing approach

- (62) Starlink's disruptive impact no longer comprises bold marketing statements and eye-catching tweets from Elon Musk but is backed up with Starlink's newly launched aviation-dedicated website, which provides all of the information necessary for market participants to assess a potential Starlink IFC offering and demonstrates the here and now impact of Starlink on competition in the business aviation segment. Starlink launched its business aviation product suite online in October 2022, ahead of the most significant annual business aviation industry event – the NBAA yearly conference in Orlando, Florida. Its proposition includes:
 - (i) <u>Competitive prices</u>: Shipset USD 150,000 for antenna, power supply, two wireless access points (WAPs) and service pricing of USD 12,500 to USD 25,000 per month (unlimited data plan at the high end). For comparison, the Parties' solutions are priced up to [CONFIDENTIAL TO VIASAT] (Viasat)⁵² and [CONFIDENTIAL TO INMARSAT] for unlimited data plans. [CONFIDENTIAL TO INMARSAT]
 - (ii) <u>Smaller terminals</u>: "Starlink's low-profile Aero Terminal features an electronically steered phased array antenna, which enables new levels of reliability, redundancy and performance." In addition to opening up the market for smaller business aircraft, reducing the drag and the cost of fuel for the operator, smaller terminals also allow reduced aircraft IFC installation time, which is key for

⁴⁸ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 70 (attached as Annexes ISBA.001 and ISBA.002).

⁴⁹ All other business jets that do not fall within the "large business jet" category, i.e., mid-cabin jets, small-cabin jets, very light jets and turboprops.

⁵⁰ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 7 (attached as Annexes ISBA.001 and ISBA.002).

⁵¹ Ibid, p. 6.

⁵² [CONFIDENTIAL TO VIASAT]

retro-fit installations. Starlink's website emphasises that: "*Starlink's simplified design enables installations during minimal downtime and combines well with other routine maintenance checks.*" Valour Consultancy reports that Starlink's terminals are being manufactured in partnership with GetSAT.⁵³ Starlink also physically presented its IFC terminal and antenna at the NBAA-BACE 2022 Conference in Orlando, Florida in October 2022. As shown to the CMA and Inquiry Group at the Inmarsat Site Visit, Starlink's terminals are significantly smaller and lighter than the Parties' existing terminals.

- (iii) <u>Higher speeds</u>: "Starlink can deliver up to 350 Mbps to each plane, enabling all passengers to access streaming-capable internet at the same time".⁵⁴ The Parties' solutions in comparison offer speeds up to 100 Mbps (Viasat) and 20 Mbps (Inmarsat's JX standard offering).
- (iv) <u>Lower latency</u>: "With latency as low as 20 ms, passengers can engage in activities previously not functional in flight, including video calls, online gaming, virtual private networks and other high data rate activities".⁵⁵ The Parties' GEO solutions in comparison offer latency of approximately 600 to 800 ms (Viasat) and 600ms (Inmarsat's JX).
- (v) <u>Deliveries starting in 2023</u>: Starlink reports that it is on track for multiple STCs with "*deliveries starting in 2023*". Starlink has flagged that the below STCs on large business jets are "*in development*":

Aircraft classification	Large Cabin jets	Super Midsize Cabin jets						
Aircraft Models	Gulfstream G650, G550 (noting that Elon Musk has already tested Starlink's IFC on his own G650 and G550) and G450, Dassault Falcon 2000, Bombardier Global Express, Global 5000, Global 6000 and Global 7500, Bombardier Challenger Series 600, 601, 604, 605 and 650, Embraer Legacy 600 and 650 ⁵⁶	Bombardier Challenger 300 and 350						

Table 4 Starlink Aircraft Models

Source: Starlink's website available at: https://support.starlink.com/topic?category=57.

(63) Notably, the Global 6000 and Global 7500, Bombardier Challenger Series 600, 601, 604, 605 and 650 models have been added to Starlink's website after the P1D (along with the Phenom 300, Textron Beechcraft King Air 200/300, Textron Caravan C208, ATR 72-500, and ATR 72-600 models, which are smaller jets not currently served by the Parties' IFC solutions). This further evidences the rapid pace at which Starlink's progress in the IFC space in general (and business aviation IFC in particular) is unfolding.

⁵³ Ibid, p. 44.

⁵⁴ Aviation, Starlink, available at: https://www.starlink.com/aviation.

⁵⁵ Idem.

⁵⁶ The Embraer Legacy 600 and 650 aircraft models are not listed on Starlink's website but in an industry article: SpaceX Unveils Details on Airborne Starlink, AIN Online, 24 October 2022, available at: https://www.ainonline.com/aviation-news/business-aviation/2022-10-24/spacex-unveils-details-airborne-starlink. Accessed on 9 November 2022.

- (64) Valour Consultancy confirms that "*high capacity, low latency and capacity to fit on smaller airframes are expected to constitute a compelling case*" for Starlink's IFC solution for business jets.⁵⁷
- (65) Starlink's constraint is evidenced by the much anticipated and imminent announcement of its first win in business aviation with Textron Aviation. [CONFIDENTIAL TO VIASAT]⁵⁸

[CONFIDENTIAL TO VIASAT]

[CONFIDENTIAL TO VIASAT] Source: [CONFIDENTIAL TO VIASAT]

(66) These rumours have since been confirmed and whilst an official announcement from Textron is still pending, there is no doubt anymore in the industry that Starlink has bagged its first client. Valour Consultancy's Report from September 2022 stated in particular that "*Textron is widely believed to have rejected a GEO-based satellite terminal for a line-fit position in favour of smaller form factor hardware that would operate with Starlink*";⁵⁹ "we have it on good authority that (...) Textron Aviation will soon formally announce that it has opted to go with SpaceX's Starlink service on new aircraft, including the Longitude";⁶⁰ and "Starlink service looks set to become a line-fit option at Textron, which accounts for about 80% of yearly midsize jet production".⁶¹

(67) Importantly, [CONFIDENTIAL TO VIASAT].

