

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Third Annual Report to Congress on Status	)	IB Docket No. 09-16
of Competition in the Provision of Satellite	)	
Services	)	
	)	

**COMMENTS OF THE MSS/ATC COALITION**

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## Summary

The MSS/ATC Coalition submits these comments in the above-captioned proceeding regarding the state of competition in the provision of satellite services, including mobile satellite services. The Commission should consider all relevant factors in its competition analysis, including services offered on different platforms that provide the same communications capability as satellite services. Rather than basing its analysis on the international or domestic allocation for a given frequency band (e.g., Fixed-Satellite Service or Mobile-Satellite Service), the Commission should take into account the nature of the services actually being provided. An examination of *all* substitutable services available to consumers shows that satellite-based providers face vigorous competition across platforms for the provision of satellite services, including mobile satellite services. For example, satellite networks operating in spectrum allocated for Mobile-Satellite Service must compete not only among themselves but also with other satellite networks offering mobile communication services, such as VSAT networks which operate in spectrum bands allocated for Fixed-Satellite Service. Accordingly, the Commission should find that the provision of satellite services, including mobile satellite services, is subject to effective competition.

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**COMMENTS OF THE MSS/ATC COALITION**

DBSD North America, Inc., Inmarsat, Inc., TerreStar Networks, Inc., SkyTerra  
Subsidiary LLC, and Globalstar, Inc. (collectively the “MSS/ATC Coalition”) submit the  
following comments in the above-captioned proceeding regarding the state of competition in the  
provision of satellite services, including mobile satellite services.<sup>1</sup>

**Background**

*DBSD.* DBSD North America, Inc. is a satellite communications company developing an  
advanced next-generation hybrid media system, combining both satellite and terrestrial  
communications capabilities. Upon meeting its launch and operation milestone for the  
reservation of spectrum associated with its G1 satellite, DBSD chose the 2010-2020 MHz and  
2180-2190 MHz frequency bands as its Selected Assignment.<sup>2</sup> DBSD’s satellite is capable of  
supporting wireless voice, data, and/or Internet services on mobile and portable devices.

Launched from Cape Canaveral, Florida on April 14, 2008, G1 is the world’s first  
satellite to utilize a two-way Ground Based Beam Forming (“GBBF”) system. From DBSD’s  
gateway in North Las Vegas, GBBF delivers unprecedented flexibility to provide next-

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<sup>1</sup> See “*IB Invites Comment for Third Annual Report to Congress on Status of Competition in the  
Satellite Services Market,*” Public Notice, DA 09-1045, IB Docket No. 09-16 (May 14, 2009)  
 (“Public Notice”).

<sup>2</sup> See *Policy Branch Information: Actions Taken*, 23 FCC Rcd 8551, 8551 (IB 2008).

generation mobile satellite services. G1 has 250 fully configurable transmit and receive beams. With GBBF, spot beams can be added, removed or reconfigured to enable a satellite to operate from different orbital locations and to adapt to changes in traffic patterns or to provide new applications. The satellite employs a large 12-meter mesh antenna reflector, which is essential for delivering services to small mobile and portable devices.

DBSD is engaged in development efforts that will permit the MSS/ATC system, over time, to offer a range of nationwide, interactive, broadband-enabled services. DBSD's alpha trials are showcasing "mim", a mobile video and interactive two-way communications service offering, in addition to conducting testing of handsets and mobile devices which could offer traditional wireless calling services in conjunction with current cellular networks and devices.

*Inmarsat.* Over the last several years, Inmarsat has invested well over \$1.5 billion in the deployment of its fourth-generation, Inmarsat 4 ("I-4") satellite network, which is today providing innovative satellite services to the United States and globally on one of the most advanced mobile commercial communications satellites now in orbit. In 2008, Inmarsat launched the third of its fourth generation satellites, the I4F3, completing world-wide coverage for its broadband capabilities, including Broadband Global Area Network (BGAN). After the successful launch of the I4F3, Inmarsat undertook a major satellite fleet repositioning process that is now providing more efficient coverage for Inmarsat users.<sup>3</sup> In addition, Inmarsat completed construction of and was granted Commission authorization for a Satellite Access

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<sup>3</sup> See Inmarsat Press Release, *Inmarsat Broadband Goes Global* (Feb. 26, 2009) (announcing completion of global coverage for Inmarsat broadband services).

Station in Paumalu, Hawaii to connect user terminal traffic to the public switched network and the Internet.<sup>4</sup>

In order to remain competitive in the dynamic market for satellite services, Inmarsat's I-4 fleet has been designed and adapted to support a new class of novel IP-based communications, including BGAN service. Using highly portable and easily deployed "notebook sized" antennas that are one-third the size, weight, and price of traditional Inmarsat terminals, BGAN provides voice and broadband service at speeds of almost half a megabit per second. Inmarsat has also launched companion BGAN services for aeronautical and maritime customers, known as SwiftBroadband and FleetBroadband, and continues to improve service for its customers. Inmarsat will soon introduce world-wide Global Satellite Phone Service (GSPS) over its I-4 geostationary fleet with a modernized handset. This device is being optimized to operate over the I-4 network and is expected to be available in the United States in 2010.

