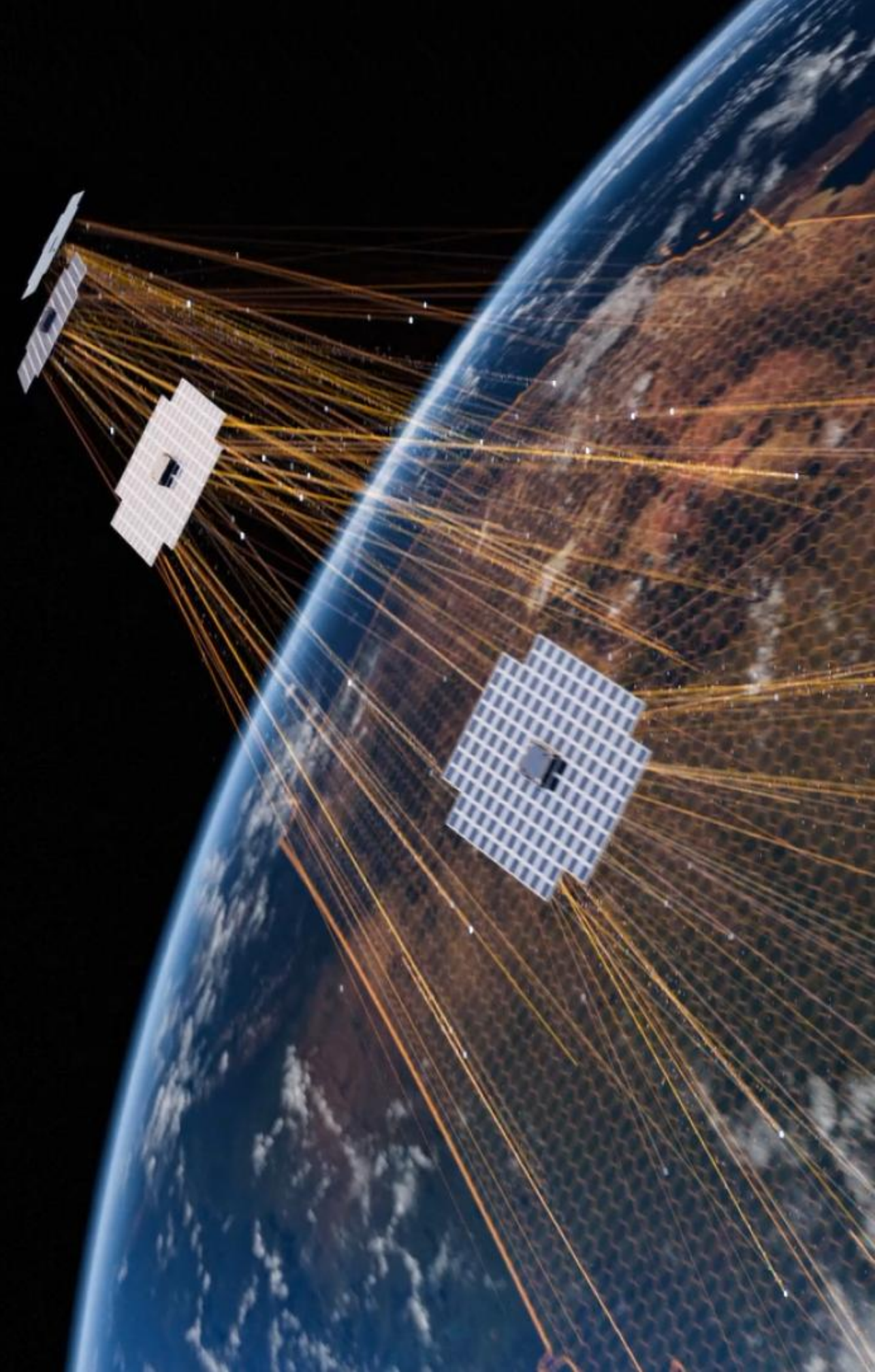




CONNECTING THE UNCONNECTED THROUGH BROADBAND D2D

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BUILDING THE FIRST AND ONLY SPACE-BASED CELLULAR BROADBAND NETWORK



COVERAGE EVERYWHERE

Eliminates cellular coverage gaps and dropped connections globally

COMPATIBLE WITH EXISTING DEVICES

Seamless service with no modifications required to consumer devices

CELLULAR BROADBAND FROM SPACE

5G / LTE data rates with low latency and cellular-quality service levels with native cellular capabilities