- (68) Starlink will first be line-fit certified on Textron's Longitude aircraft which "accounts for about 80% of yearly midsize jet production" as flagged by Valour Consultancy.⁶² This development is significant and it will give Starlink a first line-fit certification on major Super Midsize Cabin jet aircraft, a size of aircraft for which Parties both actively compete. [CONFIDENTIAL TO VIASAT] The Parties would urge the CMA to reach out directly to Textron and Starlink to obtain confirmation and further information regarding the above.
- (69) Other retro-fit wins are also anticipated to be in the pipeline for Starlink. [CONFIDENTIAL TO VIASAT]

(i) [CONFIDENTIAL TO VIASAT]

(ii) [CONFIDENTIAL TO VIASAT]

The week after the NBAA-BACE 2022 Conference, another one of Viasat's customers, **[CONFIDENTIAL TO VIASAT]**⁶³**[CONFIDENTIAL TO VIASAT]**⁶⁴ (emphasis added).

- (70) Other OEMs have also expressed strong interest in LEO solutions and have started discussions with Starlink in particular:
 - (i) **Gulfstream**: Starlink reported that it has already begun to work with Gulfstream to get its IFC system certified and installed on business aviation airframes. ⁶⁵ As noted above, Elon Musk also

⁶⁴ [CONFIDENTIAL TO VIASAT]

⁵⁷ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 175 (attached as Annexes ISBA.001 and ISBA.002).

⁵⁸ [CONFIDENTIAL TO VIASAT]

⁵⁹ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 8 (attached as Annexes ISBA.001 and ISBA.002).

⁶⁰ Ibid, p. 103.

⁶¹ Ibid.

⁶² Ibid.

^{63 [}CONFIDENTIAL TO VIASAT]

⁶⁵ Elon Musk's tweet from 26 June 2021, available at: https://twitter.com/elonmusk/status/1408565146218283014. Accessed 8 February 2022.

reported that his private business aircraft are equipped with Starlink's IFC.⁶⁶ Through SpaceX and affiliates, Elon Musk reportedly has three Gulfstream jets: one G650ER and two G550s (as well as a Dassault Falcon 900B). A fourth Gulfstream – the new G700 – is expected in early 2023.⁶⁷

(ii) Bombardier: [CONFIDENTIAL TO VIASAT]⁶⁸

[CONFIDENTIAL TO VIASAT]

Figure 5 [CONFIDENTIAL TO VIASAT]

[CONFIDENTIAL TO VIASAT] Source: [CONFIDENTIAL TO VIASAT]

- (71) Starlink's direct and current impact on the Parties' business aviation business is undeniable, in part in light of the above evidence. Starlink's expected upcoming wins are not only reported by the Parties,⁶⁹ but are also reported on by other market players as well as industry experts and analysts.
- (72) In Gogo's latest earnings call, Gogo's CEO made the following remarks regarding the competitive threat posed by Starlink in the IFC space, particularly vis-à-vis GEO competitors: "On Starlink, I almost do a victory lap on this. We projected this in Q1 2021 on our earnings call. Then we were asked about them and we said, look, we think that they will come into the market with something that goes after the high end of the BA market because they're very focused on commercial aviation mil/gov. They'll be designing a relatively large antenna that that works in those markets and would work in the high end of the BA market. And so that's what they've done. They've set a real premium price and looks to us like they're really going after competing with the geo satellite providers that that serve business aviation today. [...] I think that it's competing with a GEO satellite product that's very, very expensive at a price point that's right around the same as the GEO. And it's going to provide a significantly better service than the GEO. So, I think that there are going to be people have lost plenty of money who are going to go for that and would install it. [...] And before anybody's going to order it, they're going to make sure there's an STC for what they're doing, et cetera. So it's going to take some time. And it remains to be seen, how the competitors will react. How will [indiscernible] react to what Starlink's doing. So that's all very hard to predict. I would say right now, the GEO satellites, there are about 1,600 roughly aircraft in the world that have GEO satellites product on them. And that's been available for a long time. So, I'm not sure that this is cutting so much new ground that there's a whole new segment out there that's all of a sudden going to want satellite. It's probably going to replace GEO, I would think in most instances."70 [emphasis added]
- (73) Valour Consultancy also summarised Starlink's future installations as follows: "Our expectation is that we'll see some super midsize aircraft being fitted with Starlink hardware in the aftermarket during 2023 with the first line fit deliveries to follow in 2025".⁷¹

- 68 [CONFIDENTIAL TO VIASAT]
- ⁶⁹ See indicatively [CONFIDENTIAL TO VIASAT]

⁶⁶ Elon Musk's tweet from 24 May 2022, available at: https://twitter.com/elonmusk/status/1528875120093286401. Accessed on 27 May 2022.

⁶⁷ Elon Musk has reportedly added a new \$78 million jet to his growing fleet of private planes. Take a look inside a Gulfstream G700, which can be designed with a luxury suite and spacious bathroom. Business Insider, 2 November 2022, available at: https://www.businessinsider.com/elon-musk-new-jet-gulfstream-g700-photos-tour-2022-11?r=US&IR=T. Accessed on 22 November 2022. See also, Elon Musk says he's testing out SpaceX's Starlink internet on his private jet, Business Insider, 24 May 2022, available at: https://www.businessinsider.com/elon-musk-testing-spacex-starlink-satellite-internet-private-jet-2022-5?r=US&IR=T. Accessed on 25 November 2022.

⁷⁰ Gogo Inc. Q3 2022 Earnings Call Transcript, 3 November 2022, available at: https://seekingalpha.com/article/4552774-gogo-inc-gogoq3-2022-earnings-call-transcript.

⁷¹ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 103 (attached as Annexes ISBA.001 and ISBA.002).