At the same time, Inmarsat continues to provide innovative and reliable services for its aeronautical, maritime and land users. In February 2009, European carrier Ryanair joined other airline carriers and began offering GSM mobile phone service on several of its aircraft to passengers in the cabin using Inmarsat services for the link to the ground.<sup>5</sup> Also in February 2009, Inmarsat service was used to repel pirates who tried to attack a bulk carrier in the Indian Ocean by enabling the ship to alert naval units in the vicinity as well as to provide piracy warnings in order to alert ships to incidents in the area.<sup>6</sup> In April 2009, in response to demand

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<sup>4</sup> See File No. SES-LIC-20080306-00242, Call Sign E080059 (granted Dec.18, 2008); File No. SES-MFS-20080228-00207, Call Sign KA 25 (granted Dec. 18, 2008).

<sup>5</sup> See Inmarsat News, Ryanair to Relay Passenger Mobile Phone Calls via Inmarsat (Feb. 19, 2009).

<sup>6</sup> See Inmarsat News, Pirates Thwarted Thanks to Inmarsat C (Feb. 13, 2009).

from broadcasters, Inmarsat announced the enhancement of land BGAN service to provide access to the world's fastest mobile video streaming by satellite.<sup>7</sup>

*TerreStar.* TerreStar holds a letter of intent ("LOI") authorization,<sup>8</sup> originally granted in 2001, to provide MSS in the United States using spectrum in the 2 GHz MSS band (2180-2200 MHz (space-to-Earth) and 2000-2020 MHz (Earth-to-space)) via TerreStar-1, a geostationary orbit satellite.<sup>9</sup> The LOI authorization permits the use of 10 MHz of this 2 GHz MSS spectrum in each direction.<sup>10</sup> TerreStar Networks (Canada) Inc., which is jointly owned by TerreStar and a wholly-owned subsidiary of BCE, Inc., holds an approval in principle issued by Industry Canada to operate TerreStar-1.<sup>11</sup>

TerreStar plans to offer reliable and secure satellite-terrestrial mobile voice, data and video services dedicated to helping solve the critical communication and business continuity challenges faced by government, emergency responders, enterprise businesses and rural communities. This will be achieved through next-generation communication networks that will provide universal access and tailored applications throughout North America on a chipset that can be incorporated in a wide range of wireless devices. TerreStar expects to be the first to offer

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<sup>7</sup> See Inmarsat News, BGAN X-Stream Delivers Fastest Video Streaming (Apr. 20, 2009) (announcing launch of BGAN X-Stream service offering video streaming rates of up to 450kbps).

<sup>8</sup> See File Nos. SAT-ASG-20021211-00238 and SAT-AMD-20061127-00143.

<sup>9</sup> See *TMI Communications and Company, Limited Partnership*, Order, 16 FCC Rcd 13808 (Int'l Bur. 2001); *TMI Communications and Company, Limited Partnership, and TerreStar Networks, Inc. Application for Review and Request for Stay*, Memorandum Opinion and Order, 19 FCC Rcd 12603 (2004).

<sup>10</sup> See *Use of Returned Spectrum in the 2 GHz Mobile Satellite Service Frequency Bands*, Order, FCC 05-204 (December 9, 2005).

<sup>11</sup> See Letter from Michael D. Connolly, Industry Canada, to Steven Nichols, TerreStar Networks (Canada) Inc., File No. 46215-1 (113554 CL) (April 27, 2007).

customer-designed products and applications over a fully optimized 4G Internet protocol network.

*SkyTerra.* SkyTerra is the licensee of U.S. satellites authorized to provide MSS in the L band and has provided service since 1996.<sup>12</sup> Using its U.S.-licensed satellite and the Canadian L-band satellite licensed to SkyTerra (Canada) Inc., SkyTerra's joint venture partner, SkyTerra currently offers a full range of mobile services, including voice, data, facsimile, two-way radio, fleet management and asset tracking services. SkyTerra is a leader in providing interoperable communications service in the North American market to public safety and government users. Its SMART, G-SMART and related programs provide national or area-wide talk group functionality at no additional charge to SkyTerra's public safety users.

