



SPACE TELECOMS NEW TRENDS

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SOFTWARE-DEFINED PAYLOADS

Market trends

Ground network expansion
Mobility market
Migration linear TV → OTT
Usage change acceleration
Need for assets fungibility
Business plan uncertainty



Need for fully flexible satellites

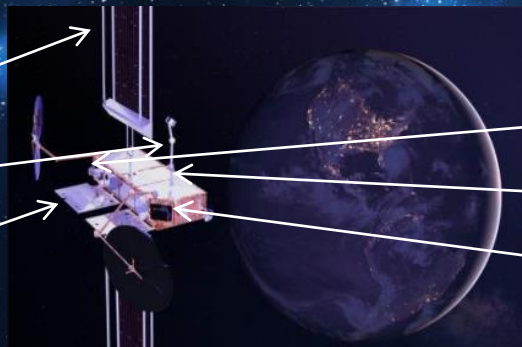
Services: TV → Broadband
Coverage
Frequency plan
User density
Gateways location & connectivity
Satellite position

Techno enablers

Very compact platforms

Flexible solar arrays
Ionic propulsion
Deployable radiators

Increased industrialisation



Fully digital payload

Active antennas
Beam forming processors
Compacts high power amplifiers

Increased integration

100% OF OPERATIONAL TELECOM CONSTELLATIONS ARE BUILT BY THALES ALENIA SPACE



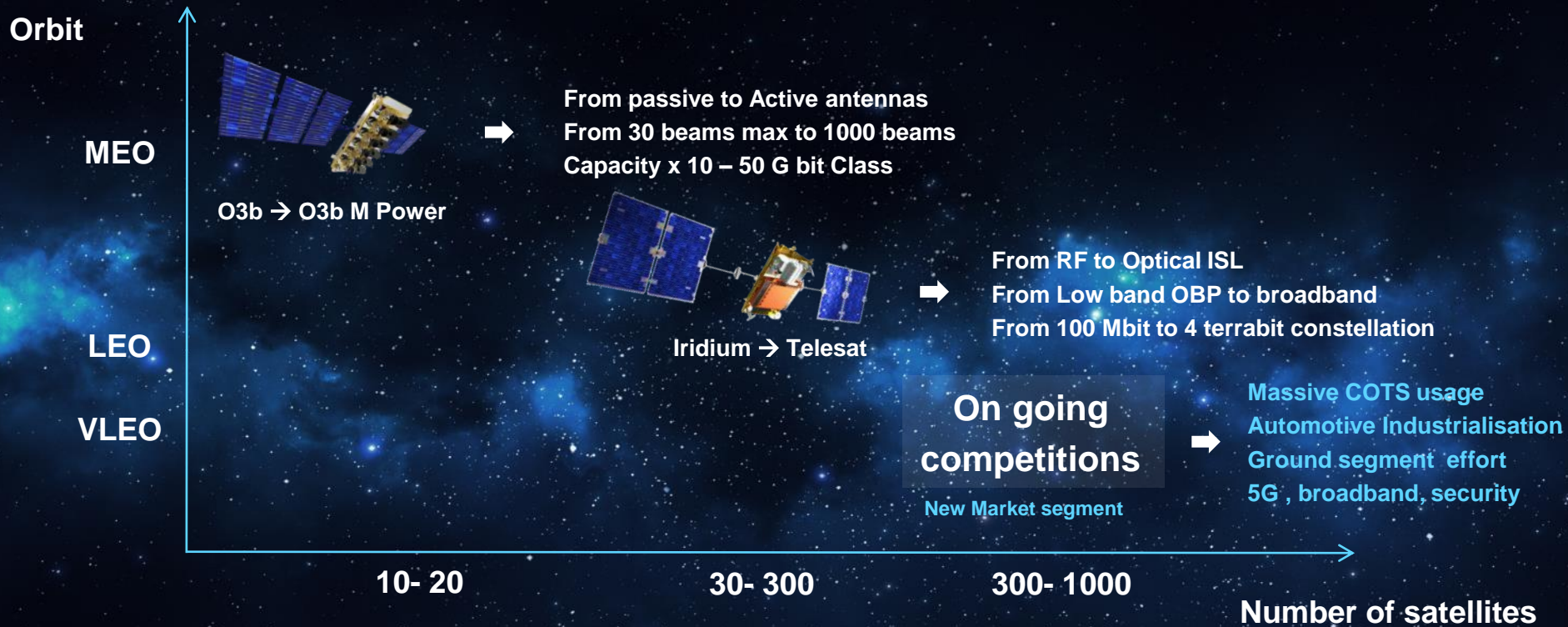
Globalstar 1

Globalstar 2

O3b Networks

Iridium® NEXT

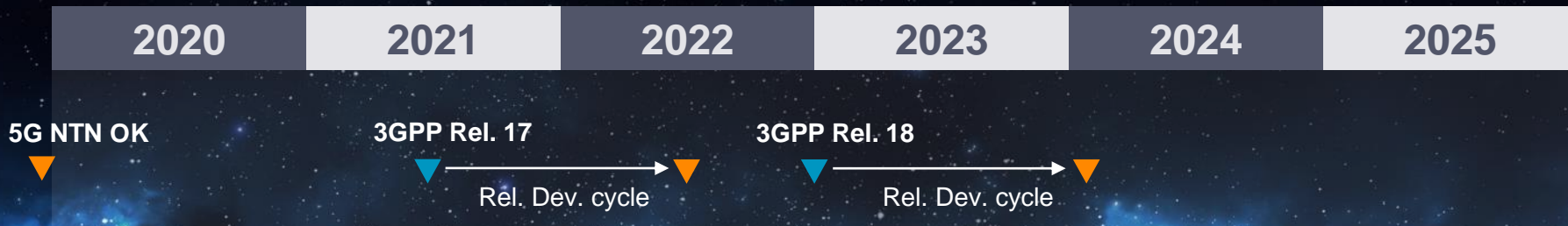
NEW TRENDS ON CONSTELLATIONS



Opportunities expected on all type of orbits

WHY NON-TERRESTRIAL NETWORKS IN 5G IS A MUST?

3GPP: First global & unique standard to support terrestrial & satcom networks



A growth opportunity, for mobile satellite constellations & verticals, not addressed by current MSS



Rural user
in developing countries



Deep rural user
in developed countries



Continuity service for
existing users



Continuity service for
vertical markets

Towards the coexistence of legacy DVB based & upcoming 5G standards within our VHTS solutions

EUROPEAN SOVEREIGN CONNECTIVITY CONSTELLATION

Public Sovereign Requirements

Surveillance
External action
Crisis management
Key infrastructures

+

Commercial Services

Broadband everywhere
5G
Digital divide



Public Private Partnership

Hosting commercial Services
Onto public infrastructure
EU funds + state funds + operators funds

ITT release end September,
answer submitted on 12 November



Fast Track

12 month study

Large European consortium with: Thales Alenia Space,
ADS, OHB, Eutelsat, Hispasat, SES, Arianespace,
Orange, ...



United European Team

TOWARDS A 3rd EUROPEAN SPACE PILLAR FOR SPACE CONNECTIVITY
(AFTER GALILEO & COPERNICUS)

We believe in Space as humankind's
new horizon to build a better,
sustainable life on Earth

SPACE FOR LIFE