5 OneWeb partnership reinforces the existing Gogo constraint as global market leader

5.1 Current status of OneWeb's strategic moves in business aviation

- (74) As set out in Part I of the Initial Submission, OneWeb expects to have full global coverage with its Gen-1 constellation by Q4 of its fiscal year 2023 (i.e., Spring 2023) and anticipates starting to generate revenues from aviation services in FY24 (fiscal year ending in March 2024).⁷²
- (75) As of October 2022, OneWeb had entered into 44 distribution partnerships⁷³ with some of the main existing players in the business aviation segment, namely Gogo (see paragraphs ((19) to (20) above) and Satcom Direct. Due to the distribution agreements that OneWeb has with both Gogo and Satcom Direct, it might not be OneWeb itself that is invited to tender but OneWeb has ample indirect representation through both of these traditional business aviation providers with an extensive track record and market presence. According to some, distribution through VARs give SNOs a significant advantage over Starlink.⁷⁴ OneWeb will be able to leverage these same partnerships to quickly overcome any perceived barriers to entry through leveraging the existing operational networks and relationships of the VARs.
- (76) OneWeb has also contracted with Hughes Network Systems ("Hughes"), Stellar Blu Solutions and SatixFy to build ESAs for its IFC solution.⁷⁵ Hughes, which is an investor in OneWeb, has signed an exclusive 10-year purchase agreement with Gogo that includes a commitment to buy USD 170 million in hardware and support services for the global solution in partnership with OneWeb.
- (77) OneWeb has also signed a Joint Development Agreement with Stellar Blu Solutions to bring to market a new ESA-based IFC terminal developed by Ball Aerospace. Though the product is more likely to be applicable to commercial aviation, it is reported that it will likely also fit on Bizliners.
- (78) OneWeb also selected SatixFy as a partner in March 2021 to build a hybrid GEO/LEO terminal that will support commercial and business aviation aircraft.
- (79) Valour Consultancy anticipates that OneWeb "should be in a position to equip its first business aircraft by 2024/2025",⁷⁶ i.e. in less than two years from when the Proposed Transaction is expected to complete. Valour Consultancy anticipates that for OneWeb "initial opportunities are expected to come in the aftermarket, but the firm is actively pursuing line fit status with all major aircraft OEM".⁷⁷ Like Starlink, OneWeb's terminals are anticipated to be small enough to allow it to target the whole range of business jets from Bizliners to turboprops.

5.2 Gogo will launch a global IFC solution in partnership with OneWeb in Q4 2024

(80) In May 2022, Gogo launched its Gogo Global Broadband LEO solution in partnership with OneWeb. This development will expand Gogo's footprint in the business aviation IFC segment even further and strengthen its competitive position. Further details were provided by both Gogo and OneWeb during the NBAA-BACE 2022 conference in Orlando, Florida in October 2022, as the two hosted a dedicated

⁷² OneWeb's fiscal year is 31 March. Eutelsat to combine with OneWeb, A leap forward in Satellite Connectivity, Eutelsat, 12 October 2022, pp. 8 and 54, available at: https://www.eutelsat.com/files/PDF/investors/2021-22/Eutelsat%20Strategic%20Update%20-%20vF2-1.pdf.

⁷³ Ibid, p. 19.

⁷⁴ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 100 (attached as Annexes ISBA.001 and ISBA.002).

⁷⁵ Ibid, p. 173.

⁷⁶ Idem.

⁷⁷ Ibid, p. 172.

session to this partnership and presented the 24-inch antenna under development by Hughes to the audience.

- (81) First, the new IFC solution will be based on an ESA exclusive to Gogo and built by Hughes Network Systems – that is expected to fit on all business jets (from large turboprops up to Bizliners) and no longer only on large business jets.
- (82) Gogo is also expected to be able to significantly expand its global services by using OneWeb's global coverage. Whilst Gogo's existing global business aviation IFC solution based on Intelsat's GEO capacity has so far faced limited success as noted by the CMA in its P1D,⁷⁸ customers with existing Gogo ATG connectivity systems (which represent nearly 70% of aircraft equipped with broadband IFC) will need only one additional line-replaceable unit inside the aircraft to access the LEO satellite service. Gogo Business Aviation President and Chief Operating Officer has stated that: "*This will be a fast and affordable broadband system that will provide best-in-class global performance on the broadest range of aircraft in business aviation*".⁷⁹
- (83) The P1D however dismisses Gogo's global growth potential on the basis that there would be "significant uncertainty if and when it will become commercially operational".⁸⁰ As set out at paragraphs (19) to (20) above, OneWeb's entry in the aviation verticals is not uncertain and meets the CMA's criteria of timeliness, sufficiency and likeliness. Gogo had indicated that its new LEO-powered IFC system will be available once the OneWeb network "is fully launched and commercially available".⁸¹ In the latest investor presentation released by OneWeb and Eutelsat concerning their proposed combination, they announced that OneWeb's aviation services will start generating revenues in Eutelsat's FY24 (meaning the 12-month period ending 30 June 2024), i.e. in less than two years' time.⁸² This timetable was confirmed by Gogo's President and COO who announced the launch of the new solution in Q4 2024.⁸³
- (84) Gogo's President also stated that "the [IFC] speeds offered by the broadband satcom system developed by the Gogo-Hughes-OneWeb partnership "will be superior" to the 25Mb/second average rate and the 75-80Mb/second peak speeds offered by its new 5G terrestrial ATG system" and that "signal latency will be far lower than that for any airborne satcom system which uses geostationary satellites".

5.3 For the minority of business jet users seeking global coverage, the evidence shows that Gogo ATG does exert a constraint on the Viasat customer offer in practice

(85) This section explains the existing competitive constraint on Viasat from Gogo's market-leading ATG solution. The P1D acknowledges that Gogo has a large share of IFC installations on large business jets and that Gogo's ATG solution is part of the same product market as the Parties' broadband IFC solutions for business aviation.⁸⁴

⁷⁸ For global coverage outside its own ATG network, Gogo has historically leased Ku- capacity from Intelsat to cover the globe ex-North America; Gogo's 2019 Annual Report notes that "As of December 31, 2019, we had approximately 5,700 business aircraft online with broadband connectivity, principally in North America.", available at: https://ir.gogoair.com/static-files/b849fff4-d2b3-4053-bb27-6ee9c7b88d50. Accessed 14 February 2021. See also Gogo's marketing brochure at https://business.gogoair.com/gogo-2ku/ which pitches a global solution (accessed 8 February 2022). In addition, European MROs have reported to Viasat that Gogo is competing for its satellite-based IFC solutions for installation on Bizliners.

⁷⁹ Gogo Business Aviation to Launch LEO Global Broadband Service, Gogo's press release, 22 May 2022, available at: https://business.gogoair.com/news/2022/05/gogo-to-launch-leo-global-broadband-service/. Accessed on 10 June 2022.

⁸⁰ P1D, para. 217.

⁸¹ Gogo Business Aviation to Launch LEO Global Broadband Service, 22 May 2022, available at: https://business.gogoair.com/news/2022/05/gogo-to-launch-leo-global-broadband-service/. Accessed on 17 June 2022.

