

SPACE SECURITY CONFERENCE

Sustaining the Momentum: the Current Status of Space Security – 28 April 2016

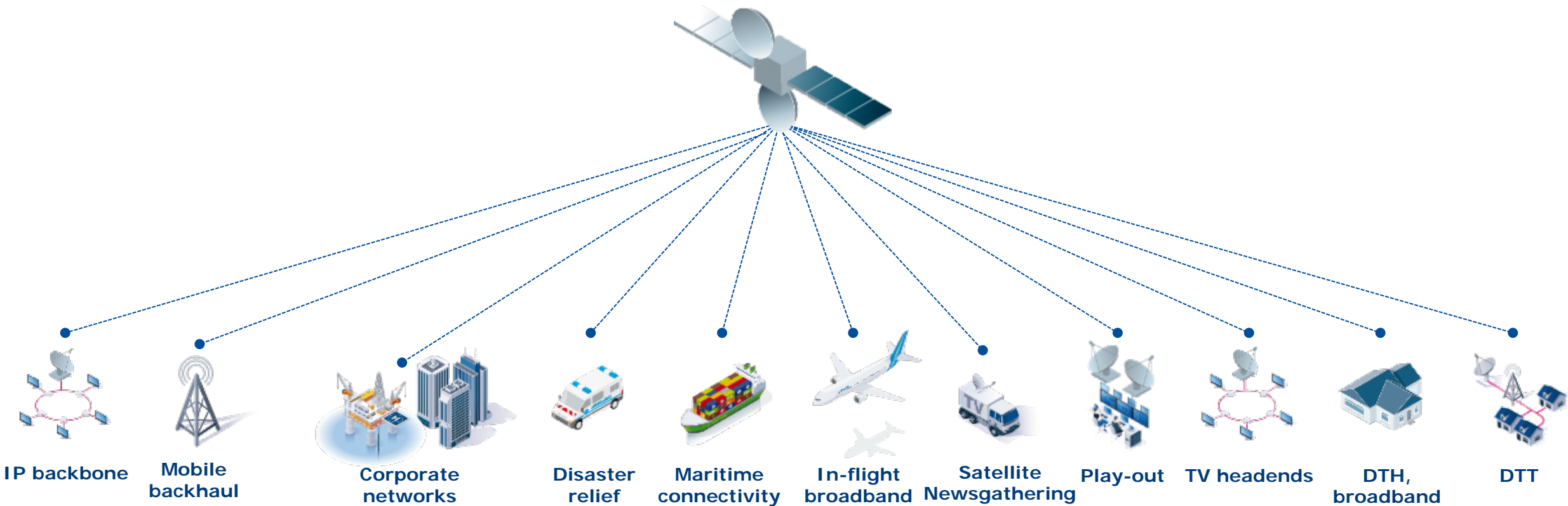
Jean-François Bureau – Director of Institutional & International Affairs

A LEADING GLOBAL SATELLITE COMPANY

- ▶ Over **30** years of satellite operations
- ▶ Fleet of **40** satellites; global coverage
- ▶ Continued investment: **5 further satellites to launch**
- ▶ Operating **>1,100** transponders
- ▶ Broadcasting **>6,000** channels
- ▶ Revenues: **€1.48bn**
- ▶ Backlog of **€5.9bn**, representing **3.8 years** of revenues

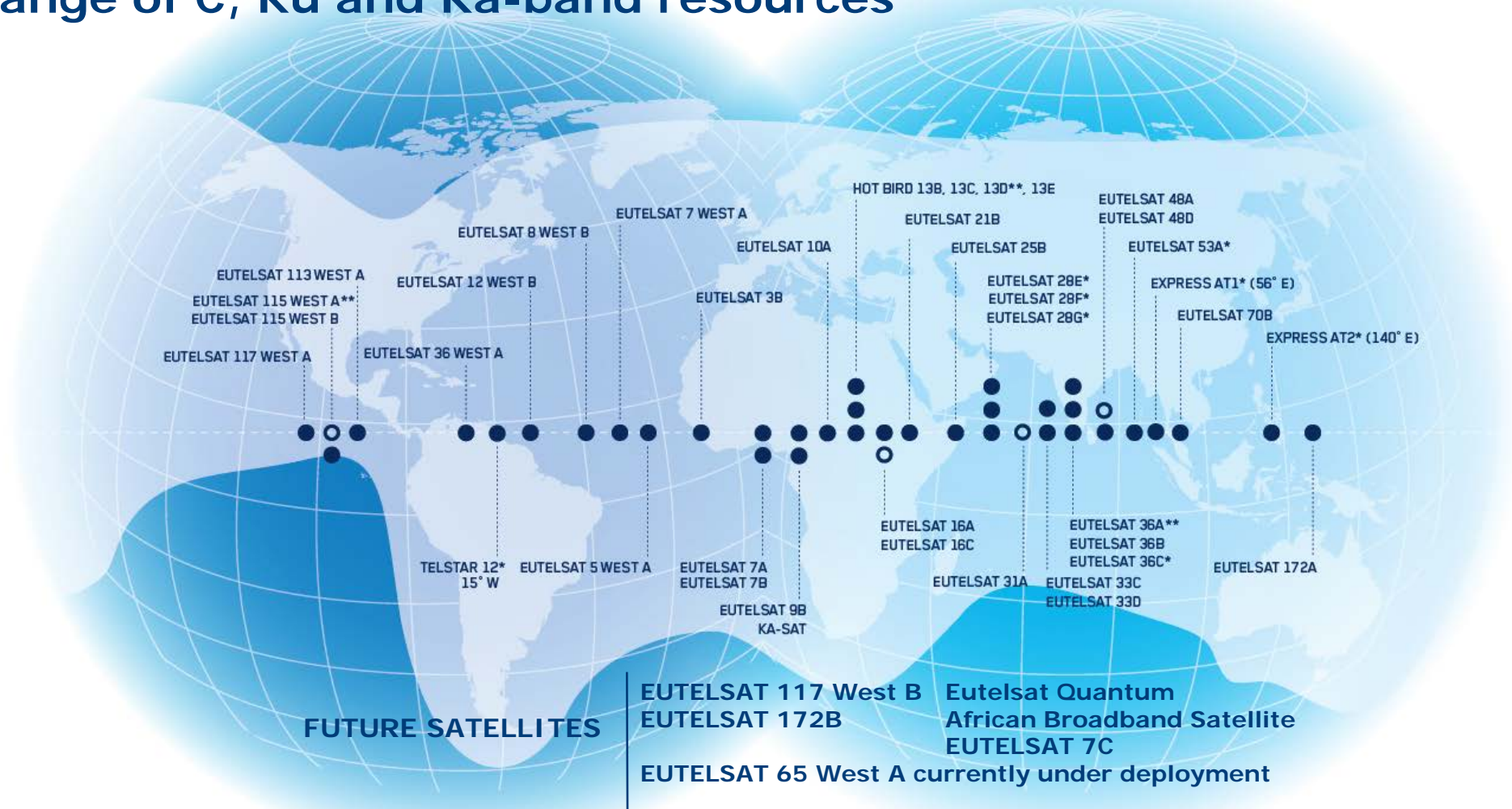
Data as of 31 December 2015, except revenues which are as of 30 June 2015

