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

In the Matter of	)	
	)	
Thirteenth Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services	)	WT Docket No. 08-27
	)	
	)	

COMMENTS OF THE MOBILE SATELLITE SERVICE PROVIDERS

ICO Global Communications (Holdings) Limited, Inmarsat, Inc., TerreStar Networks, Inc., Mobile Satellite Ventures Subsidiary LLC, and Globalstar, Inc. (collectively the "MSS Providers") submit the following comments in the above-captioned proceeding in which the Wireless Telecommunications Bureau ("Bureau") seeks data and information in order to evaluate the state of competition among Commercial Mobile Radio Services ("CMRS") providers in connection with its preparation of the *Thirteenth Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services* ("*Thirteenth Annual Report*").[1/] These comments focus on the potential that Mobile Satellite Service ("MSS") systems supplemented with an Ancillary Terrestrial Component ("ATC") have to expand service to the wireless broadband market. Their effectiveness in that market will be determined by the systems' appeal and availability and by the value-added benefits stemming from the availability of a ubiquitous and robust satellite component.

[1/] *See "Wireless Telecommunications Bureau Seeks Comment on Commercial Mobile Radio Services Market Competition,"* Public Notice, DA 08-453, WT Docket No. 08-27 (February 25, 2008) ("*Public Notice"*).

Background

ICO. ICO Global Communications (Holdings) Limited is a satellite communications company developing an advanced next-generation hybrid media system, combining both satellite and terrestrial communications capabilities. ICO has designed its MSS/ATC system to provide multiple IP-enabled services (IP data, voice, and digital video, Internet, public safety and telematics) throughout the United States on mobile and portable devices. ICO constructed its North American Satellite, ICO G1, to support radio protocols that are widely used or in the process of being widely implemented (such as W-CDMA, CDMA2000, GSM, WiMAX, GMR, and DVB-SH). ICO G1 is set for launch in April 2008, and market trials of ICO service offerings are set for Las Vegas and Raleigh-Durham, North Carolina by mid-year. ICO will combine ICO's unique interactive satellite capability with nationwide coverage to initially deploy a mobile interactive media service known as ICO mim™. ICO mim is a converged mobile media service that addresses a wide variety of consumer entertainment, information, and two-way communication needs: live and stored mobile video in vehicles, interactive navigation, mobile messaging, and roadside assistance, all with nationwide coverage.

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 MSS services to the United States and globally on the most advanced mobile commercial communications satellites now in orbit.

Inmarsat expects to launch the third of its fourth generation satellites, the I4F3, in the near future, completing world-wide coverage for our broadband capabilities, including Broadband Global Area Network (BGAN). In addition, Inmarsat is constructing and has sought

Commission authorization for a Satellite Access Station in Paumalu, Hawaii to connect user terminal traffic to the public switched network and the Internet.

Inmarsat's I-4 fleet supports a new class of innovative IP-based communications, including the 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. In 2007, Inmarsat launched companion BGAN services for aeronautical and maritime customers, known as SwiftBroadband and FleetBroadband.

Inmarsat will introduce world-wide Global Satellite Phone Service (GSPS) over its I4 geostationary fleet with a modernized handset. This device is being optimized to operate over the I-4 network, will support both MSS and GSM service, and is expected to be available in the United States in 2009.

TerreStar. TerreStar is the assignee[2/] of a letter of intent ("LOI") authorization, 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.[3/] The LOI authorization permits the use of 10 MHz of this 2 GHz MSS spectrum in each direction.[4/] TerreStar Networks (Canada) Inc., which is owned

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[2/] *See* File Nos. SAT-ASG-20021211-00238 and SAT-AMD-20061127-00143.

[3/] *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).

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

by TerreStar and a wholly-owned subsidiary of BCE, Inc., holds an approval in principle issued by Industry Canada to operate TerreStar-1 in Canada.[5/]

TerreStar plans to operate a resilient, interoperable two-way communications system that can be used to address civil defense and disaster preparedness communications needs in North America. This will be achieved through next-generation communication networks that will provide universal access and tailored applications throughout North America on a universal chipset that can be incorporated in a wide range of wireless devices. TerreStar expects to be the first to offer customer-designed products and applications over a fully optimized 4G Internet protocol network.