⁸² Eutelsat to combine with OneWeb, A leap forward in Satellite Connectivity, 12 October 2022, p. 54 (attached as Annex ISBA.004).

⁸³ BizAv Connectivity: Revolutionary Move from Gogo, AvBuyer, 14 October 2022, available at: https://www.avbuyer.com/articles/jetconnectivity/bizav-connectivity-revolutionary-move-from-gogo-113568.

⁸⁴ P1D, para. 215.

(86) The P1D however dismissed Gogo as a competitive constraint on the Parties' global business aviation activities, on the basis that global coverage is key, but Gogo's business is focused on North America.⁸⁵

5.3.1 Gogo ATG is a close substitute for Viasat's North American IFC coverage

- (87) As elaborated in Section 2.1 above, demand for business aviation IFC is concentrated on North America.
- (88) As explained in the Parties' ILR⁸⁶, for a given coverage area ATG IFC service is interchangeable with satellite IFC service. Both ATG and satellite IFC provide high-speed internet connectivity to individuals working or streaming in the air and there is no meaningful difference in functionality between them, though it is noted that ATG is typically far lower latency than GEO-based services.
- (89) Both ATG-based and satellite-based IFC allow for similar internet speeds (as measured by bandwidth) and comparable reliability. For business aviation, Gogo announced that its latest 5G ATG solution will deliver peak speeds of 75-80 Mbps, which is again comparable to those provided by satellite-based connectivity solutions in Ka- and Ku-band.⁸⁷ Gogo announced early November 2022 it's 5G deployment which now covers the U.S. and will expand into Canada beginning in 2023.⁸⁸
- (90) Given that the demand for IFC services from business aircraft operators is driven by passenger demand for internet access while flying; to the extent that ATG provides the same functionality as satellite-based IFC, the providers of these alternative services are also competitors to the Parties' (and other providers') IFC services.
- (91) Gogo itself identifies satellite-based IFC providers as its direct competitors. For instance, in its latest Annual Report (for calendar year 2021 and filed in February 2022), Gogo noted: "We compete against both equipment and GEO-satellite based telecommunications service providers to the business aviation market, including Honeywell Aerospace, Collins Aerospace, Satcom Direct, Inmarsat and ViaSat. (...) We may in the future face competition from operators of LEO or other non-GEO satellite networks, including OneWeb, Starlink and Telesat, all of which have announced that they are developing in-flight connectivity systems."⁸⁹
- (92) Gogo's credibility is demonstrated by its market shares and continuous wins. For 2021, Gogo reported record total revenue of USD 335.7 million, an increase of 24% compared to 2020, and total ATG aircraft online reaching 6,400, an increase of 11% compared to Q4 2020 and 4% compared to Q3 2021.⁹⁰ Further, third-party observers agree that ATG technology which currently represents the main technology type for broadband IFC with 6,401 installed terminals in 2021 against 1,479 Ka/Ku terminals will remain competitive against satellite-based IFC solutions. Valour Consultancy forecasts that the majority of new installations of broadband IFC terminals on large business jets over the period 2021 to 2031 will remain ATG solutions rather than satellite-based systems.⁹¹
- (93) Although Inmarsat's ATG solution the European Aviation Network ("**EAN**") has faced commercial difficulties, this is not because ATG technology is inherently not viable as evidenced by Gogo's

⁸⁵ P1D, fn. 345.

⁸⁶ ILR, paras. 157-163.

⁸⁷ Gogo Announces 5G Speeds, Gogo News Releases, 27 October 2021, available at https://business.gogoair.com/about/newsevents/news-releases/2021/10/gogo-announces-5g-speeds/. Accessed on 29 April 2022.

⁸⁸ Gogo's nationwide 5G network reaches completion, Aircraft Interiors International, 21 October 2022, available at: https://www.aircraftinteriorsinternational.com/news/inflight-connectivity/gogos-nationwide-5g-network-reaches-completion.html. Accessed on 25 November 2022.

⁸⁹ Gogo's 2021 Annual Report, p. 9, available at: https://ir.gogoair.com/static-files/b54a2f36-0f03-485c-b211-fe4fe3f2c85f.

⁹⁰ Gogo Announces Record Fourth Quarter and 2021 Financial Results, Provides 2022 Guidance and Updates Long-Term Targets, March 2021, available at: https://ir.gogoair.com/news-releases/news-release-details/gogo-announces-record-fourth-quarter-and-2021-financial-results. Accessed on 22 November 2022.

⁹¹ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, Table 4 (attached as Annexes ISBA.001 and ISBA.002).

considerable success in North America despite having significantly less available licensed spectrum than Inmarsat (4Mhz vs 30Mhz). Indeed, the EAN is a strong service with speeds averaging **[CONFIDENTIAL TO INMARSAT]** to each connected aircraft. **[CONFIDENTIAL TO INMARSAT]** An important factor in the lack of success of the EAN is the nascency of the IFC market in the EEA – adoption of IFC has been low generally (cf. North America) and therefore Inmarsat has struggled to attract sufficient customers that generate sufficient ARPA in order to cover the costs of running the EAN.

(94) The Parties therefore strongly dispute the P1D's suggestion that ATG and satellite-based IFC systems are supplements rather than alternatives.⁹² Although the Parties acknowledge that some business aircraft are mounted with both an ATG and a satellite-connected antenna, this is mainly the case for older (i.e. legacy) jets equipped when dual installations were more frequent. Some business aircraft with ATG installed prior to the time at which satellite broadband IFC was widely available have now added satellite IFC for coverage outside of North America, and thus retain both equipment types.

