Inmarsat Capability Briefing to WMO

Technology and Service Roadmap to 2030 onwards
Geneva, March 2019

Ben Colton

WMO

inmarsat
The mobile satellite company

inmarsat

- Global leader in mobile satellite communications
- No. 1 government satcom operator globally in 2017 by revenues
- 20% of government satcom services market in 2016 (NSR)

Fully-funded

Financially strong FTSE 250 status

Global

Seamless coverage and in-orbit redundancy

Reach

Global Distribution network

Multi-band

L, S, Ka, Mil-Ka band capabilities

Breadth

Unrivalled product and service range

99.9%

Reliability over secure satellite and ground network

Security

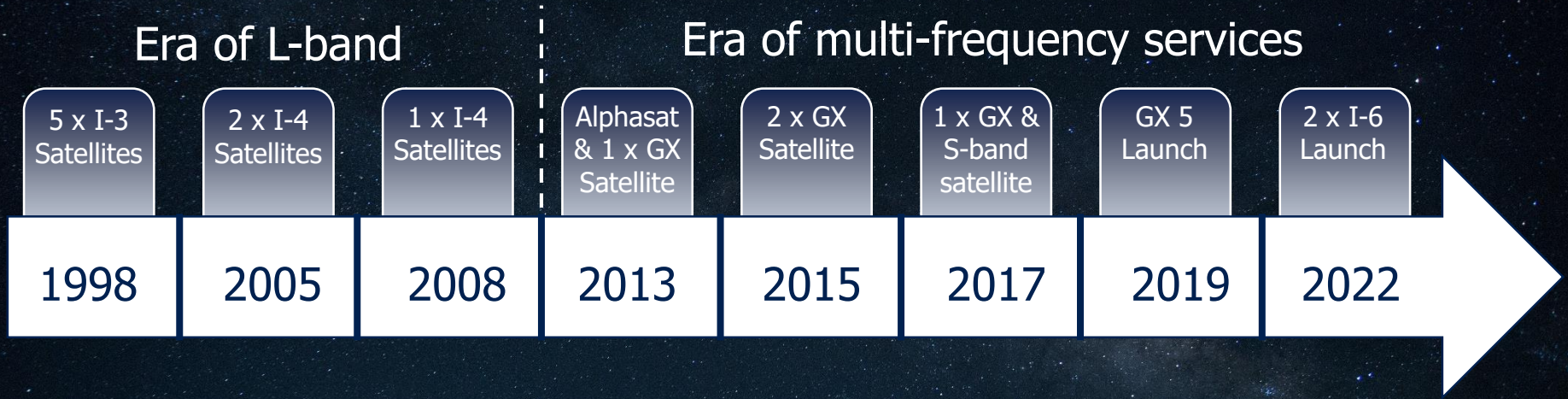
Highly secure networks

Mobile

A network specifically built for mobility

Inmarsat's Past and Future

Inmarsat has become frequency agnostic – it designs networks to meet customer requirements

