



Ground Segment for VHTS and Multi-Orbit Networks

Gil Elizov

VP Products

December 2024

Satellite, Ground and New Space Connectivity

VHTS and Multi-Orbit Satellite Constellations

- Significant growth of magnitude of capacity in space
- Lowering costs while unlocking new opportunities for new applications

Software-Defined Satellites

- Satellites have become smarter, operating harmoniously to create an elastic network, constantly adjusting in sync with ever-changing conditions

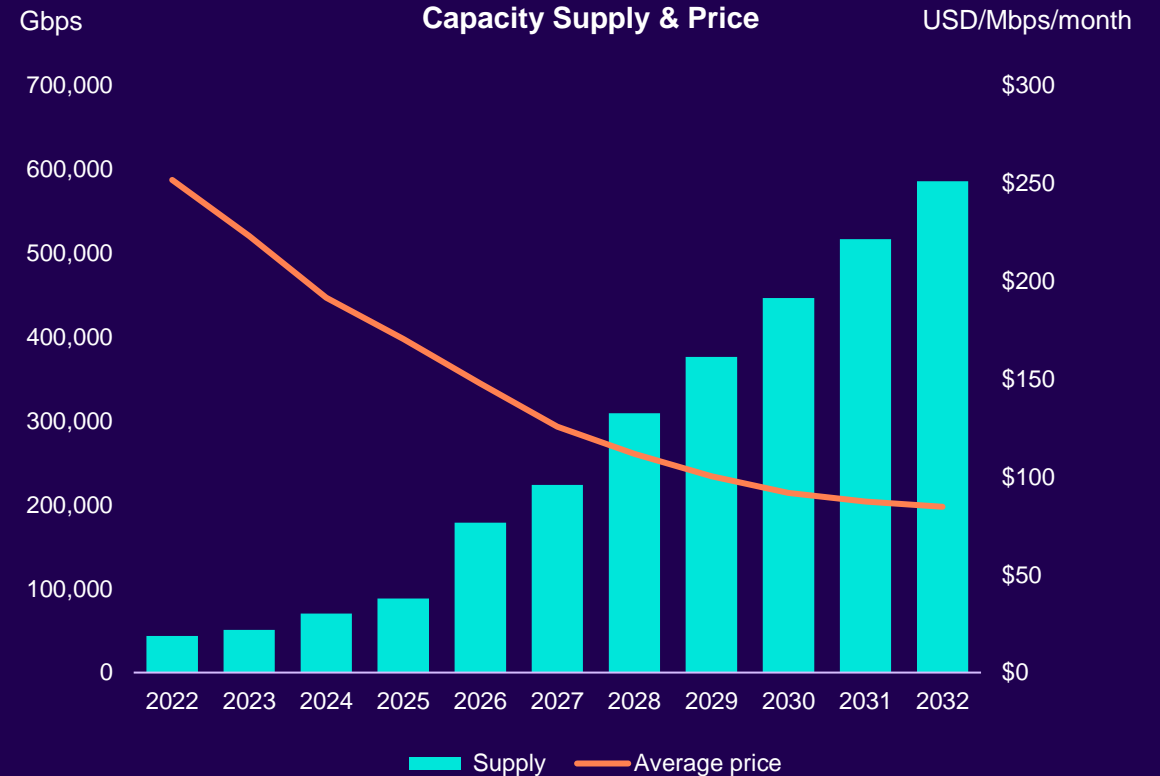
Cloud-Based Ecosystem

- Software centric systems leveraging cloud operational advantages

Elastix-Access

- Efficient use of satellite resources in a dynamic network

Abundance of Capacity – 44% CAGR Capacity Increase



VHTS/NGSO Constellations – Abundance of Capacity

GEO

35,786 km
~550msec



HTS/VHTS

For example: Konnect, Jupiter 3, ViaSat-3
~50-500 Gbps

MEO

2,000-10,000 km
~120msec



SES/O3B
mPower
~1-3 Tbps



SES/O3B
mPower
~1-3 Tbps

LEO

500-2,000 km
~15msec



Telesat
~3-8 Tbps