5.3.2 Gogo constrains Viasat's North American, regional and global pricing

- (95) In the P1D, the CMA doubts that Gogo could "*act as an effective competitive constraint on providers offering a different service that allows for a wider (potentially global) reach*" and considers that the Parties' approach to pricing does not support their contention that Gogo acts as a constraint on the Parties' global prices.⁹³
- (96) If Gogo ATG were truly irrelevant to pricing for "global coverage" because the ATG network spans only North America – one might expect the Parties to engage in price discrimination today: in other words, pursue a strategy of offering lower regional prices in North America, where they directly compete with Gogo ATG, and higher prices where Gogo ATG allegedly is irrelevant, i.e. for global packages, which Gogo ATG cannot offer, or for regional packages other than North America. In practice, neither Party does this. [CONFIDENTIAL TO INMARSAT]⁹⁴
- (97) Viasat[CONFIDENTIAL TO VIASAT]
- (98) [CONFIDENTIAL TO VIASAT]
- (99) [CONFIDENTIAL TO VIASAT]
 - (i) [CONFIDENTIAL TO VIASAT]⁹⁵

Figure 6 [CONFIDENTIAL TO VIASAT]

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- (ii) [CONFIDENTIAL TO VIASAT]
- Figure 7 [CONFIDENTIAL TO VIASAT]

[CONFIDENTIAL TO VIASAT] Source: [CONFIDENTIAL TO VIASAT]

- (iii) [CONFIDENTIAL TO VIASAT]
- Figure 8 [CONFIDENTIAL TO VIASAT]

[CONFIDENTIAL TO VIASAT] Source: [CONFIDENTIAL TO VIASAT]

92 P1D, para. 216.

- ⁹⁴ [CONFIDENTIAL TO INMARSAT]
- ⁹⁵ [CONFIDENTIAL TO VIASAT].

⁹³ P1D, fn. 345.

- (iv) [CONFIDENTIAL TO VIASAT] [CONFIDENTIAL TO VIASAT]⁹⁶[CONFIDENTIAL TO VIASAT]
- (v) [CONFIDENTIAL TO VIASAT]⁹⁷
- (vi) [CONFIDENTIAL TO VIASAT] [CONFIDENTIAL TO VIASAT]⁹⁸
- Figure 9 [CONFIDENTIAL TO VIASAT]

[CONFIDENTIAL TO VIASAT]

- (vii) [CONFIDENTIAL TO VIASAT]⁹⁹[CONFIDENTIAL TO VIASAT]
- Figure 10 [CONFIDENTIAL TO VIASAT]

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- (viii) [CONFIDENTIAL TO VIASAT]¹⁰⁰[CONFIDENTIAL TO VIASAT]
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- (100) [CONFIDENTIAL TO VIASAT] [CONFIDENTIAL TO VIASAT]:
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(101) [CONFIDENTIAL TO VIASAT]

(i) [CONFIDENTIAL TO VIASAT]¹⁰¹[CONFIDENTIAL TO VIASAT]¹⁰²

(ii) [CONFIDENTIAL TO VIASAT]¹⁰³[CONFIDENTIAL TO VIASAT] [CONFIDENTIAL TO VIASAT]

- (iii) [CONFIDENTIAL TO VIASAT]¹⁰⁴
- (102) Statements contained in out-of-date internal documents (such as the Inmarsat documents cited in the IL) do not account for the recent improvements in competitors' offerings (e.g., relating to Gogo and SmartSky) and/or rapid pace of development and should not be read as an accurate assessment of current competitive constraints nor those applicable at the expected closing of the Proposed Transaction.
- ⁹⁶ [CONFIDENTIAL TO VIASAT]
- ⁹⁷ [CONFIDENTIAL TO VIASAT]
- 98 [CONFIDENTIAL TO VIASAT]
- ⁹⁹ [CONFIDENTIAL TO VIASAT]
- ¹⁰⁰ [CONFIDENTIAL TO VIASAT]
- ¹⁰¹ [CONFIDENTIAL TO VIASAT]
- ¹⁰² [CONFIDENTIAL TO VIASAT]
- ¹⁰³ [CONFIDENTIAL TO VIASAT]
- ¹⁰⁴ [CONFIDENTIAL TO VIASAT] [CONFIDENTIAL TO VIASAT]

5.4 SmartSky's recent entry confirms that ATG remains actively competitive

- (103) SmartSky launched its U.S. ATG network in July 2022 by opening up for customer hardware orders and scheduling installations. SmartSky's sophisticated investors - including BlackRock, WP Global Partners, Platform Partners, Meritage Funds and Tiger Infrastructure Partners - have committed significant capital, of more than USD 490 million over 11 rounds, to develop the company's ATG network.¹⁰⁵ In June 2022, the company raised approximately USD 27 million, demonstrating that investors' confidence remains high.¹⁰⁶ Such investments confirm that investors are confident that ATG IFC is able to compete very effectively and successfully with satellite IFC.
- (104) SmartSky's service provides evidence of how ATG IFC will be able to continually improve. SmartSky uses beamforming technology to allow it to assign each individual aircraft a unique network connection, rather than sharing bandwidth across multiple aircraft, in order to enhance stability, performance and security. SmartSky also designed its system architecture to transmit above ground noise and interference.¹⁰⁷
- (105) In June 2021, Honeywell (a VAR, and one of Inmarsat's major business aviation equipment suppliers) announced that it would begin offering SmartSky's ATG service to business aviation customers.¹⁰⁸ SmartSky also reports that it is adding new installation and sales partners each month.¹⁰⁹ SmartSky is advertising new plans which seem designed to compete with Gogo and Viasat.¹¹⁰ SmartSky is also already competing for and winning business in the business aviation segment: it has secured STCs for key business aircraft, in particular Large Cabin jets and Super Midsize Cabin jets.¹¹¹
- (106) SmartSky is in fact already attracting business away from competitors. For instance, FlyExclusive, the world's fourth largest private charter operator, announced in March 2022 that it was upgrading its entire fleet previously equipped with Gogo's ATG with the SmartSky solution.¹¹² FlyExclusive operates a fleet of 81 total private jets, including in Large Cabin jets, Gulfstream GIV-SPs, in Super Midsize Cabin jets, Textron Citation X, and in the mid-cabin jets, Excel/XLS, among other Citation models.

6 VAR-driven IFC solutions

(107) The P1D dismissed the competitive threat posed by LuxStream and FlexExec (two growing VARsponsored solutions) which are described as small and unlikely to become a materially stronger competitive constraint on the Parties.¹¹³

¹⁰⁵ SmartSky Networks, Crunchbase, available at: https://www.crunchbase.com/organization/smartsky-networks/company_financials. Accessed on 9 November 2022.