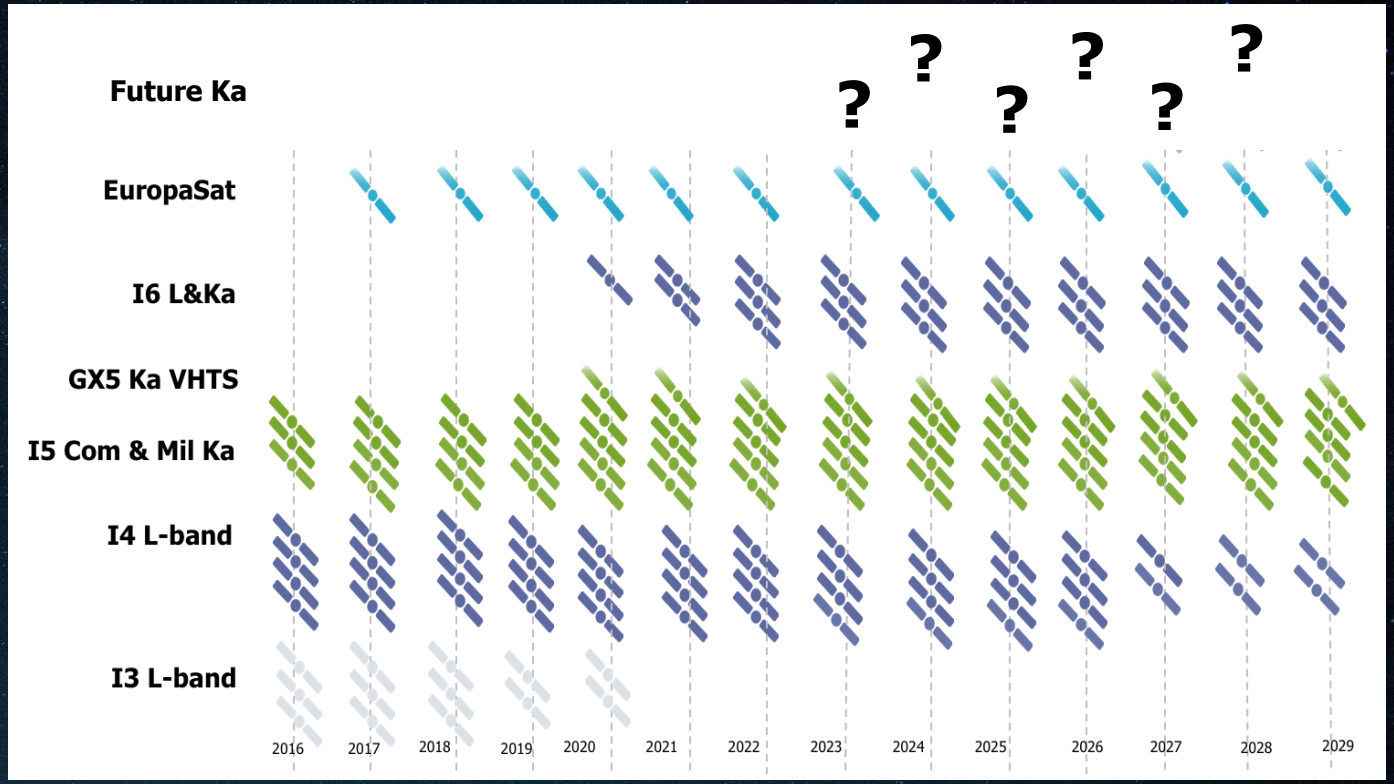


- Strategic Focus still global coverage and mobile services for land, air and sea operations
- Inmarsat the only commercial L-band and HTS provider offering global services
- Provides flexibility and agility to offer bespoke managed services to government customers

Constellation development path 2016 - 2029

By 2022 the Inmarsat network will have:

- 6 high capacity L-Band satellites
- >7 Ka Band satellites



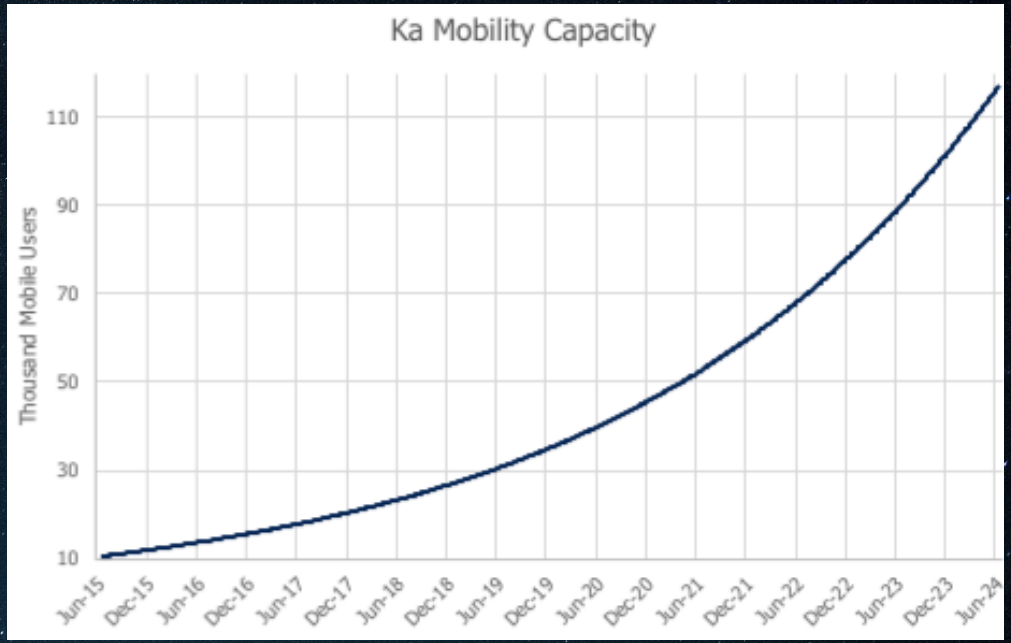
Our Strategy:

Start global, infill with on-going cost-effective capacity as demand grows

- Grow global capacity 10-fold
- Drop cost/bit >10-fold
- >5X the hotspot capacity

