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March 19, 2018

Ms. Marlene H. Dortch Secretary Federal Communications Commission 445 12<sup>th</sup> Street, S.W., Room TW-A325 Washington, DC 20554

Re: LeoSat MA, Inc., Petition for Declaratory Ruling to Permit U.S. Market Access for the LeoSat Ka-Band Low-Earth Orbit Satellite System; Call Sign S2979, IBFS File No. SAT-PDR-20161115-00112

Dear Ms. Dortch:

Pursuant to Section 1.1206 of the Commission's rules, this letter provides notice that on March 15, 2018, LeoSat MA, Inc. (LeoSat), represented by Mark Rigolle, Chief Executive Officer; J. Cliff Anders, President and Co-Founder; and, Philip Marlar, Chief Operating Officer and Co-Founder; and the undersigned (collectively, "LeoSat") met separately with representatives from the Offices of Chairman Ajit Pai, Commissioner Michael O'Rielly, Commissioner Brendan Carr, and Commissioner Mignon Clyburn, and the International Bureau. A complete list of Federal Communications Commission ("Commission") representatives at each meeting is attached to this filing as Attachment A. In addition, the slide deck presentation that was distributed at the meetings is attached as Attachment B.

During the meetings, LeoSat discussed the contents of the attached presentation. Specifically, LeoSat explained that its 78-satellite non-geostationary ("NGSO") constellation will provide unique capabilities. The network will provide, between any two locations in the world, highly secure, low-latency, premises-to-premises connectivity with available data speeds greater than 1 Gbps. Each satellite will have four optical inter-satellite links that can relay communications between satellites at the speed of light, thereby enabling the constellation to be operated as a global mesh network. The mesh networking capability of LeoSat's constellation will obviate any need to utilize satellite gateways or a terrestrial network for traffic routing and will enable LeoSat to deliver data over long distances significantly faster than can be accomplished via terrestrial fiber networks. LeoSat expects to use these unique capabilities of its constellation to primarily provide premium services to enterprise and governmental clients. However, LeoSat also expects to provide data connectivity, including 5G backhaul services, to

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<sup>&</sup>lt;sup>1</sup> 47 C.F.R. § 1.1206.

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remote and insular locations. LeoSat's system also will be able to provide critical services during natural and man-made disasters.

In addition to briefly discussing its ongoing fundraising efforts and customer commitments, LeoSat elaborated on the anticipated timeline for the construction of its network. In the coming months, LeoSat expects to enter into an agreement for, and to commence, the construction of one initial satellite. This satellite, which will be launched in 2019, will be deployed for validation and testing and will also satisfy the "bring into use" ("BIU") requirements under LeoSat's ITU filing.<sup>2</sup> Pursuant to an existing commitment from Thales Alenia Space ("TAS"), the ITU filing will be assigned to LeoSat's constellation in late 2018/2019, which is also when LeoSat expects to execute an agreement with TAS for the construction of LeoSat's satellites. LeoSat has largely completed the design of its satellite network and expects to commence manufacturing of its constellation this year. LeoSat plans to launch its first constellation satellites in 2020 and complete the full deployment of its constellation in 2022.

Please direct any questions concerning this submission to the undersigned.

Respectfully submitted,

/s/ Phillip R. Marchesiello

Phillip R. Marchesiello Lynne M. Montgomery Counsel to LeoSat MA, Inc.

Attachments

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<sup>&</sup>lt;sup>2</sup> LeoSat previously has stated that it would launch two early-bird satellites. *See* Letter from Phillip R. Marchesiello and Lynne M. Montgomery, Outside Counsel to LeoSat, to Jose P. Albuquerque, Chief, Satellite Div., Int'l Bur., FCC, IBFS File No. SAT-LOI-20161115-00112 (Call Sign S2979), at 5 n.13 (filed May 15, 2017). LeoSat has determined that it will launch one early bird satellite and corrects the reference on page 4 of the attached PowerPoint presentation.

### **ATTACHMENT A**

### Office of Chairman Ajit Pai Rachael Bender

### Office of Commissioner Michael O'Rielly

Erin McGrath

### Office of Commissioner Brendan Carr

Will Adams

### Office of Commissioner Mignon Clyburn

Louis Peraertz

### International Bureau

Jose Albuquerque

Jennifer Balatan

Stephen Duall

Jennifer Gilsenan

Sylvia Lam

Karl Kensinger

Jim Schlichting

Tom Sullivan

**Troy Tanner** 

### **ATTACHMENT B**

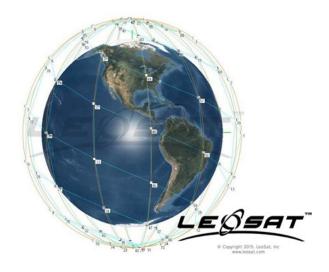
# **LeoSat Ka-Band NGSO Satellite System Application** March 15, 2018