DEEP WIRELESS ECOSYSTEM PARTNERSHIPS

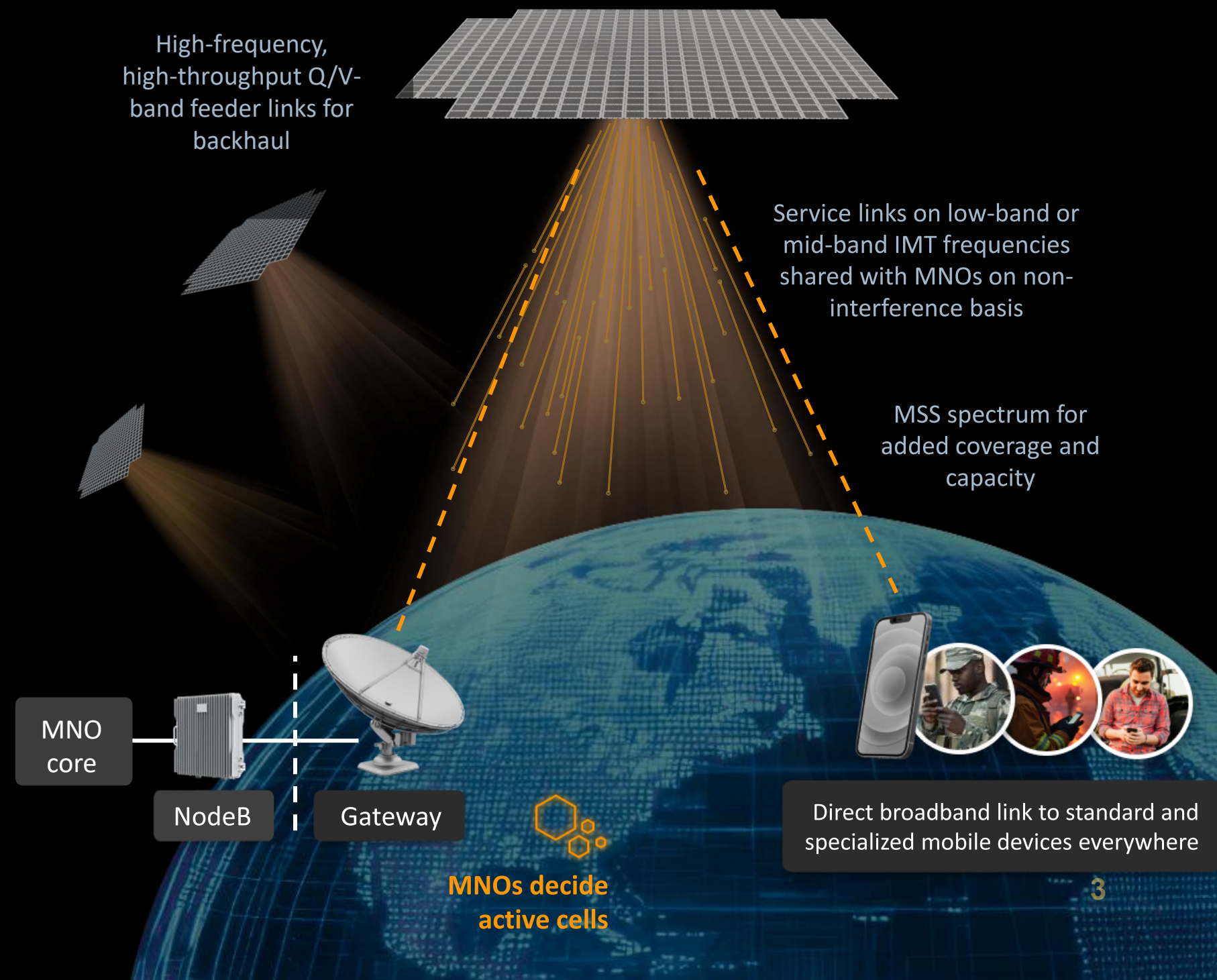
Nearly 60+ operators globally with over 3 billion existing subscribers: AT&T, Verizon, Vodafone, Rakuten, Bell Canada, Telus, American Tower, Google, stc Group

INVESTMENT IN NETWORK

Raised over \$6 billion to fund network build and technology. Proprietary technology with 3,900+ patent and patent-pending claims