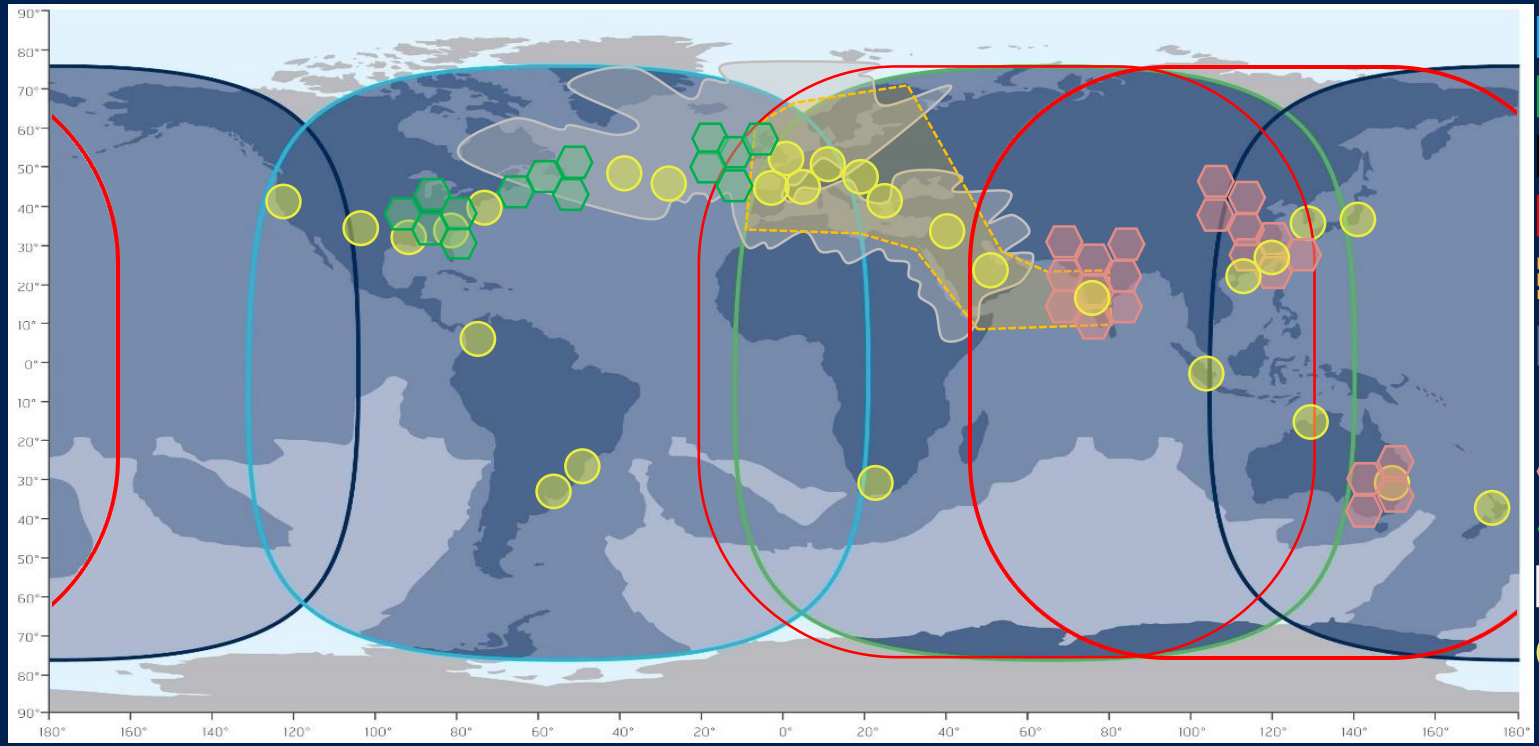
System dedicated to mobility

(Not dependent on consumer broadband)



Deployment plan emphasizes Flexibility

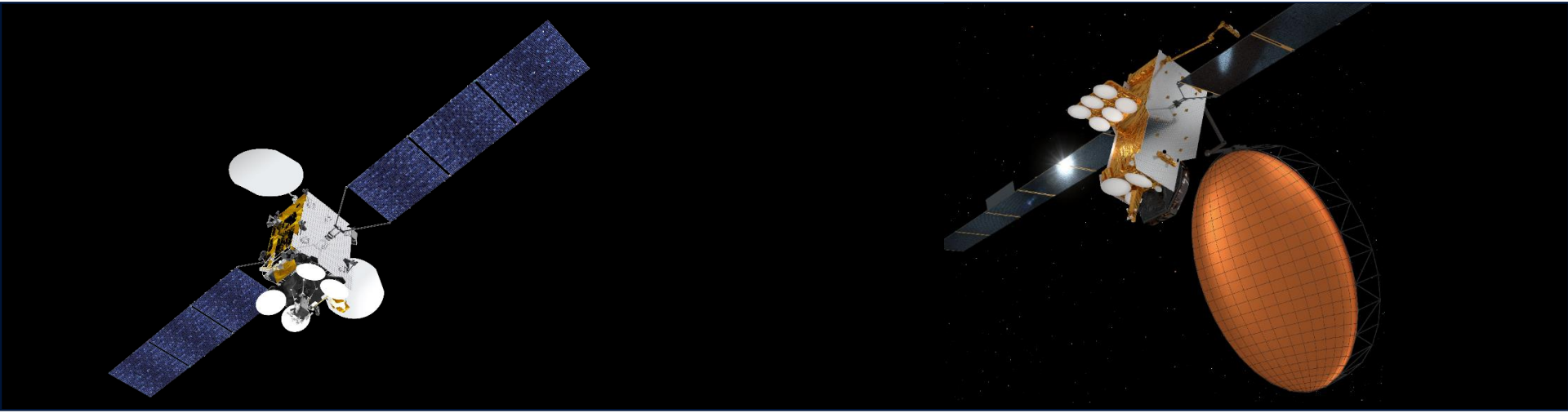
Capacity constraints will no longer define customer requirements