SkyTerra's next-generation satellites will support communications in a variety of market segments by providing a platform for advanced voice and data services.<sup>13</sup> Each satellite's primary antenna will be significantly larger than any antenna on a currently operational commercial satellite, and each satellite will be one of the most powerful operational MSS satellites serving the U.S. These technical innovations will allow the provision of advanced mobile voice and broadband services to devices that are virtually identical to cell phone handsets in terms of aesthetics, cost, and functionality. SkyTerra believes its next-generation integrated

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<sup>12</sup> Order and Authorization, 4 FCC Rcd 6041 (1989); *remanded by Aeronautical Radio, Inc. v. FCC*, 928 F.2d 428 (D.C. Cir. 1991); Final Decision on Remand, 7 FCC Rcd 266 (1992); *aff'd*, *Aeronautical Radio, Inc. v. FCC*, 983 F.2d 275 (D.C. Cir. 1993); *see also AMSC Subsidiary Corporation*, Memorandum Opinion and Order, 8 FCC Rcd 4040 (1993).

<sup>13</sup> *See Mobile Satellite Ventures Subsidiary LLC*, Order and Authorization, DA 05-1492 (May 23, 2005) (authorizing SkyTerra 1); Letter from Jan Skora, Director General, Radiocommunications and Broadcasting Regulatory Branch, Industry Canada, to Mr. Larry Boisvert, President, Mobile Satellite Ventures (Canada) Inc., File No. 6215-3-3 (April 5, 2005) (authorizing SkyTerra 2).

network solution will extend the reach of its services to markets and customers that are highly dependent upon ubiquitous coverage and redundancy, including the following:

- Public Safety and Homeland Security organizations which require access to ubiquitous coverage, system redundancy, interoperability, priority access in emergency situations, push-to-talk and multimedia functionality;
- Consumers in search of ubiquitous coverage, improved safety and security features, the ability to receive content where and when they want it, and robust wireless broadband capabilities;
- Wireless carriers that want to expand the reach of their current networks and provide advanced content-delivery services;
- Consumer telematics which provide safety and security services over the United States and Canadian roadways;
- Enterprise customers wanting expanded coverage and advanced voice and data applications using commercially available devices;
- Fleet management which require ubiquitous service at attractive prices and enhanced functionality;
- Coastal and inter-coastal maritime communications users, which require increased coverage for enhanced safety service; and
- Rural-based and rural-roaming users, which seek seamless and transparent connectivity, made possible by the satellite component of SkyTerra's next generation integrated network (via distribution partners).

SkyTerra 1 is expected to be launched in early 2010, and SkyTerra 2 is expected to be launched in 2010 or 2011, in compliance with regulatory milestones. SkyTerra's four gateway earth stations are already under construction and are expected to be completed by the launch of SkyTerra 1.

*Globalstar.* Globalstar was authorized by the Commission in 1995 to construct, launch, and operate the Globalstar "Big LEO" MSS system,<sup>14</sup> which provides service in the United

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<sup>14</sup> See *Application of Loral/Qualcomm Partnership, L.P. for Authority to Construct, Launch, and Operate Globalstar, a Low Earth Orbit Satellite System to Provide Mobile Satellite Services in the 1610-1626.5 MHz/2483.5-2500 MHz Bands*, DA 95-128, 10 FCC Rcd 2333 (1995). The

States and abroad via non-geostationary-orbit satellites, using the 1610-1621.35 MHz band for transmissions from mobile earth stations to satellites and the 2483.5-2500 MHz band for transmissions from satellites to mobile earth stations. An indirect, wholly-owned subsidiary company, GUSA Licensee LLC, holds an FCC blanket license for operation of Globalstar mobile earth-station terminals and is responsible for provision of Globalstar MSS services to end users in the United States.<sup>15</sup> Globalstar is now in its tenth year of providing MSS voice and data services. Globalstar's services are currently available in all areas of the world, except central and southern Africa, Southeast Asia, and the Indian subcontinent, areas in which Globalstar is in the process of negotiating to expand coverage.

To ensure the robustness and future of its satellite services, Globalstar launched eight spare satellites in 2007. In addition, in December of 2006 Globalstar executed a contract with Alcatel Alenia Space, now Thales Alenia Space ("Thales Alenia") under which Thales Alenia will design, manufacture and deliver the Globalstar second-generation constellation of 48 LEO satellites.<sup>16</sup> Construction of the second generation constellation is now well underway. These satellites will be backward compatible with Globalstar's existing satellite constellation and with its global gateways, will have a lifespan through at least 2025, and will ensure that Globalstar is positioned to provide reliable, efficient, and effective voice and data services for the long term.

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term "Big LEO MSS" denotes MSS systems that use assigned frequencies in the 1610-1626.5 MHz band for transmission from mobile earth stations to satellites.

<sup>15</sup> See *AirTouch Satellite Services US, Inc., Application for Blanket Authorization to Construct and Operate up to 500,000 Mobile Satellite Earth Terminals Through the GLOBALSTAR Mobile Satellite System*, Order and Authorization, DA 99-2010, 14 FCC Rcd 17328 (1999).