# **LeoSat Overview**

- LeoSat was formed in 2013 by a group of experienced satellite and data networking executives to develop, launch, and operate a new high-bandwidth Low Earth Orbit (LEO) satellite constellation
- LeoSat's system will provide high-speed, low-latency, premise-to-premise data communications for commercial and government customers around the world
  - Highly secure meshed network of satellites with global coverage
  - High-speed, high-throughput data networking with low latency
  - Move large amounts of data around the globe to pin-point locations using non-Internet-based connections and without the use of gateways
  - Will benefit business operations in the telecom backhaul & trunking, oil & gas exploration & production, maritime, and international business markets
  - High-throughput connectivity to connect hospitals, libraries, schools, and others in rural and underserved areas
- LeoSat engaged Thales Alenia Space (with affiliates, TAS), the top satellite manufacturer in the world for NGSO satellite constellations



# The LeoSat System



- 6 orbital planes, each with 13 active satellites and one in-orbit spare
- 78 total active satellites (expandable to 108) plus sixin-orbit spare satellites
- The constellation will be launched in compliance with the NGSO Report and Order milestone requirements
- initial mix of large and small user terminals at fixed locations in the U.S. and abroad



- U.S. Based Company: LeoSat is a U.S.-based company with U.S. ownership that will deliver jobs to the United States.
- ITU Filings: Constellation registered under French ITU filings for "MCSAT-2 LEO-2" network, with ITU date priority over other Ka-band NGSO networks considered in current FCC processing round
- Satellite Licensing: Will seek a Dutch license to launch and operate satellite constellation



# **Company Overview: LeoSat's Management Team**

Name	Prior Experience
Mark Rigolle CEO	<ul> <li>CEO of O3b Networks</li> <li>CFO of SES, S.A, a publicly-traded FSS operator</li> <li>Extensive C-level experience in the telecommunications sector</li> </ul>
<b>Cliff Anders</b> Chairman & Co- Founder	<ul> <li>Schlumberger (Divisional CTO), IT Centricity (CEO), Targeted Technologies (CTO)</li> <li>Data communications designer to the energy, maritime and cruise ship sectors</li> <li>7 patents issued, 3 pending</li> </ul>
Phil Marlar Co-Founder & COO	<ul> <li>30-year career at Schlumberger in various businesses including roles of President, Executive VP and GM</li> <li>Key roles throughout North &amp; South America and Europe</li> <li>COO of IT Centricity</li> </ul>
Ronald van der Breggen Chief Commercial Officer	<ul> <li>20 years of experience in the telecom and satellite industry</li> <li>VP at SES, S.A. – led global sales organization</li> <li>VP of IP Services at KPN, and KPNQwest</li> </ul>
Diederik Kelder SVP, Corporate & Business Development	<ul> <li>20 years of experience in the satellite industry</li> <li>VP Business Development Asia at SES, S.A.</li> <li>VP of Business Planning at New Skies Satellite</li> <li>Marketing Manager, Commercial Department at Eutelsat</li> </ul>
Peter Schrickel Chief Financial Officer	<ul> <li>20 years of experience in the finance sector</li> <li>SVP and Group Treasurer at SES, S.A.</li> <li>Head of Subsidiary Financing, Group Treasury at Volkswagen Group</li> </ul>
<b>D.K. Sachdev</b> Interim CTO	<ul> <li>59 years in telecoms, 40 years in satellite sector, including heading R&amp;D for Intelsat</li> <li>Headed engineering and operations for WorldSpace</li> <li>Founded Spacetel Consultancy and Professor at George Mason University</li> <li>2009 inducted into Hall of Fame of the Society of Satellite Professionals International</li> </ul>



### **LeoSat Timeline**

- <u>September 14, 2016</u>: LeoSat and Thales Alenia Space sign contract to develop the LeoSat system
- <u>November 15, 2016</u>: LeoSat filed a petition for declaratory ruling in the current Kaband/Ku-band NGSO processing round to seek U.S. market
- May 11, 2017: SKY Perfect JSAT becomes an anchor investor in LeoSat
- May 15, 2017: LeoSat replies to FCC request for Information
- May 26, 2017: LeoSat PDR accepted for filing
  - <u>June 22, 2017</u>: FCC grants OneWeb Ka-band/Ku-band NGSO market access request
  - September 27, 2017: FCC Updates its rules for NGSO FSS systems
  - November 3, 2017: FCC grants Telesat Canada and Space Norway market access request
  - February 14, 2018: FCC circulates grant of SpaceX application for FCC authorization
- April 2018: LeoSat expects to close a significant round of funding by the end of April
- End of 2018: Projected start of construction phase of LeoSat system
- <u>2019</u>: Launch of two bringing into use ("BIU") satellites
- 2020: Launch of first non-BIU satellites.