Note: I-6 satellite locations are still to be confirmed.
The I-6 beams are steerable clusters that can be located at any point in the satellite footprint. The locations here are just shown as an example.

New Satellites

Remaining on the cutting edge of mobility communications



GX5 F5 : A new VHTS Platform (2019)

- Overlays high fill capacity for Europe and Middle East
- Frees up existing spot beams for new coverage
- Additional steerable Commercial / Mil-Ka beams

I6 F1/F2: New high capacity L/Ka Band (2021/22)

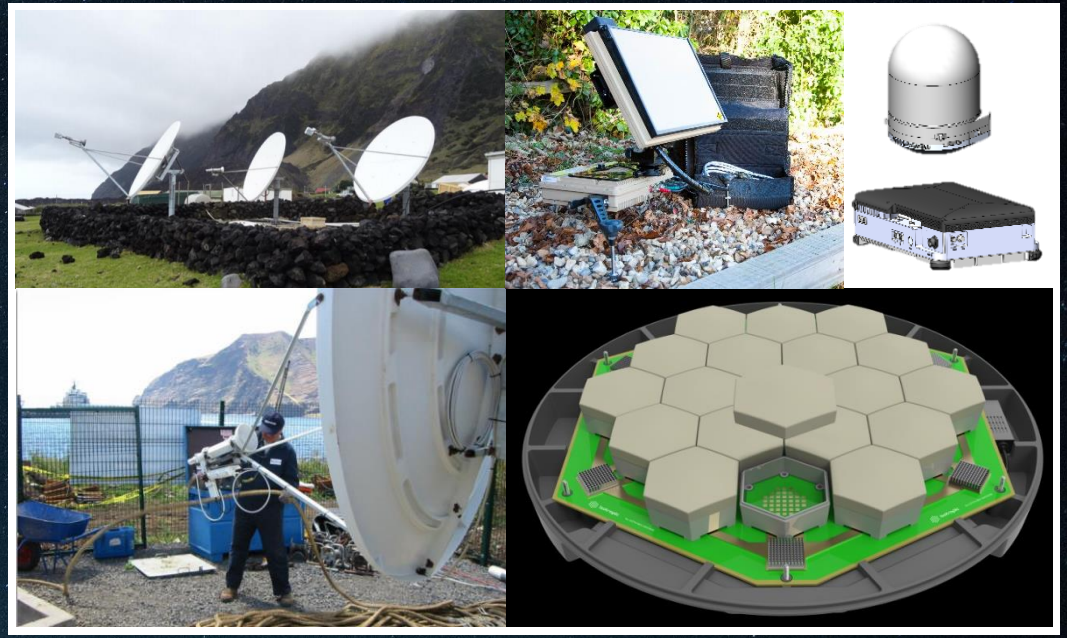
- Introduces higher throughput L-Band with greater flexibility
- Adds powerful and flexible Ka Cluster Beams
- Continues Mil-Ka support