OneWeb
~2.5 Tbps



SpaceX
~10+ Tbps



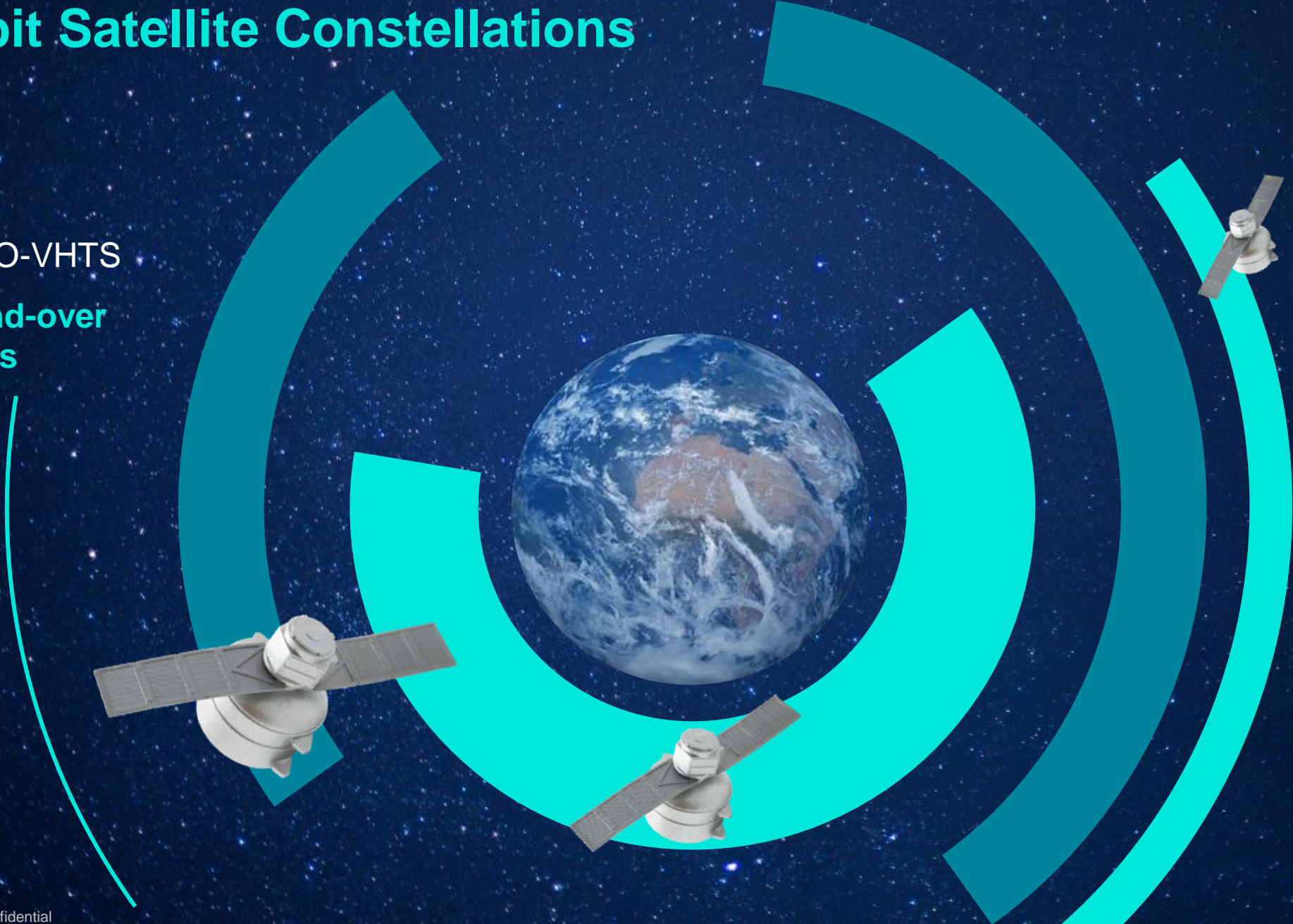
Amazon
~10+Tbps

More Than 50,000 LEO Satellites Expected Within a Decade;
Investment Over \$30 Billion

Multi-Orbit Satellite Constellations

LEO-MEO-GEO-VHTS

Seamless hand-over
between orbits



Cloud-Based Ecosystem

Provides the agility needed for demand-based network elasticity and dynamic scaling, while providing outstanding compute density



Software-Defined Satellites

Working in harmony, creates an elastic network that constantly adjusts to answer ever-changing conditions and service policies



Elastix-Access

Optimized shared bandwidth for Elastix-SCPC & Real-TDMA

Saves 15% more of the space segment, under comparable conditions

Elastix Dense Coding (XDC) is 15% superior to standard LDPC

Return speeds of 750 Mbps (250MSPS channel), enabled by industry's widest 500MSPS multi-channel receiver



SkyEdge IV - Designed with an Elastix Architecture

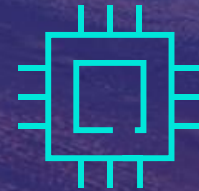
IV Dimensions of the Elastix-Architecture