MSV. MSV was authorized by the Commission in 1989 to construct, launch, and operate a United States MSS system in the L band.[6/] MSV's licensed satellite (called "AMSC-1") was launched in 1995, and MSV began offering service in 1996. Today, MSV offers a full range of mobile satellite services, including voice and data, using both its own U.S.-licensed satellite and the Canadian-licensed L band satellite licensed to Mobile Satellite Ventures (Canada) Inc. ("MSV Canada"). MSV 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 MSV's users.

[5/] *See* Letter from Michael D. Connolly, Industry Canada, to Steven Nichols, TerreStar Networks (Canada) Inc., File No. 46215-1 (113554 CL) (April 27, 2007).

[6/] *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).

In May 2005, the Bureau licensed MSV to launch and operate a replacement L band MSS satellite at 101°W.L. (called "MSV-1").[7/] In April 2005, Industry Canada authorized MSV Canada to launch and operate a next-generation L band MSS satellite at 107.3°W.L.[8/] On January 11, 2006, MSV announced that it had entered into a contract with Boeing Satellite Systems, Inc. for the construction and delivery of these next-generation, transparency class L band satellites to serve the Western Hemisphere.[9/] The satellites will be among the largest and most powerful commercial satellites ever built. Each satellite's primary antenna will be twice as large as any previous commercial satellite, and the satellites will have significantly more power available over the U.S. compared to any other currently operational MSS system serving the U.S. The satellites will be used to provide advanced mobile voice and broadband services to devices that are virtually identical to cell phone handsets in terms of aesthetics, cost, and functionality. MSV is ahead of the Commission's milestone schedule and is planning to launch the two next-generation satellites in September 2009 and July 2010, respectively.

Globalstar. Globalstar was authorized by the Commission in 1995 to construct, launch, and operate the Globalstar "Big LEO" MSS system,[10/] which provides service in the United States and abroad via non-geostationary-orbit satellites, using the 1610-1621.35 MHz band for

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[7/] *See Mobile Satellite Ventures Subsidiary LLC, Order and Authorization*, DA 05-1492 (May 23, 2005) ("*MSV-1 Order*").

[8/] *See* 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).

[9/] *See* "Mobile Satellite Ventures Engages Boeing to Develop Next Generation Satellites" (Jan. 11, 2006), *available at* http://www.msvlp.com/pr/news_releases_view.cfm?id=80.

[10/] *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 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.

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.[11/] Globalstar is now in its eighth 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.[12/] 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.

[11/] *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).

[12/] *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*. 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.

ATC Services. In 2003, the Commission adopted rules authorizing MSS licensees to integrate ATC into their satellite systems.[13/] In establishing these rules, the Commission recognized the enormous potential of ATC, finding that the expanded authority would promote the efficient use of MSS spectrum, allow MSS providers to offer ubiquitous service by overcoming coverage gaps in densely populated areas, and achieve economies of scale that would dramatically reduce the cost of MSS equipment and service, promote public safety and national security, and increase wireless competition generally.[14/] To date, two companies — MSV and Globalstar — have obtained approval from the Commission to offer ATC services.[15/] Two other companies – ICO and TerreStar – have applied for ATC authority.[16/] Both the authorized and prospective MSS/ATC operators are actively planning for the deployment of their ATC systems, and anticipate that MSS/ATC will prove to be a valuable enhancement to their MSS systems by improving their ability to provide service in urban and other areas where MSS signals are blocked, expanding the variety of services they are able to provide to both urban and unserved and underserved areas, and enabling them to make more efficient and intensive use of their assigned spectrum for the benefit of their public safety and commercial customers.

13/ *See Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands, Report and Order*, 18 FCC Rcd 1962 (2003) ("*ATC Order*").

14/ *ATC Order* at ¶¶ 1, 21, 23, 24, 29, and 32.

15/ MSV was granted ATC authority in November 2004 to operate ATC in connection with the existing and planned L band MSS systems of MSV and MSV Canada. *See* Mobile Satellite Ventures Subsidiary LLC, *Order and Authorization*, 19 FCC Rcd 16130 (Chief, International Bureau, November 8, 2004). Globalstar was granted ATC authority in January 2006. *See* Globalstar, Inc., *Order and Authorization*, 21 FCC Rcd 398 (2006) (Chief, International Bureau, January 20, 2006).