<sup>16</sup> See "Globalstar, Inc. Signs Contract with Alcatel Alenia Space for Second-Generation LEO Satellite Constellation" (Dec. 4, 2006) available at [http://www.globalstar.com/en/news/pressreleases/press\\_display.php?pressId=426](http://www.globalstar.com/en/news/pressreleases/press_display.php?pressId=426). By using first-generation designs and incorporating technological advances that have occurred in the past ten years, Globalstar can produce state-of-the-art satellites without incurring large research and development expenses.

*Satellite Competition Report Public Notice.* Congress has directed the Commission to include in its annual report “an analysis of whether there is effective competition in the market for domestic and international satellite services.” 47 U.S.C. § 703(b)(2). In the Public Notice, the International Bureau (“Bureau”) solicits comment on whether the Commission should continue to consider the range of standard indicators commonly used for the assessment of “effective competition,” as it has done in the previous two reports, or, instead, adopt a specific definition of “effective competition.”<sup>17</sup> The Public Notice also invites, for the first time, comments on the state of competition in the provision of “Mobile Satellite Services.”<sup>18</sup>

## **Discussion**

### **I. The Commission Should Consider All Relevant Factors in Its Competition Analysis, Including Services on Various Platforms**

The MSS/ATC Coalition recommends that the Commission continue to adhere to the broad approach it has used in its previous reports to assess where there is “effective competition” in the provision of satellite services. While the MSS/ATC Coalition does not believe that a specific definition of “effective competition” is required, the approach the Commission adopted in the *Foreign Carrier Entry Order* and proposed in the Public Notice is reasonable because it would afford the Commission sufficient flexibility to consider *all relevant factors* that bear on the analysis of competition.<sup>19</sup> In the *Foreign Carrier Entry Order*, the Commission stated that “[e]ffective competition means competition among service providers in a market that benefits

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<sup>17</sup> Public Notice at 2. These factors include HHIs, profit-to-sales ratios, the Lerner Index, and consumer-oriented metrics, including churn and ARPU. *Id.* at 2 n.5.

<sup>18</sup> Public Notice at 3. Consistent with the Public Notice, commercial mobile radio services (“CMRS”) provided by satellite systems is discussed in more detail in comments filed separately in the CMRS competition report proceeding. *See* Comments of the MSS/ATC Coalition, WT Docket No. 09-66 (June 15, 2009).

<sup>19</sup> *See Market Entry and Regulation of Foreign-Affiliated Entities*, Report and Order, 11 FCC Rcd 3873 ¶ 1 (1995) (“*Foreign Carrier Entry Order*”).

consumers by expanding service offerings, promoting development of innovative technology, and lowering prices.”<sup>20</sup> A different assessment may be warranted in evaluating a specific transaction, and the Commission therefore may wish to reflect (as it has in previous reports) that market descriptions adopted for the purposes of the competition reports “are intended to facilitate discussion of markets and services required by section 703 and may not reflect the appropriate markets to be considered in other Commission proceedings, such as merger reviews, rulemakings, and other reports to Congress.”<sup>21</sup>

Whatever definition of “effective competition” the Commission uses for its Section 703 reports, its evaluation of competitive market conditions would be incomplete if it were limited to satellite services in particular or, more narrowly, to the regulatory classification of a certain satellite spectrum band (e.g., FSS or MSS). As the Commission acknowledged in the *First Satellite Report*, the relevant product or geographic markets “may include market participants that use technology platforms other than communications satellites to provide services that compete with satellite providers. Recognizing intermodal competition is consistent with customary descriptions of relevant markets.”<sup>22</sup> In many circumstances, “different technologies afford consumers substantially the same capability,” and alternative services “may have a constraining effect on the pricing and output” with respect to the services that satellite-based providers offer.<sup>23</sup>

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<sup>20</sup> *Id.*

<sup>21</sup> *Annual Report and Analysis of Competitive Market Conditions with Respect to Domestic and International Satellite Communications Services*, 22 FCC Rcd 5954, 5963 ¶ 24 (2007) (“*First Satellite Report*”); *Second Annual Report and Analysis of Competitive Market Conditions with Respect to Domestic and International Satellite Communications Services*, 23 FCC Rcd 15170, 15173 ¶ 13 n.15 (2008) (“*Second Satellite Report*”).

<sup>22</sup> *First Satellite Report*, 22 FCC Rcd at 5966 ¶ 35.