Multi-Orbit Satellite
Constellations



Cloud-Based
Ecosystem



Software-Defined
Satellites

elastix

Elastix-
Access



SkyEdge IV – The VSAT Platform for the New Space Revolution



Higher
Density



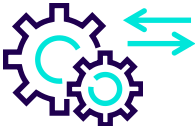
Virtualized
Data Center



High Performance
Terminals



Smart Scalable
Management



High Scale
Open Interface

SkyEdge IV Provides Unmatched Capex/Opex Efficiency



Data Center
Throughput

x10



RF Units
Bandwidth

x20



VSAT
Speed

x20

SkyEdge IV Deployments

Business Win

Hispasat and Gilat Expand Strategic Partnership with the Selection of Gilat's SkyEdge IV Platform for Amazonas Nexus

SkyEdge IV will enable Hispasat to deliver high-performance, satellite-based fixed data and mobility services



“Following a comprehensive technological assessment, we concluded that Gilat's SkyEdge IV platform best meets our needs to operate most efficiently with the advanced capabilities of our new Amazonas Nexus satellite. We plan to leverage Gilat's SkyEdge IV platform to expand our service coverage in Latin America during the second half of 2023.”

Jose Sanchez
Chief Solutions Officer of Hispasat



Business Win

Intelsat Makes Strategic Selection with a Significant Initial Order of Gilat's New SkyEdge IV Platform for Its Newest High Throughput Satellite

SkyEdge IV will enable multi-service capabilities for Intelsat's IS-40e, providing expanded capacity over North America for in-flight connectivity and cellular backhaul



“Through our collaborative work with Gilat's SkyEdge IV platform on IS-40e, Intelsat will expand the capacity of our network serving North America. Its standards-based interfaces enable seamless integration with Intelsat's unified space and ground network, thereby elevating the service levels for thousands of aircraft and leading mobile network operators across North America.”

Carmel Ortiz
VP of Systems Innovation at Intelsat



Business Win

SES Certifies Gilat's SkyEdge IV Platform for O3b mPOWER, O3b and SES-17

Gilat's next generation platform is industry's first GEO-MEO multi-orbit capable system

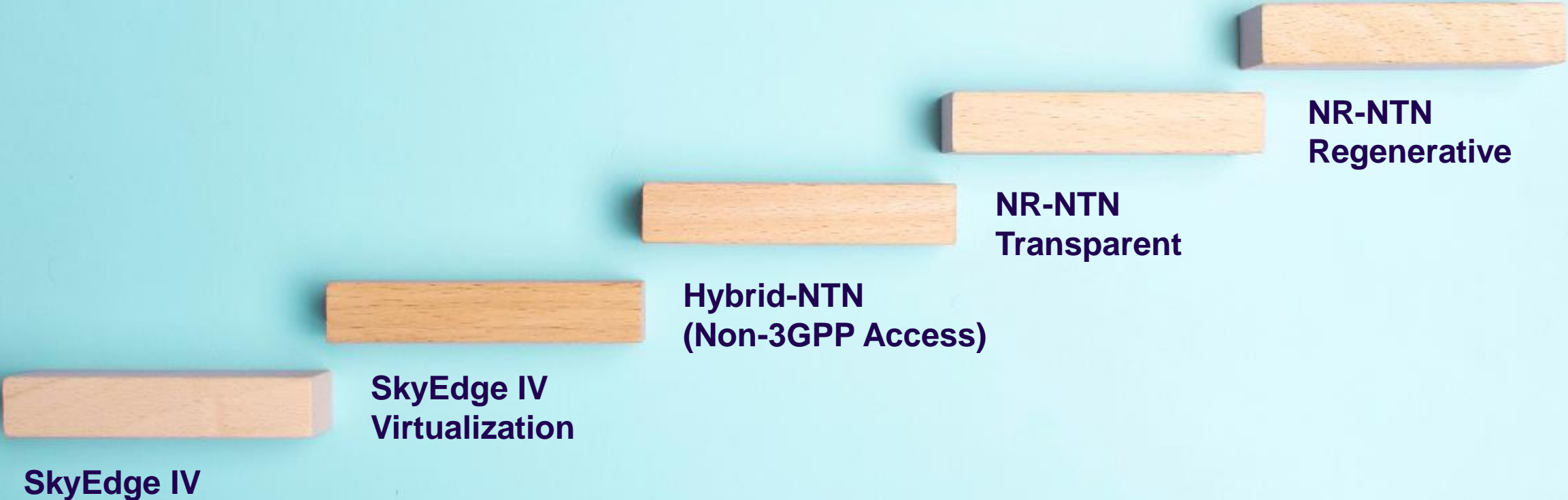


“After the completion of rigorous testing on both our geostationary satellite SES-17 and medium earth orbit systems O3b and O3b mPOWER, we are confident that Gilat's multi-orbit SkyEdge IV platform meets our requirements for centralized management, high reliability and performance. We believe Gilat's SkyEdge IV is an ideal platform that can best serve our enterprise customers as well as mobile networks, maritime and cruise operators regardless of the orbit their networks is on.”