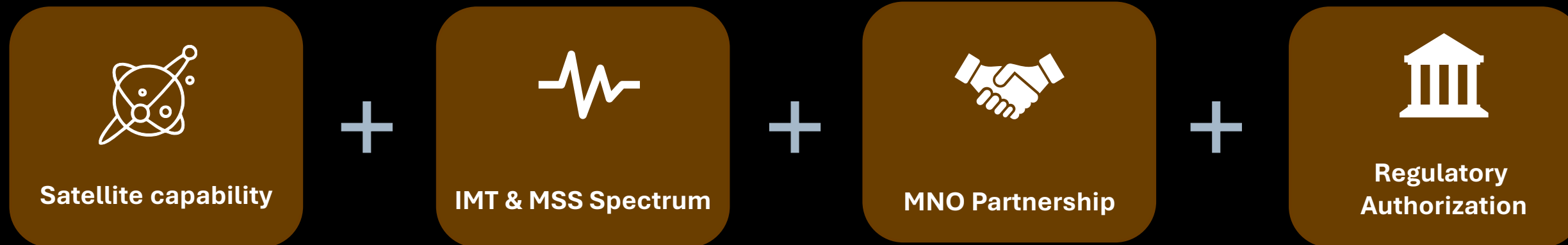
FLEXIBLE ARCHITECTURE

- Low-orbit satellites offer low latency and attractive viewing angles
- Large satellites create thousands of broadband-capable fixed ground cells
- Leveraging existing terrestrial spectrum and MSS spectrum
- Connects to existing user equipment (UE) without any modification
- RAN equipment with full 3GPP functionalities for 5G feature parity with terrestrial network
- Satellites function as bent pipes with traffic landed nationally or regionally



STRATEGIC INVESTORS

FROM TECHNOLOGY TO SERVICE



WHAT THIS MEANS FOR REGULATORS

Dual spectrum foundation

D2D combines two regulatory-authorized spectrum pathways; IMT via the MNO and MSS via the satellite operator

Regional, In-Country Gateways

Satellite gateways are established and authorized in-country or regionally; no inter-satellite links (ISL) to bypass domestic oversight

Same rules, same protection

Services operate under the same national privacy, data protection and lawful-intercept obligations as any other MNO-provided service

DIRECT-TO-DEVICE DEPLOYMENT MODEL

Two Different Spectrum Approaches



D2D Using IMT Spectrum

- Licensed to the MNOs
- Meet all technical requirements of partner networks
- Until action at WRC-27, must operate internationally under ITU RR 4.4 (non-interference, unprotected basis)
- MNO network manages service so local data and security requirements are met

D2D Using Licensed Mobile-satellite service (MSS) spectrum

- Licensed to satellite operator
- Allocations already exist in the S- and L-bands
- No new rules needed; subject to existing ITU Radio Regulations
- MNO network manages service so local data and security requirements are met

Regulatory obligations for national security, data protection and consumer protection should be fit for the technology and service model

KEY REGULATORY REQUIREMENTS FOR D2D-IMT

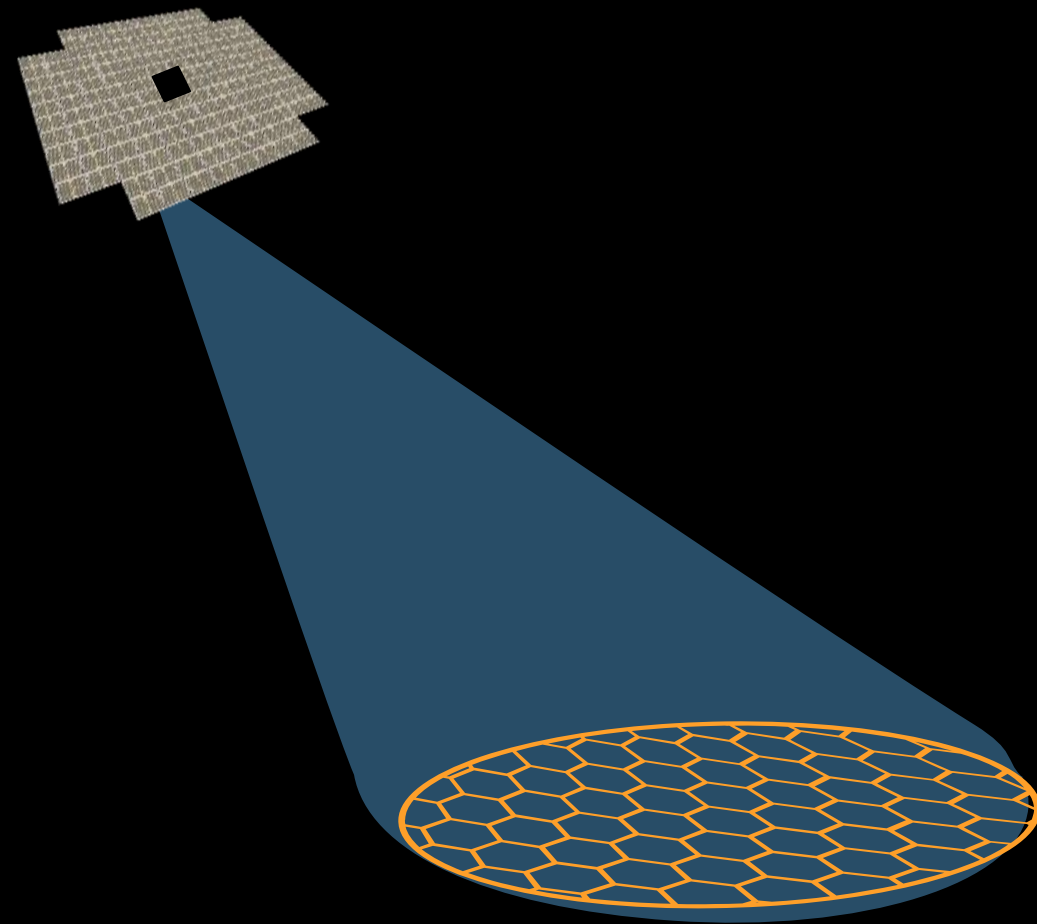
Enabling coverage today on spectrum already licensed