<sup>23</sup> *Id.*

The Bureau indicates in the Public Notice that it will examine the degree of market concentration and the ease of entry and exit with regard to the provision of several satellite communications services, including “Mobile Satellite Services.”<sup>24</sup> The Public Notice is unclear whether the Commission intends to include in this analysis all satellite services that support mobile applications or whether it intends to restrict its evaluation to satellite systems operating in spectrum bands allocated specifically for “Mobile-Satellite Services” under Part 2 of the Commission’s rules.<sup>25</sup> As discussed above, operators in spectrum allocated to MSS offer a number of different communications services, including two-way voice and data, fleet management/asset tracking, and mobile video. In the provision of such services, there is competition within submarkets not only with terrestrially-based providers, but also among various providers of satellite services across different spectrum bands, as explained in greater detail below. For example, with respect to services provided on spectrum allocated to MSS, “[t]echnological progress has enabled FSS operators in the C- and Ku-bands to become major competitors . . . in the provision of mobile satellite services.”<sup>26</sup> The Commission should therefore avoid basing its competition analysis on the international or domestic allocation for a given frequency band (*e.g.*, FSS or MSS) and should instead take into account the nature of the

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<sup>24</sup> Public Notice at 3.

<sup>25</sup> See 47 C.F.R. § 2.1(c) (defining “Mobile-Satellite Service” as “[a] radiocommunication service (1) [b]etween mobile earth stations and one or more space stations, or between space stations used by this service; or (2) [b]etween mobile earth stations by means of one or more space stations”); § 2.106 (allocation table).

<sup>26</sup> *Robert M. Franklin, Transferor, and Inmarsat, plc, Transferee, Consolidated Application for Consent to Transfer of Control of Stratos Global Corporation and Its Subsidiaries from an Irrevocable Trust to Inmarsat, plc*, IB Docket No. 08-143, Memorandum Opinion and Order and Declaratory Ruling, DA 09-117 ¶ 37 (rel. Jan. 16, 2009) (“*Inmarsat-Stratos 2009 Order*”).

services actually being provided in any such band. Such an approach would be consistent with Commission precedent and the *DOJ/FTC Horizontal Merger Guidelines*.<sup>27</sup>

## **II. Providers of Mobile Satellite Services Face Intense Competition From a Variety of Sources**

As the Commission has previously recognized, a host of companies presently operate or soon will operate satellite networks in spectrum bands specifically allocated for MSS, including Globalstar, Iridium, Inmarsat, SkyTerra, SkyTerra (Canada), TerreStar, DBSD, Orbcomm, ACeS, Telecomunicaciones de Mexico, Informcosmos, Thuraya, Optus MobileSat, INSAT 3C, and N-Star.<sup>28</sup> Moreover, a number of developments over the last several years have led to increased competition.

As noted above, in 2008 Inmarsat completed the launch of its fourth generation of satellites, providing world-wide broadband coverage, and also has completed a major satellite fleet repositioning process that is now providing more efficient coverage for Inmarsat users. Also in 2008, DBSD successfully launched a 2 GHz satellite, which employs a state-of-the-art spacecraft capable of supporting a wide range of high-data-rate services.<sup>29</sup> TerreStar is scheduled to launch within the next month the largest commercial satellite ever, which will be capable of using 2 GHz spectrum to support voice and high-speed data services to devices that

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<sup>27</sup> See, e.g., *Stratos Global Corporation, Transferor, and Robert M. Franklin, Transferee, Consolidated Application for Consent to Transfer of Control*, Memorandum Opinion and Order and Declaratory Ruling, 22 FCC Rcd 21328, 21355 ¶¶ 63–64 (2007) (evaluating effect of transaction on competition in the “international mobile satellite industry” generally); see also *Inmarsat-Stratos 2009 Order* at ¶ 32 (“[W]e define the retail provision of international mobile satellite services to be a relevant market for purposes of our analysis.”); *DOJ/FTC Horizontal Merger Guidelines*, 57 Fed. Reg. 41552 (Sept. 10, 1992), revised, 4 Trade Reg. Rep. (CCH) ¶ 13104 § 1.1 (Apr. 8, 1997) (providing analysis for product market definition).

<sup>28</sup> See *Stratos 2009 Order* at ¶ 36.

<sup>29</sup> See ICO, News Release, *ICO Approved for Ancillary Terrestrial Component Use by FCC* (Jan. 15, 2009), available at <http://investor.ico.com/releasedetail.cfm?ReleaseID=359524>.

are virtually identical to cell phone handsets in terms of aesthetics, cost, and functionality.<sup>30</sup>

SkyTerra is scheduled to launch new satellites within the next two years that will support voice and high-speed data services to similar devices.<sup>31</sup>

In response to news that Globalstar received \$574 million in financing to acquire and launch its own next-generation satellite fleet to support high-speed data services, the Wall Street Journal reported that the announcement is likely to “shake up the mobile satellite-services segment,” and lead to more competition.<sup>32</sup> Moreover, Iridium is reported to have access to a significant portion of the funds required to launch its next-generation satellite network, and construction is expected to begin this year.<sup>33</sup> In the meantime, Iridium is introducing new broadband offerings, such as OpenPort. As one reporter concludes, there is every reason to believe competition will intensify even further when all of this new capacity becomes commercially available.<sup>34</sup>

Of course, competition among providers in the MSS spectrum band tells only a small part of the competitive story. As a result of regulatory changes and technological developments, operators in spectrum bands allocated for FSS are now deploying mobile voice and broadband services to VSAT terminals that directly compete with services provided by satellite networks that operate in spectrum allocated only for MSS. Specifically, spectrum deregulation and

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<sup>30</sup> See *TerreStar 1 Set to Launch in Kourou, French Guiana* (May 19, 2009), available at <http://satellite.tmcnet.com/topics/satellite/articles/56426-terrestar-1-set-launch-kourou-french-guiana.htm>.