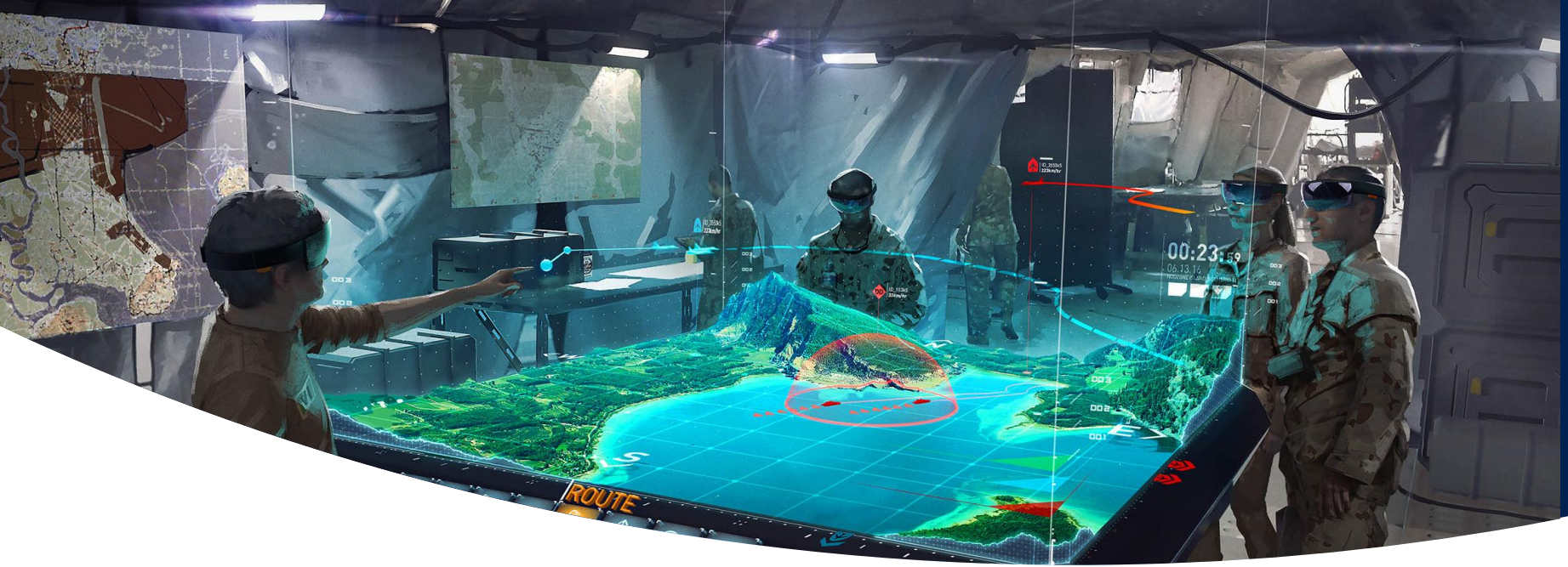
Terminal Transformation

Remaining on the cutting edge of mobility communications

Smaller terminals offering high throughput global services

- Easier to ship and install in remote locations
- Higher throughput….even in L-band
- L-Band backup
- Low cost terminals
- New electronically steered flat antennas





New managed services

Examples of Inmarsat adopting new services in new markets

WMO

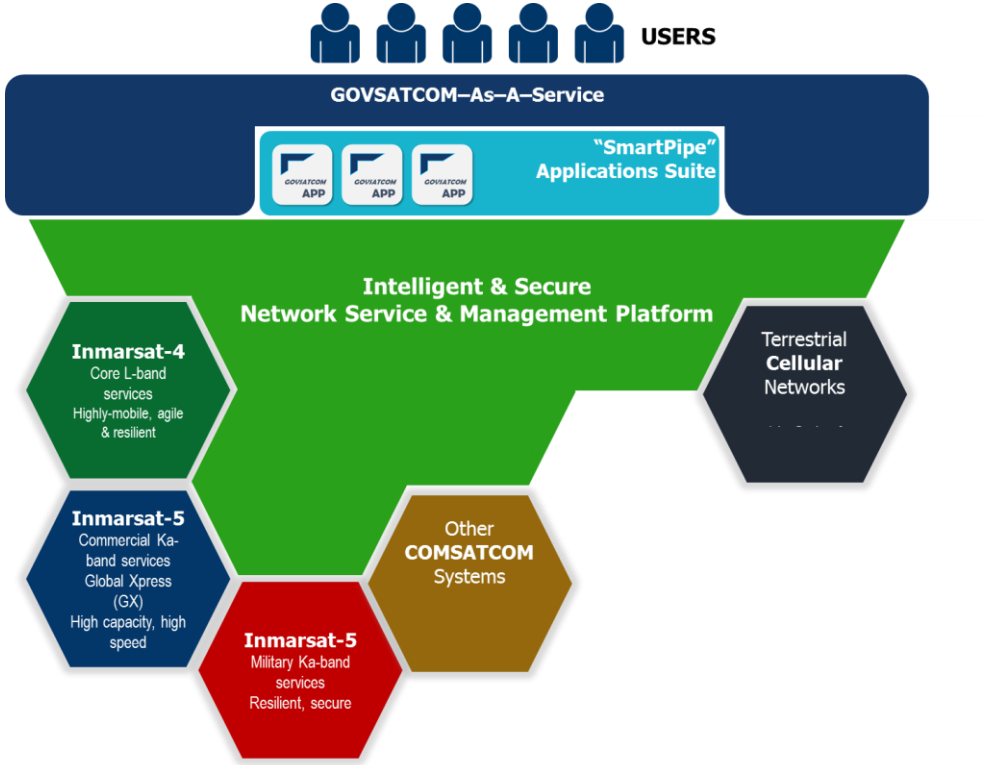
inmarsat
The mobile satellite company

Mobile capacity for fixed global networks

- A GSP enables a pool of bandwidth in multiple beams to be shared across a number of terminals globally dispersed
- Customers can support global networks with a fraction of dedicated capacity allowing for increased cost effectiveness.
- A capacity limit is set for each beam and for the total of all the beams.