16/ *See* File No. SAT-AMD-20071130-00167; File No. SES-AMD-20070907-01253.

Public Notice. On February 25, 2008, the Bureau issued a Public Notice soliciting data and information to assist in the preparation of the *Thirteenth Annual Report*.[17/] Among other issues, the Bureau seeks input regarding the state of competition in the provision of CMRS services and how competition among CMRS providers varies across the United States, in particular between rural and urban areas.[18/] In addition, the Bureau solicits comment on the current provision of CMRS by MSS carriers, including the extent to which MSS services function as a substitute for terrestrial CMRS services.[19/]

Discussion

Once deployed, MSS/ATC systems will dramatically enhance MSS carriers' service offerings and expand their customer base. Most importantly, the addition of ATC in urban and other areas where MSS signals are usually blocked or too weak to penetrate indoors will vastly increase the utility of MSS by eliminating the problems of blocked signals and less than adequate call quality in such areas. As a result, emergency personnel and other users will be able to maintain uninterrupted communication no matter where they are. In the case of an emergency where terrestrial networks fail or are unreachable, such as during and after Hurricane Katrina, MSS/ATC terminals will instantly and seamlessly operate with the satellite network, ensuring that emergency responders have continued and immediate access to reliable, interoperable, and redundant communications. Instead of waiting for satellite-only phones to arrive or for damaged terrestrial networks to be rebuilt, emergency responders, using MSS/ATC terminals, will be able to continue using the same phones they carry every day. Similarly, commercial customers will

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17/ *See Public Notice*.

18/ *Id.* at 4.

19/ *Id.*

be able to rely on MSS/ATC services to communicate when terrestrial networks are no longer functioning because of man-made or natural disasters.

MSS/ATC networks also will provide vital new services in rural and remote areas. For example, some MSS/ATC providers may choose to deploy transportable base stations to rural and remote areas (such as Native American tribal communities or national forests) that can be set up quickly for relatively low cost to provide vital telecommunications capabilities. Public safety personnel and commercial customers alike will be able to rely on these transportable MSS/ATC base stations to meet their immediate communications needs in the event of emergencies such as forest fires, earthquakes, pandemics, or terrorist attacks, as well as for their daily communications needs. Most importantly, MSS/ATC networks will be capable of providing affordable broadband communications services such as Internet access for rural and underserved customers, fulfilling the Commission's goal of ensuring affordable broadband service for all Americans.

By deploying MSS/ATC services, MSS operators will be able to achieve gains in spectrum efficiency, allowing them to make more intensive use out of their assigned spectrum. ATC will permit higher density use of MSS spectrum within a specific geographic area — enabling effectively thousands of simultaneous voice-equivalent users per channel through reuse of frequencies across relatively short distances between base stations, versus far fewer simultaneous voice-equivalent users per channel in satellite mode. And by integrating ATC with their existing and future MSS systems, MSS/ATC operators will be able to reuse their assigned frequencies more intensively and thus support a much larger number of public safety and commercial customers on a day-to-day basis and during emergencies.

Accordingly, once their ATC systems are deployed, MSS/ATC operators will be poised to offer their current and future public safety and commercial customers the truly nationwide, high-quality, and affordable mobile services that the Commission envisioned when it decided to permit MSS providers to incorporate ATC into their MSS systems.[20/] Furthermore, because MSS/ATC providers will offer user equipment that resembles traditional mobile consumer devices, they will be able to take better advantage of economies of scale for equipment, making it possible for them to offer high-quality voice, broadband, and other services to their subscribers at prices that more closely approximate those of cellular and PCS operators. Moreover, some MSS/ATC operators will be able to offer smaller, less-expensive dual-mode handsets, comparable to those offered by terrestrial CMRS providers.

[20/] *See Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands; Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, Report and Order and Notice of Proposed Rulemaking*, 18 FCC Rcd 1962 (2003).

Conclusion

The MSS Providers request that the Commission consider these Comments in connection with its preparation of the *Thirteenth Annual Report*.

Respectfully submitted,

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