- D2D-IMT extends domestic MNO's own licensed spectrum into space; requires regulatory pathway that lets satellite operator function as an extension of existing license
- Action regulators can take today:
 - Permit the satellite operator to use MNO's IMT spectrum under a commercial lease and operate under the same technical requirements
 - Until action at WRC-27, operates internationally under ITU RR 4.4 (non-interference, unprotected basis)
 - Light touch licensing and simple notification approach (as adopted by the US, UK, AUS and NZ)
 - Cost-based fees (as spectrum already auctioned)
 - Should create domestic MSS allocation to ensure protection

KEY REGULATORY REQUIREMENTS FOR D2D-MSS

Adding capacity through spectrum already allocated to satellite



- IMT spectrum alone cannot support broadband capabilities; MSS spectrum adds coverage and capacity
- Regulators can act now:
 - Authorization to provide MSS service in-country using S-band MSS spectrum (1980 – 2010 MHz / 2170 – 2200 MHz) and L-band
 - Make available at least 10 + 10 MHz per licensee to support broadband-grade throughput
 - No need for a lease agreement since MSS spectrum should be licensed to satellite network operators
 - S-band MSS framework already exists today and needs domestic licensing framework
 - Cost-based fees; auctions have not been successful in assigning MSS spectrum

ENABLING REGULATION TO UNLOCK D2D BENEFITS GLOBALLY

Regulatory Requirements to Harmonize D2D Globally Under AI 1.13

Key requirements:

- ✓ Adopt an MSS allocation to enable a secure and long-term D2D implementation
- ✓ Adopt technical criteria that protects incumbent services in-band and in adjacent bands and provides satellite operators with operational flexibility
- ✓ Require MNO agreement where terrestrial IMT spectrum is used
- ✓ Use balanced and non-restrictive parameters, especially for cross-border operations, recognizing that IMT operations are protected by the D2D service being secondary to the mobile/IMT service
- ✓ Preserve distinct regulatory treatment for MSS and terrestrial IMT. Oppose inclusion of bands with a primary MSS allocation (1980-2010 MHz / 2170-2200 MHz globally and 2010-2025 MHz / 2160-2170 MHz in Region 2)

KEY TAKEAWAYS

1 Enable D2D now

Use existing national regulatory tools to enable early deployment and MNO partnerships using the MNO licensed spectrum and MSS spectrum and enabling use of MSS spectrum domestically

2 Clear licensing pathway

Define the authorisations required for D2D service for IMT-terrestrial and MSS, avoid duplicative licensing and disproportionate fees

3 Broadband capacity needs access to MSS spectrum

Beyond basic connectivity, full broadband-grade service requires access to the MSS spectrum (S band L band)

4 WRC-27 Action Critical

Need global harmonized approach to D2D with realistic technical protections

AST SpaceMobile

Connecting the unconnected

Thank you!

Nasdaq **ASTS**