INVISON

Providing customers with their own virtual satellite



- Smart, integrated service delivery front-end providing access to mission-specific SATCOM services, products and applications
- Intelligent, secure service & network management platform enabling dynamic SATCOM procurement & provisioning and the cross-connection of networks on a global scale
- A federated, "system of systems" to provide pooling and sharing of commercial and sovereign national SATCOM assets, providing global coverage and multi-frequency capacity

Inmarsat Managed IoT Service

A reusable bridge between the real world and your business applications

To anything

Data consumers
Customer's choice of cloud vendor / business applications

Security

Skills

SLA

Partners

Industrial IoT Enablement Platform

Connectivity (Satellite, Cellular, WAN)

Software Defined Gateways

Edge Connectivity (Wired – Wi-Fi – BLE – LoRaWAN)

Inmarsat Managed IoT Service

Connect anything

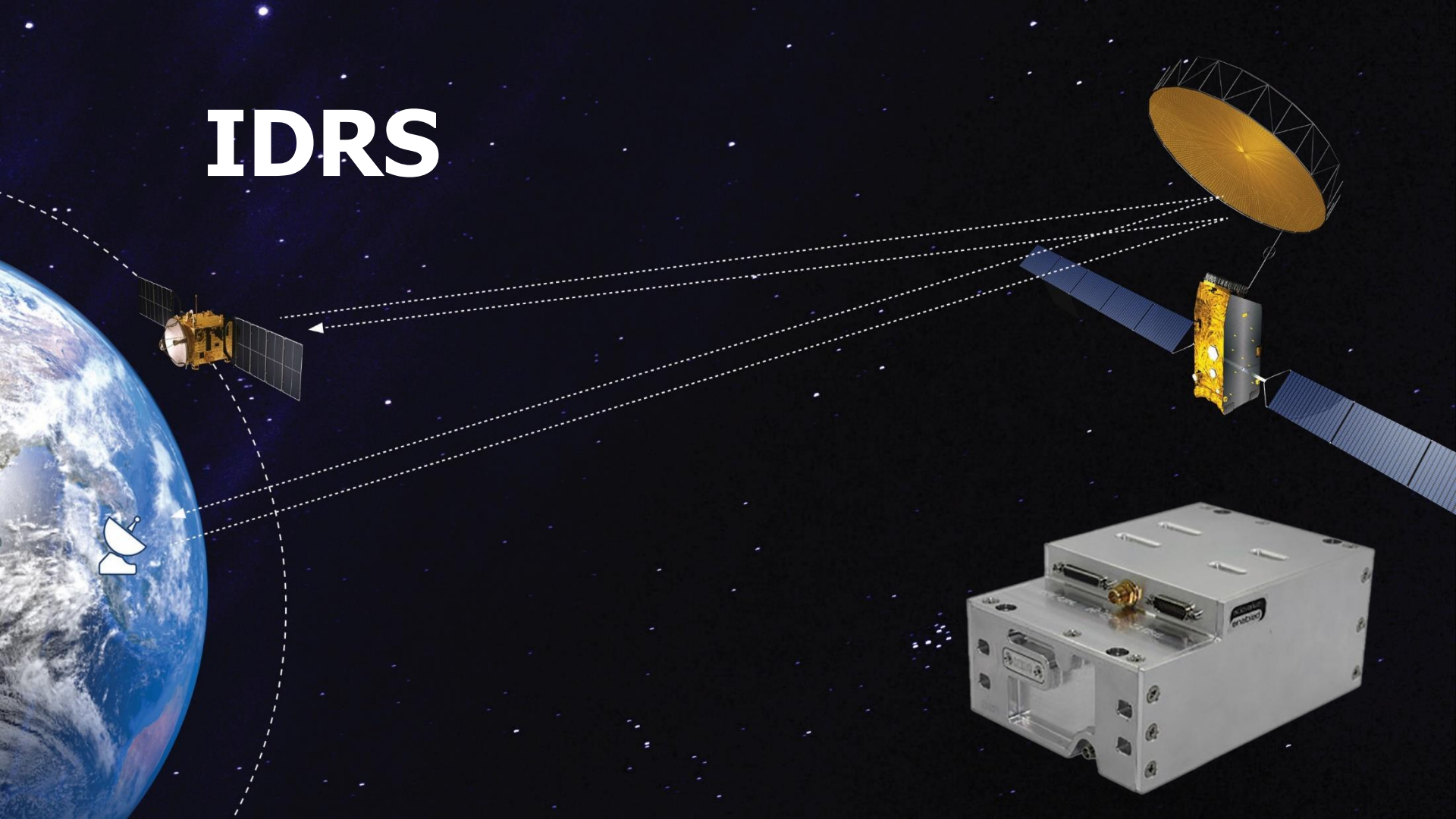
Data producers
Sensors
Assets
Machines

European Aviation Network (EAN)