¹⁰⁶ Private Equity Round – SmartSky Networks, Crunchbase, available at: https://www.crunchbase.com/funding_round/smartsky-networksprivate-equity--ce7cb11b. Accessed on 9 November 2022 (Reporting that at the time, SmartSky was backed by more than 50 investors).

¹⁰⁷ SSN Connectivity, SmartSky Networks, available at: https://smartskynetworks.com/wpcontent/uploads/21768_SSN_ConnectivitySlick_2022_web.pdf. Accessed on 9 November 2022.

¹⁰⁸ Honeywell And SmartSky Bring High-Speed Connectivity To North American Business Aviation Operators, Honeywell's Press Release, 22 June 2021, available at: https://aerospace.honeywell.com/us/en/about-us/press-release/2021/06/honeywell-and-smartsky-bringhigh-speed-connectivity. Accessed on 9 November 2022.

¹⁰⁹ SmartSky Networks is LIVE, AINonline, June 2022, available at: https://www.ainonline.com/sponsored-content/business-aviation/2022-06-01/smartsky-networks-live. Accessed on 9 November 2022.

¹¹⁰ See SmartSky Network Overview, available at: https://smartskynetworks.com/connectivity/ Accessed on 2 August 2022.

¹¹¹ SmartSky currently holds STCs for Textron Citation XL and XLS aircraft; Gulfstream G350, G450, G500, G550, GV-SP, and GIV-X aircraft; Bombardier Challenger 601, 604, 605, and 650 aircraft; and Embraer 135, 140, and 145 aircraft. "Connectivity," SmartSky, https://smartskynetworks.com/connectivity/.

¹¹² FlyExclusive to Upgrade Private Jet Fleet with SmartSky In-flight Connectivity, Avionics International 16 March 2022, available at: https://www.aviationtoday.com/2022/03/16/flyexclusive-upgrade-private-jet-fleet-smartsky-flight-connectivity/. Accessed on 9 November 2022.

¹¹³ P1D, paras. 218-221.

- (108) Whilst the Parties recognise that these solutions are currently installed on fewer business jets than the Parties' own IFC solutions, they respectfully disagree with the P1D as to the growth potential of these competitors.
- (109) The latest Report from industry expert Valour Consultancy describes both solutions as "*picking up steam after suffering from somewhat slow start*".¹¹⁴ Further it reads: "*In the Ku-band arena, the new LuxStream* (Collins Aerospace and SES) and FlexExec (Satcom Direct and Intelsat) solutions have amassed healthy backlogs, and this will be worked through in the coming years to add impetus to the large cabin and, to a lesser extent, super midsize segments".¹¹⁵
- (110) As acknowledged by the P1D for both commercial and business aviation, current shares of supply estimates should be interpreted with caution in a nascent and growing market.¹¹⁶ While Collins and Satcom Direct appear to be small competitors based on the number of currently connected aircraft, the Parties submit that, based on the evidence below, they are rapidly to becoming increasingly competitive.

6.1 LuxStream/SES (Collins Aerospace)

- (111) In 2019, Collins Aerospace entered into an initially Ku-based partnership solution with SES to launch LuxStream. The LuxStream Ku-based IFC system initially offered speeds of up to 25 Mbps in the U.S. and 15 Mbps globally.¹¹⁷ Though the initial arrangement with Collins Aerospace included access to Kuband satellite capacity, Valour Consultancy states that "SES is on record as stating that it will eventually service aviation with mPOWER".¹¹⁸ Collins also teamed up with Astronics for the initial antennas and ST Engineering iDirect for the initial modems.
- (112) In October 2021, Bombardier named Collins Aerospace as its new PSP for cabin and cockpit connectivity. The Parties expect this status to facilitate LuxStream's certification on Bombardier's aircraft.
- (113) Just prior to the Covid-19 pandemic, Vista Global (or VistaJet) was signed as LuxStream's launch customer in late 2019.¹¹⁹ VistaJet, a large global operator offering charter services, has committed to installing LuxStream on all of its Large Cabin jet aircraft and some Super Midsize Cabin jet aircraft. Installations have also occurred on aircraft operated by KaiserAir and PAM JETS. At the end of 2021, Valour Consultancy reported that 35 jets were equipped with LuxStream globally, and backlog stood at over 200 aircraft.

6.2 FlexExec/Intelsat (Satcom Direct)

(114) Intelsat's Ku-based solution for business aviation is branded as FlexExec and is delivered in partnership with the leading VAR in business aviation Satcom Direct. Satcom Direct has agreed that it will make Intelsat's business aviation offering the "preferred Ku-Band Satellite solution" for its new terminal. Intelsat touts its FlexExec service as providing speeds up to 10 Mbps.¹²⁰ FlexExec benefits from Satcom

¹¹⁴ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 9 (attached as Annexes ISBA.001 and ISBA.002).

¹¹⁵ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 7 (attached as Annexes ISBA.001 and ISBA.002).

¹¹⁶ P1D, paras. 123, 204.

¹¹⁷ Vista Global brings fastest in-flight connectivity to private aviation, Vista Global's Press Release, 12 September 2019, available at: https://www.vistajet.com/en/news/fastest-in-flight-connectivity/.

¹¹⁸ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 173 (attached as Annexes ISBA.001 and ISBA.002).

¹¹⁹ Vista Global brings fastest in-flight connectivity to private aviation, Vista Global's Press Release, 12 September 2019, available at: https://www.vistajet.com/en/news/fastest-in-flight-connectivity/.