# **LeoSat Constellation: Unique Benefits**

LeoSat services begin where legacy satellite systems end:

- Bandwidth with Symmetry: Full duplex 50 Mbps to 1.2 Gbps, and even 5.2 Gbps where needed
- Latency: faster (lower latency) than fiber on long-haul routes
  - NY to Tokyo with approximately 100ms latency vs. 175ms using fiber
- **Ubiquity:** high bandwidth global coverage that exceeds the FCC's global and U.S. coverage requirements
  - Inter-satellite links (ISLs) permit point-to-point connectivity between any two locations in the world without relying on gateways, terrestrial links, or third-party networks
  - Pole-to-pole coverage unlocks broadband access for rural and remote communities (telemedicine, broadband, etc. )
  - Ideal for civil, scientific, and national security assets operating in Arctic and Antarctic regions

### Security and Resilience:

- End-to end encryption on one network
- Not dependent on other operators' networks or provisioning for premise-to-premise communications
- Immune to natural disasters and fiber cuts because no need for terrestrial transport
- Substantial interest from U.S. government entities due to security benefits



# **LeoSat: Target Markets**

## LeoSat offers Gbps local LAN performance globally **Enterprise** Ideal for cloud based, latency sensitive applications Worldwide star or meshed network • Ideal for customers with high security requirements 4G and 5G backhaul in native form **Backhaul and Trunking** Can accommodate star or meshed network Can handle latency sensitive applications Gigabit pipe to serve schools, hospitals, libraries, and communities with no fiber access High throughput, low-latency video contribution Media Rapid deployment to connect venues globally Remote production now possible for all events Near real-time command and control Government Enables use of advanced sensors and applications Rapid deployment in harsh environments **Maritime** Cruise line customers expect on-board broadband Cloud based office-at-sea for large commercial vessels Ideal in cases where existing solutions offer limited bandwidth Ongoing transformation to digital oilfield requires high throughput Oil & Gas and low latency, especially in upload path

LEQSAT

applications

Increases efficiency by supporting command and control type

# **High-Speed, Secure Communications**

- By deploying resilient satellite infrastructure with global coverage, LeoSat will offer:
  - Critical communications support for emergency response
  - Homeland defense, and
  - Military and other government operations.
- LeoSat's next generation satellite network will unlock broadband access to benefit rural and remote communities:
  - Telemedecine,
  - Remote learning, and
  - Enable broadband internet access and connectivity
  - 5G backhaul from remote locations
- LeoSat has received positive feedback from government agencies:
  - "Across government in general we're seeing a huge demand for really robust communication that offers high throughput and very little latency."
    - Michael Abad-Santos, LeoSat SVP, Americas
  - "Secure embassy communications is a perfect fit for us because we can bypass terrestrial networks so our data is secure"
    - Michael Abad-Santos, LeoSat SVP, Americas



# **LeoSat Progress and Partners**

■ FCC grant of LeoSat's Petition for Declaratory Ruling seeking U.S. market access will significantly enhance LeoSat's funding opportunities

### **Partners**

- SKY Perfect JSAT became an anchor investor in LeoSat in May 2017
- LeoSat expects to close a Series A round of funding in April 2018

### **LeoSat Constellation Progress**

- LeoSat is in the final stages of its design process and plans to enter manufacturing stage at the end of 2018
- Preparing to sign a contract for the 2019 mission for the BIU satellites to satisfy the ITU's Bringing Into Use requirement
  - Project will demonstrate the effectiveness of the advanced technologies employed by the LeoSat System
  - LeoSat has entered into a MOU with the National Science Foundation for the BIU satellites to collect and deliver data from an NSF outpost in Antarctica to a scientific station in Norway

# Memoranda of Understanding- LeoSat has struck Memoranda of Understanding with a value of nearly \$ 1 billion

- Globecomm: LeoSat to provide connectivity to expand and future-proof Globecomm's infrastructure
- <u>DCS Telecom</u>: LeoSat to upgrade DCS Telecom's existing satellite solutions for government & military customers, corporate networking, mobile backhaul ,and oil and gas consumers
- Supernet: agreement to use LeoSat's High-Speed Data Network
- CopaSAT: provider of highly reliable and secure satellite solutions to U.S. government and military organizations.
- Phasor: Phasor to develop Ka-band, NGSO-ready enterprise-grade electronically-steered antenna system
- Partnering with ESA: "Satellite for 5G" to demonstrate the added value that satellite brings in the context of 5G



# **Contact Information**

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