S-band satellite & LTE ground network

The development of a highly innovative S-band satellite integrated with an LTE ground network (in partnership with Deutsche Telecom) to deliver a high-speed broadband service to the European aviation community.

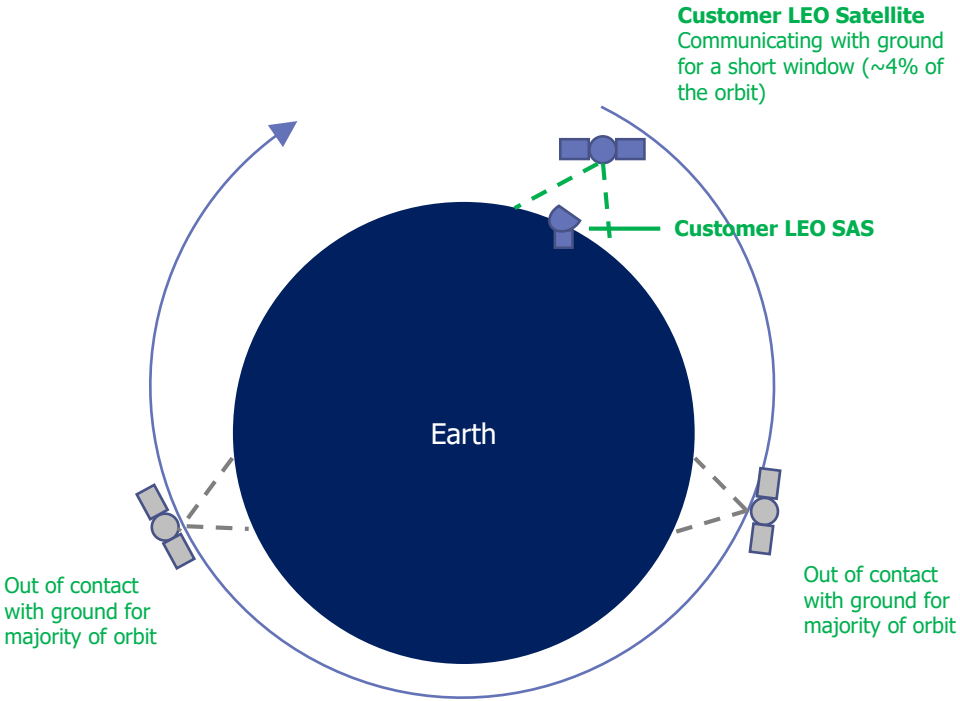
IDRS



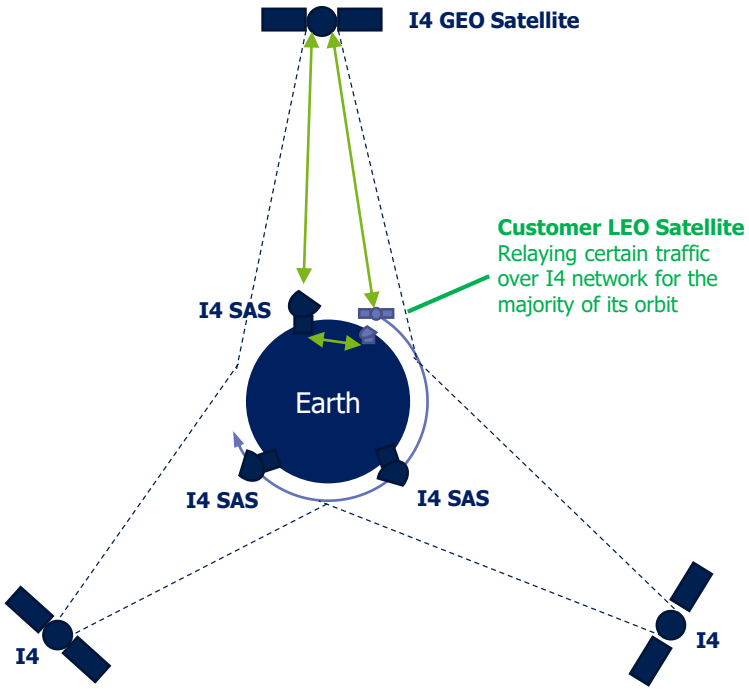
Inter-Satellite Data Relay Service (IDRS)