¹²⁰ FlexExec | Intelsat Premier Connectivity, Satcom Direct, November 2018, available at: https://www.satcomdirect.com/wpcontent/uploads/2018/10/Intelsat_FlexExec-10.11.2018_final.pdf. SD sees Plane Simple antenna qualified on Intelsat FlexExec

Direct's unique position as Gulfstream's and Embraer's PSP. Valour Consultancy's latest estimates attribute four terminals connected to FlexExec for an overall global share of supply of approximately 0.1%.¹²¹

- (115) The Parties note that the P1D's assertion that FlexExec "just entered the market" and "was launched in February 2022" is factually incorrect.¹²² In February 2022, Satcom Direct launched its new FlexExec Kuband "PlaneSimple" antenna which will contribute to improve FlexExec' services but FlexExec preexisted this new terminal. However, Intelsat's FlexExec was launched in October 2018 at the yearly NBAA Conference¹²³ and is therefore not a new entrant in the market.
- (116) FlexExec's "somewhat slow start"¹²⁴, as described by Valour Consultancy, can partly be explained by Intelsat's IS-29e satellite failure in April 2019 soon after the launch of FlexExec. IS-29e which covered the Americas suffered from a fuel leak in the propulsion system and was declared a total loss. FlexExec's service over the U.S., the market that constitutes the bulk of business aircraft demand for IFC, was degraded as a result, and Satcom Direct decided to temporarily suspend near-term installations of FlexExec.¹²⁵
- (117) However, as highlighted by the Parties and third-party experts, and as reflected in their increasing number of certifications and important backlog, FlexExec is a growing competitor despite an effectively deferred start in the market. For instance, Viasat was competing for a [CONFIDENTIAL TO VIASAT].¹²⁶
- (118) As set out above, Satcom Direct announced in February 2022 the development of its "Plane Simple" modular antenna systems designed for business aviation. The first product will be a FlexExec Ku-band antenna developed with QEST. As summarised in Table 5 below, STCs were confirmed for that Ku-band terminal on Gulfstream G550, G450, GV and GIV aircraft in April 2022 and multiple Bombardier types were also certified for retro-fit covering Global 6000, 5000, Express XRS and Express.¹²⁷ [CONFIDENTIAL TO VIASAT].
- (119) One of FlexExec's main competitive advantages is network redundancy. Intelsat's network offers highthroughput layers of capacity ensuring redundancy and resiliency – reinforced by additional wide-beam coverage. For instance, after the loss of Intelsat's IS-29e satellite, FlexExec customers retained service through the inbuilt layered wide-beam coverage offered by the network.
- (120) Valour Consultancy reports that "though individual names are not yet known at this stage, Satcom Direct has more than twenty customers ready to equip Ku- variants for the FlexExec service and anticipates that it will fulfil more retrofit requests from as existing, as well as new customers".¹²⁸ FlexExec's main target is reported to be the mid to Large Cabin jet segment.

- ¹²⁴ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 9 (attached as Annexes ISBA.001 and ISBA.002).
- ¹²⁵ SD temporarily suspends FlexExec installs following Intelsat 29e loss, Runway Girl, 27 June 2019, available at: https://runwaygirlnetwork.com/2019/06/sd-temporarily-suspends-flexexec-installs-following-intelsat-29e-loss/.
- ¹²⁶ [CONFIDENTIAL TO VIASAT].

¹²⁸ Ibid.

network, Runwaygirl Network, 7 February 2022, available at: https://runwaygirlnetwork.com/2022/02/sd-sees-plane-simple-antenna-qualified-on-intelsat-flexexec-network/#:~:text=The%20end%20result%20is%20FlexExec,down%20and%202%20Mbps%20up.

¹²¹ Competitor estimates based on IFC in Business Aviation Market Assessment, 9 May 2022, Valour Consultancy (attached as Annex ISBA.015).

¹²² P1D, para. 218.

¹²³ FlexExec | Intelsat Premier Connectivity, Satcom Direct, November 2018, available at: https://www.satcomdirect.com/wpcontent/uploads/2018/10/Intelsat_FlexExec-10.11.2018_final.pdf; The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 167 (attached as Annexes ISBA.001 and ISBA.002).

¹²⁷ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 167 (attached as Annexes ISBA.001 and ISBA.002).

(121) Table 5 below summarises the STCs in place for FlexExec and LuxStream to the Parties' best knowledge.

Categories of aircraft	FlexExec	LuxStream
Large Cabin jets	Dassault Falcon 2000	Gulfstream G550, G450, GV and
	Gulfstream GIV, GV, G450, and	GIV
	G550	Bombardier 6000, 5000, Express
	Bombardier Global 6000 5000	XRS and Express
	Express XRS and Express	Bombardier Challenger 850
	[CONFIDENTIAL TO VIASAT] ¹²⁹	[CONFIDENTIAL TO VIASAT]
Super Midsize Cabin		Bombardier Challenger 300
jets		[CONFIDENTIAL TO VIASAT]

Table 5 STCs in place for FlexExec and LuxStream

Source: The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022, p. 167 (attached as Annexes ISBA.001 and ISBA.002); Parties' best estimates.

(122) Apart from the above STCs, [CONFIDENTIAL TO VIASAT]. [CONFIDENTIAL TO VIASAT]¹³⁰[CONFIDENTIAL TO VIASAT]¹³¹

Figure 12 [CONFIDENTIAL TO VIASAT]

[CONFIDENTIAL TO VIASAT]

Source: [CONFIDENTIAL TO VIASAT].

(123) Overall, both FlexExec and LuxStream have advantageous partnerships with VARs (respectively Satcom Direct and Collins Aerospace that themselves have preferred partnership agreements with OEMs, respectively Gulfstream/Embraer and Bombardier) which provide their solutions with a preferential access to business aircraft operators. Further, they have STCs on key business aircraft, in particular in the Large Cabin jets and Super Midsize Cabin jets segments. As set out above, STCs (i.e., retro-fit) currently represent and will continue to represent the majority of installations of IFC terminals in the near future and the below certifications provide ample opportunities for LuxStream and FlexExec to effectively compete for business aviation aircraft as demonstrated by their important current respective backlogs.

7 Other NGSOs

- (124) SES O3b mPOWER once launched will directly contribute to the growth of LuxStream distributed by Collins Aerospace. Though the current agreement with Collins includes access to capacity from SES' existing network, including its existing MEO constellation O3b, once mPOWER is launched Valour Consultancy confirms that "SES is on record as stating that it will eventually serve aviation with mPOWER".¹³²
- (125) Whilst Telesat's Lightspeed and Amazon's Kuiper are less advanced in the business aviation segment as their constellations are not yet in place, they are all expected to target mobility applications including

¹²⁹ See relevant LinkedIn post by John Salame (attached as Annex ISBA.017).