<sup>31</sup> See Stacey Higginbotham, *Satellite Player Skyterra Ready to Try Again*, GigaOM (Dec. 25, 2008), available at <http://gigaom.com/2008/12/25/satellite-player-skyterra-ready-to-try-again>.

<sup>32</sup> Andy Pasztor, *Globalstar Secures Financing From France’s Export Credit Agency*, Wall St. J. (Mar. 25, 2009).

<sup>33</sup> *Comsys Maritime VSAT Report 15* (1st ed. 2008).

<sup>34</sup> See Greg Berlocher, *Maritime Market: Signs Point to Strong Growth for Satellite Providers*, Via Satellite at 21 (Nov. 2008).

advances in antenna technology allow FSS system operators to offer such services that once were available on a broad scale only from MSS system operators.<sup>35</sup> For example, FSS capacity is being used on ships, airplanes, and vehicles to provide voice and broadband connectivity to both passengers and crew on a global basis.<sup>36</sup> Several VSAT providers offer earth station on vessel (“ESV”) service in FSS bands at speeds of up to 8 Mbps and with global coverage.<sup>37</sup> Similarly, competition for aeronautical broadband services using FSS bands is growing at a time when demand for in-cabin passenger broadband connectivity is also gaining momentum.<sup>38</sup>

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<sup>35</sup> See, e.g., *Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925–6425 MHz/3700–4200 MHz Bands and 14.0–14.5 GHz/11.7–12.2 GHz Bands*, IB Docket No. 02-10, Report and Order, 20 FCC Rcd 674 (2005); *Service Rules and Procedures to Govern the Use of Aeronautical Mobile Satellite Service Earth Stations in Frequency Bands Allocated to Fixed Satellite Services*, Notice of Proposed Rulemaking, 20 FCC Rcd 2906 (2005); *Amendment of Parts 2 and 25 of the Commission’s Rules to Allocate Spectrum and Adopt Service Rules and Procedures to Govern the Use of Vehicle-Mounted Earth Stations in Certain Frequency Bands Allocated to the Fixed-Satellite Service*, Notice of Proposed Rulemaking, 20 FCC Rcd 9646 (2007).

<sup>36</sup> See Ex Parte Presentation of Inmarsat plc and Stratos Global Corporation, *Robert M. Franklin, Trustee, Inmarsat plc, and Stratos Global Corporation*, IB Docket No. 08-143, DA 08-1659, ISP-PDF-20080618-00013 (filed Dec. 17, 2008), Annex A at 5 (maps displaying coverage for KVH and ViaSat VSAT broadband services); see also, e.g., *Raysat Antenna Systems, LLC, Application for Authority to Operate 400 Land Mobile-Satellite Service (“LMSS”) Earth Stations in the 14.0–14.5 GHz and 11.7–12.2 GHz Frequency Bands*, 23 FCC Rcd 1985 (2008).

<sup>37</sup> See, e.g., Press Release, *Vizada Strengthens Offering in Asia-Pacific Through Thuraya Coverage Extension* (June 16, 2008), available at [http://www.vizada.com/files/2/67/Thuraya\\_Asia\\_FINAL.pdf](http://www.vizada.com/files/2/67/Thuraya_Asia_FINAL.pdf); Press Release, *SeaMobile Signs First Commercial Shipping Customer* (Sept. 11, 2007), available at [http://www.seamobile.com/press/09\\_11\\_07.aspx](http://www.seamobile.com/press/09_11_07.aspx); Press Release, *Marlink Enters into Agreements with Springfield Shipping and Shell* (June 5, 2003), available at <http://www.marlink.com/SpecialArticleList.aspx?m=20#a2029>; Press Release, *CapRock Launches New Broadband VSAT Service for Commercial Maritime Market* (Apr. 4, 2007), available at [http://www.caprock.com/press/archive\\_2007/newspr070404.htm](http://www.caprock.com/press/archive_2007/newspr070404.htm); Press Release, *Having SEVSAT and TVRO from Ship Equip on Board Really Elevates the Spirit* (June 2008), available at [http://www.shipequip.no/download.aspx?object\\_id=C38565ECEF754A90B682042162866B88](http://www.shipequip.no/download.aspx?object_id=C38565ECEF754A90B682042162866B88)