IDRS Concept Explained

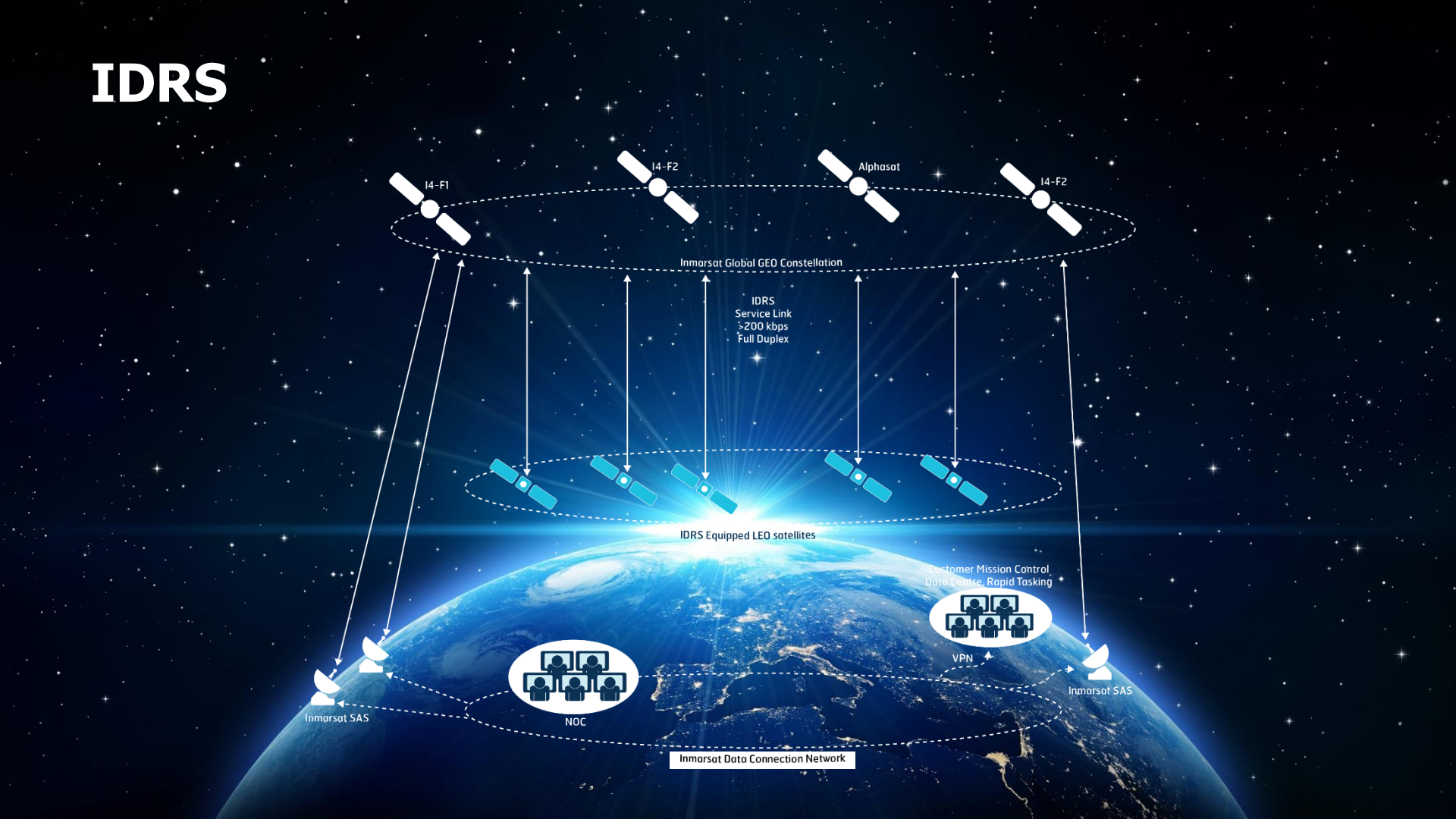
Without IDRS



With IDRS



IDRS


I4-F1
I4-F2
Alphasat
I4-F2
Inmarsat Global GEO Constellation
IDRS
Service Link
>200 kbps
Full Duplex
IDRS Equipped LEO satellites
Customer Mission Control
Data Centre, Rapid Tasking
VPN
Inmarsat SAS
Inmarsat SAS
NOC
Inmarsat Data Connection Network

Thank You. Questions?

Ben Colton
Inmarsat Global Government
Email: Benjamin.colton@Inmarsat.com
Tel: +44 (0) 7730488489

WMO

inmarsat
The mobile satellite company