¹³⁰ [CONFIDENTIAL TO VIASAT]

¹³¹ [CONFIDENTIAL TO VIASAT]

¹³² Ibid, p. 173.

business aviation. Aviation is known to be the main target for Telesat's Lightspeed.¹³³ Valour Consultancy flags that "while commercial air transport is likely to be the immediate priority, Telesat sees a big opportunity to make waves within business aviation".¹³⁴ Barclays' recent report stated that whilst "[I]imited information has been disclosed so far (...) important progress was made during 2022: the company announced launch agreements with Arianespace, Blue Origin and United Launch Alliance for up to 83 launches over five years. This comes on top of 9 launches already announced with UAL and 2 with ABL Space Systems for two satellite prototypes. The company indicated that these deals would provide enough capacity to bring to space the majority of its planned constellation".¹³⁵ Jeff Bezos also estimated a total market size of 300 – 400 million customers for the Kuiper constellation in a letter to shareholders.¹³⁶ Whilst Amazon's exact plans with regards to IFC have not been made public, Valour notes that "it is highly likely that its Kuiper constellation will support mobility applications, including aviation, when it is fully built out by the end of the decade".¹³⁷

8 Conclusion

(126) In conclusion, this Part II of the Parties' Phase 2 Initial Submission demonstrates why, given the unique features of the business aviation market, concerns in business aviation in the UK can be dispelled in Phase 2, and why the Proposed Transaction cannot be expected to result in an SLC in the global supply of broadband IFC to large business jets in the UK. An SLC cannot logically be found when there is nominal demand in the UK and no evidence that UK demand is relevant to competition occurring in North America, which in turn drives global competition. More importantly there is robust evidence that NGSOs have already entered the market for IFC for large business jets (e.g. the launch of Starlink Aviation) and therefore the key question is not about whether their entry is timely, likely and sufficient, but rather about their speed of expansion, enabling them to constrain the Merged Entity and prevent an SLC. In any event, the Parties remain constrained by Gogo, the leading incumbent IFC provider to large business jet customers and subject to the significant buyer power of influential VARs and OEMs which act as gatekeepers to end customers in this segment.

¹³³ Inflight Connectivity, Telesat, available here: https://www.telesat.com/inflight-connectivity/. Accessed on 9 November 2022.

¹³⁴ Ibid, p. 73.

¹³⁵ Satellite Services: To Infinity and Beyond – Volume 2, Barclays, 19 October 2022, p. 17 (attached as Annex ISBA.019).

¹³⁶ 2021 Shareholder Letter, Amazon, available at: https://s2.q4cdn.com/299287126/files/doc_financials/2022/ar/2021-Shareholder-Letter.pdf.

¹³⁷ Idem.

Appendix CMA's shares of supply reconstruction exercise

- (1) Despite the consensus on the limited value of market shares,¹³⁸ the Parties have a few observations on the P1D's market share reconstruction exercise.
- (2) The ILR and the P1D present a market reconstruction exercise which estimates the Parties' combined share of broadband IFC to large business jets at 40-50%.¹³⁹ The Parties respectfully submit that the market share reconstruction overstates the Parties' position in the supply of broadband IFC to large business jets.
- (3) Latest market size estimates from the recently released Valour Consultancy Report of September 2022¹⁴⁰ (presented in Table 6 below) show that the P1D's shares based on its market reconstruction exercise are materially different to the industry data the P1D indicates Inmarsat's GX based business has a share of 30-40% of the total market, whereas the Valour data indicates a share of ~25%.
- (4) The Parties acknowledge the motivation for the P1D's reconstruction exercise given that their initial market share estimates presented in the FMN were indeed hard to reconstruct as they were based on Viasat's estimates. However, the latest market share estimate presented by the Parties in the ILR (which were based on an earlier report from Valour Consultancy¹⁴¹) are based on a single source, the independent third-party consultancy Valour Consultancy. The Parties also note that the shares presented in the FMN largely align with the shares based exclusively on data from Valour Consultancy. The Parties therefore submit that the shares based on the Valour Consultancy data represent a more robust and reliable view of the market and should be relied upon rather than the P1D's share of supply data. For ease of reference, all shares of supply estimates are summarised in Table 6 below.

Table 6	Recap of global share of supply estimates of broadband IFC to large business jets
	(ATG and satellite-based)

Service Provider	Final Merger N Viasat e	otice – source: stimates	Issues Letter source: Valou	Phase 1 Decision – source: CMA reconstruction		
	Installed Share (%) Terminals		Installed Terminals	Share (%)	Connect ed Aircraft	Shar e (%)
Inmarsat	[CONFIDENTI AL TO INMARSAT]	[CONFIDENTI AL TO INMARSAT]	[CONFIDENTI AL TO INMARSAT]	[CONFIDENTI AL TO INMARSAT]	-	30- 40%
Viasat	[CONFIDENTI AL TO VIASAT]	[CONFIDENTI AL TO VIASAT]	[CONFIDENTI AL TO VIASAT]	[CONFIDENTI AL TO VIASAT]	-	5- 10%
Combine d	[CONFIDENTI AL TO BOTH PARTIES]	[CONFIDENTI AL TO BOTH PARTIES]	[CONFIDENTI AL TO BOTH PARTIES]	[CONFIDENTI AL TO BOTH PARTIES]	-	40- 50%

¹³⁸ P1D, para. 204.

¹³⁹ P1D, para. 201, Table 4.

¹⁴⁰ The Market for IFEC and CMS on VVIP and Business Aircraft, Valour Consultancy, September 2022 (attached as Annexes ISBA.001 and ISBA.002).

¹⁴¹ Competitor estimates based on IFC in Business Aviation Market Assessment, 9th May 2022, Valour Consultancy (attached as Annex ISBA.015).

Service Provider	Final Merger N Viasat e	otice – source: stimates	Issues Letter source: Valou	Phase 1 Decision – source: CMA reconstruction		
	Installed Terminals	Share (%)	Installed Terminals	Share (%)	Connect ed Aircraft	Shar e (%)
Gogo	3,182	68.6	2,975		-	50- 60%
Panasoni c	56	1.2	-	-	-	0-5%
Collins Aerospac e / SES (LuxStrea m)	35	0.8	35	0.8	-	0-5%
IDAIR	-	-	22	0.5	-	-
Intelsat (FlexExec)	-	-	4	0.1	-	0-5%
Anuvu	-	-	3	0.1	-	-
SmartSky	-	-	1	0.0	-	-
Total	4,639	100%	4,406	100%	-	100 %

Source: Relevant sources are set out in the Table's headers.