<sup>38</sup> See, e.g., *ViaSat, Inc., Application for Blanket Authority for Operation of 1,000 Technically Identical Ku-Band Aircraft Earth Stations in the United States and Over Territorial Waters*, 22

A number of industry analysts have recognized that VSAT services are a “practical alternative” to services offered over systems operating in MSS spectrum bands, and they have observed that VSAT providers are specifically targeting the customers of Big Leo, S-band, and L-band operators, such as maritime and business aviation customers in particular.<sup>39</sup> Indeed, many consumers find VSAT services particularly attractive because of their unlimited, flat-rate pricing structure, which satellite operators in the Big Leo band, the S-band, and the L-band simply cannot offer, given the limited spectrum available.<sup>40</sup>

VSAT services are very much price- and service-competitive with the services offered by providers operating in MSS spectrum bands. VSAT providers employ similar-size terminals with fixed-rate service plans offered at attractive rates.<sup>41</sup> KVH, for instance, markets a range of VSAT services with varying levels of bandwidth (starting at 64 kbps) and at fixed-rate service plans starting as low as \$995 per month.<sup>42</sup> KVH’s mini-VSAT service is marketed as meeting the global needs of commercial merchant fleets and is targeted at tankers, cruise ships, ferries

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FCC Rcd 19964 (2007); *ARINC Inc., Application for Blanket Authority for Operation of Up to One Thousand Technically Identical Ku-Band Transmit/Receive Airborne Mobile Stations Aboard Aircraft Operating in the Untied States and Adjacent Waters*, 20 FCC Rcd 7553 (2005). Row 44 is another company seeking to provide aeronautical services in FSS bands. *See* IB File No. SES-LIC-20080508-00570 (filed May 8, 2008). *See also, e.g., Raysat Antenna Systems, LLC, Application for Authority to Operate 400 Land Mobile-Satellite Service (“LMSS”) Earth Stations in the 14.0–14.5 GHz and 11.7–12.2 GHz Frequency Bands*, 23 FCC Rcd 1985 (2008).

<sup>39</sup> *See, e.g.,* Michael A. Tverna, *Connexion 2, ViaSat-KVH Alliance Aims to Challenge Inmarsat’s Role Among Maritime, Aeronautical Broadband Users*, *Aviation Week & Space Technology* (Oct. 27, 2008).

<sup>40</sup> TMF Associates, *MSS Industry Perspectives* 16 (Mar. 31, 2008) (“[W]ith the huge increase in usage that comes alongside flat-rate pricing . . . , Inmarsat would find it difficult if not impossible to offer such an option.”).

<sup>41</sup> *See id.*

<sup>42</sup> *See* KVH, *KVH mini-VSAT Broadband Airtime Rate Sheet* (Jan. 2009), available at: [http://www.mobilsat.com/marine-satellite-internet-andTV/Marine-internet/KVH/DS\\_TPV7\\_AirtimeRates-Jan-09.pdf](http://www.mobilsat.com/marine-satellite-internet-andTV/Marine-internet/KVH/DS_TPV7_AirtimeRates-Jan-09.pdf).

and large yachts.<sup>43</sup> In fact, KVH has often touted its conversion of former MSS customers to VSAT technology, citing the cost efficiency of the product, the ease of installation, and emphasizing that the equipment will operate alongside MSS and other communications equipment.<sup>44</sup> Vizada, MTN, and ShipEquip offer similarly attractive flat-rate pricing plans.<sup>45</sup>

Satellite operators using spectrum allocated to FSS also provide asset tracking/fleet management services, as well as mobile video services. For example, Qualcomm provides its OmniTracs asset tracking/fleet management service over leased Ku-band transponders and is one of the leading firms in this area.<sup>46</sup> Using FSS spectrum, AT&T recently launched “CruiseCast,” which provides 22 video channels and 20 audio channels to vehicles.<sup>47</sup> Similarly, using SDARS spectrum, XM SIRIUS provides “Backseat TV,” a mobile video service for vehicles offering children’s programming.<sup>48</sup>

Indeed, a comprehensive evaluation of the competitive landscape cannot be limited to satellite services but must also include alternative services provided by terrestrial wireless

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<sup>43</sup> Thrane & Thrane, Press Release, *Thrane & Thrane in VSAT Partnership with KVH Industries* (Jan. 26, 2009), available at [http://www.thrane.com/www,-d-,thrane,-d-,com/About/Press/SE%20Releases/SE%20Release/2008-2009/~media/PDFs/Stock%20Exchange/2008\\_2009/nr1420090126uk%20pdf.aspx](http://www.thrane.com/www,-d-,thrane,-d-,com/About/Press/SE%20Releases/SE%20Release/2008-2009/~media/PDFs/Stock%20Exchange/2008_2009/nr1420090126uk%20pdf.aspx).