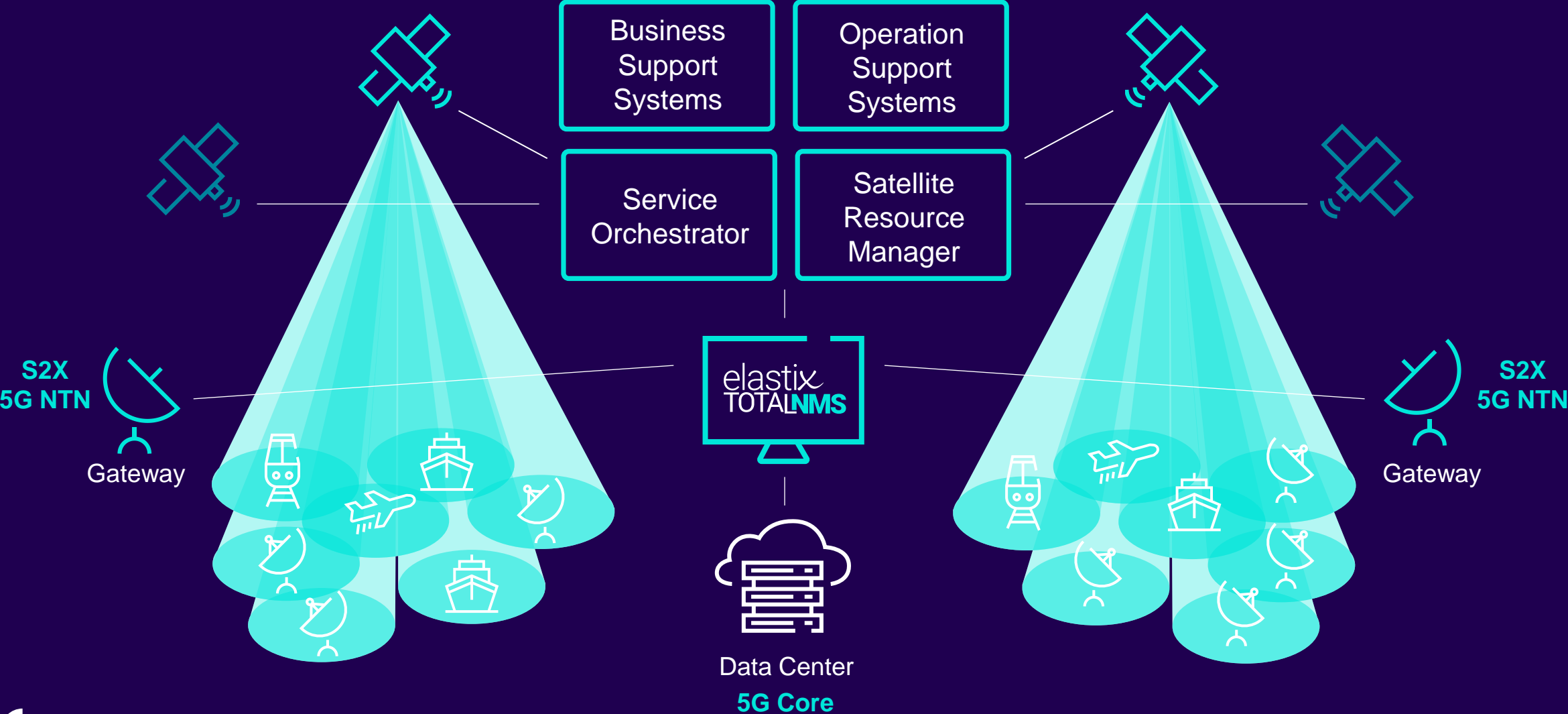
Saba Wehbe,
VP of Service Engineering & Delivery at SES



Empower Satellite Operators to evolve strategically, preserving their current S2X investments and maintaining business operations, with a phased approach



Common Business & Operations Systems for both current S2X and future 5G NTN platforms



Conclusion

VHTS and NGSO constellations are bringing abundance of capacity to the market

Beside the dramatic drop in capacity prices, this trend includes also technological change:
SW defined Satellites, Cloud infrastructure and Digitalization of gateways

In the short term, platforms as SkyEdge IV with the ability to support SDS/Cloud and improved efficiency becomes the clear choice of satellites operators

In the long term, a path to 5G NTN is needed while maintaining co-existence and hybrid operation with existing deployed solutions



Thank You

gile@gilat.com
www.gilat.com