<sup>44</sup> See *Commercial Marine Operators Turning to KVH for Complete Satellite Communications Solution*, TMC News, (Mar. 23, 2009), available at <http://www.tmcnet.com/usubmit/2009/03/23/4077262.htm>; see also Inmarsat and Stratos Oct. 9 *Ex Parte* Letter (discussing use of redundant communications systems on marine and aeronautical vessels). Vizada, MTN, and ShipEquip offer similarly attractive flat-rate pricing plans. See *Vizada WaveCall Rates*, available at <http://www.mobilsat.com/marine-satellite-internet-andTV/Marine-internet/SeaTel/index.htm>; *MTN ConnectDirect Rates*, available at <http://www.e3connect.tv/documents/MTNE3ConnectDirectNetVSATPlan051108.pdf>.

<sup>45</sup> See *Vizada WaveCall Rates*, available at <http://www.mobilsat.com/marine-satellite-internet-andTV/Marine-internet/SeaTel/index.htm>; *MTN ConnectDirect Rates*, available at <http://www.e3connect.tv/documents/MTNE3ConnectDirectNetVSATPlan051108.pdf>.

<sup>46</sup> See [http://www.qualcomm.com/products\\_services/mobile\\_content\\_services/enterprise/assetmanagement/omnitrac.html](http://www.qualcomm.com/products_services/mobile_content_services/enterprise/assetmanagement/omnitrac.html).

<sup>47</sup> See <http://www.cruiseCast.com/technology.html>.

providers.<sup>49</sup> For example, as the Bureau recently observed, “Aircell is using terrestrial stations to provide aeronautical broadband services in competition with Inmarsat and other MSS providers.”<sup>50</sup> Terrestrial wireless providers, such as Numerex, Jasper Wireless and Aeris Communications, using conventional wireless networks together with GPS, provide asset tracking/fleet management services.<sup>51</sup> Similarly, a number of companies, including Qualcomm, MobiTV, Verizon Wireless, AT&T Wireless, and members of the Open Mobile Video Coalition, are offering or will soon offer mobile video services using terrestrial wireless or broadcast spectrum.<sup>52</sup>

An examination of *all* substitutable services available to consumers shows that satellite-based providers face vigorous competition across platforms for the provision of services. The Commission should therefore find, as it did in the *First* and *Second Annual Reports*, that the provision of satellite services, including mobile satellite services, is subject to “effective competition.”

Notwithstanding the new satellite networks that are being launched, the exploding demand for broadband and other high-capacity services is in fact placing a continued strain on the existing spectrum resources of operators in MSS bands. By contrast, and as noted above, operators in FSS bands have far more capacity to meet the ever-increasing needs of consumers.

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<sup>48</sup> See <http://www.sirius.com/backseattv>.

<sup>49</sup> See also Comments of the MSS/ATC Coalition, WT Docket No. 09-66 (June 15, 2009) (discussing the status of next-generation MSS systems, including the deployment of ATC to supplement those systems).

<sup>50</sup> *Inmarsat-Stratos 2009 Order*, DA 09-117 at ¶ 37 & n.99.

<sup>51</sup> See <http://www.numerex.com>; <http://www.jasperwireless.com>; <http://www.aeris.net>.

<sup>52</sup> See <http://www.mediaflo.com>; <http://www.mobitv.com>; <http://products.vzw.com/index.aspx?id=video>; <http://www.openmobilevideo.com>.

As the Commission has recognized,<sup>53</sup> satellite operators have an important role to play in achieving the Commission’s goal of ensuring ubiquitous broadband access for all Americans, and in providing access to mobile broadband in particular. In striving to meet that goal, the issue of spectrum adequacy raised in the Public Notice<sup>54</sup> is a problem that satellite operators in MSS frequency bands struggle with, both as they deal with the constraints of international coordination, and as they design their networks to support new and innovative broadband services. The MSS/ATC Coalition thus encourages the Commission to continue to adopt regulatory policies that facilitate flexible uses of satellite spectrum and to identify additional spectrum that could be allocated for mobile satellite services.

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<sup>53</sup> See, e.g., Acting Chairman Michael J. Copps, *Bringing Broadband to Rural America: Report on a Rural Broadband Strategy* 4 (May 22, 2009) (“[S]atellite broadband, with its near ubiquitous coverage and downstream data rates between 512 kbps and 5 Mbps, can provide a much-needed connection in rural areas, especially where other broadband solutions are not viable for technical or other reasons.”).

<sup>54</sup> Public Notice at 4.

## Conclusion

The MSS/ATC Coalition requests that the Commission consider these comments in the above-captioned proceeding regarding the state of competition in the provision of satellite services.

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