DIRECT-TO-USER AND HEADEND DELIVERY



DELIVERING GLOBAL COVERAGE

Unique range of C, Ku and Ka-band resources



FUTURE SATELLITES

EUTELSAT 117 West B
 EUTELSAT 172B
 EUTELSAT 65 West A currently under deployment
 Eutelsat Quantum
 African Broadband Satellite
 EUTELSAT 7C

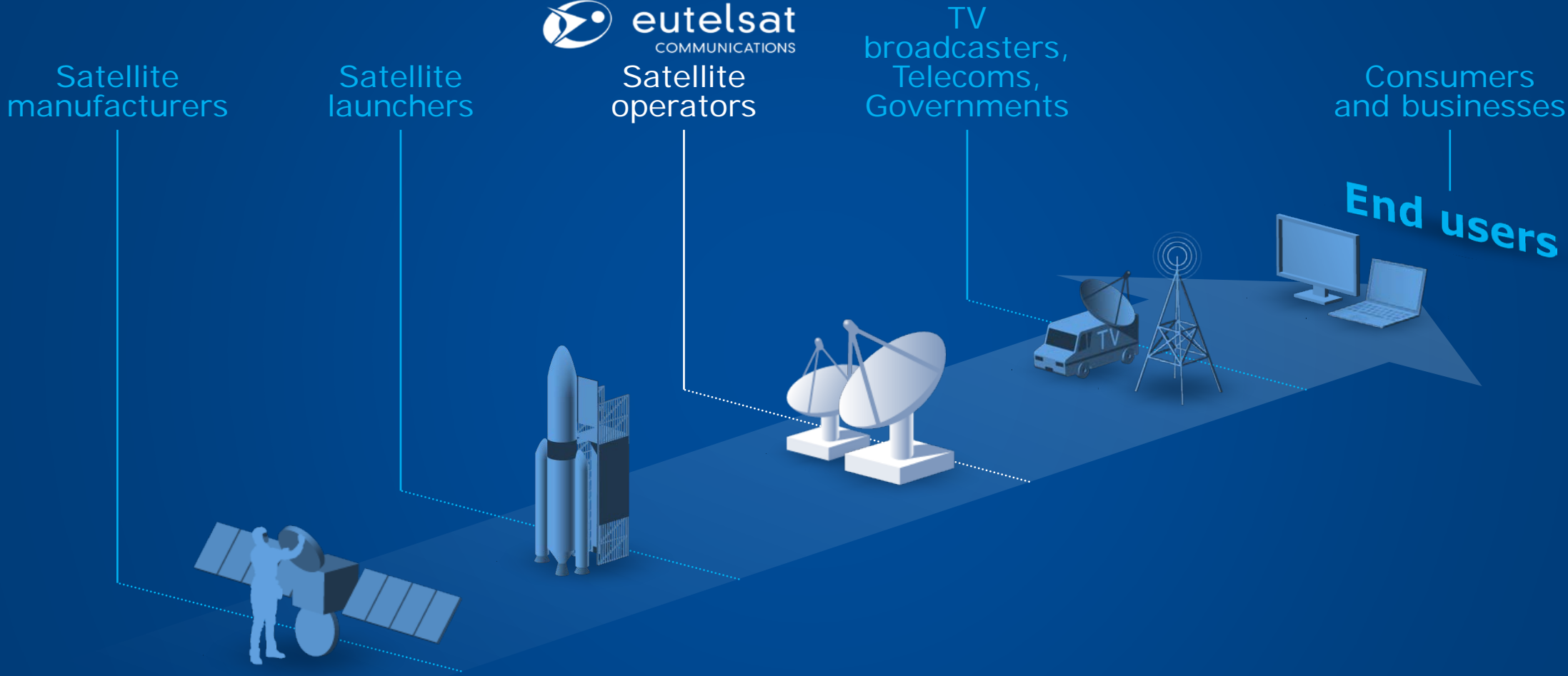
EUTELSAT FLEET

- stable orbit
- inclined orbit
- ★ capacity on third-party satellites
- ★★ under redeployment

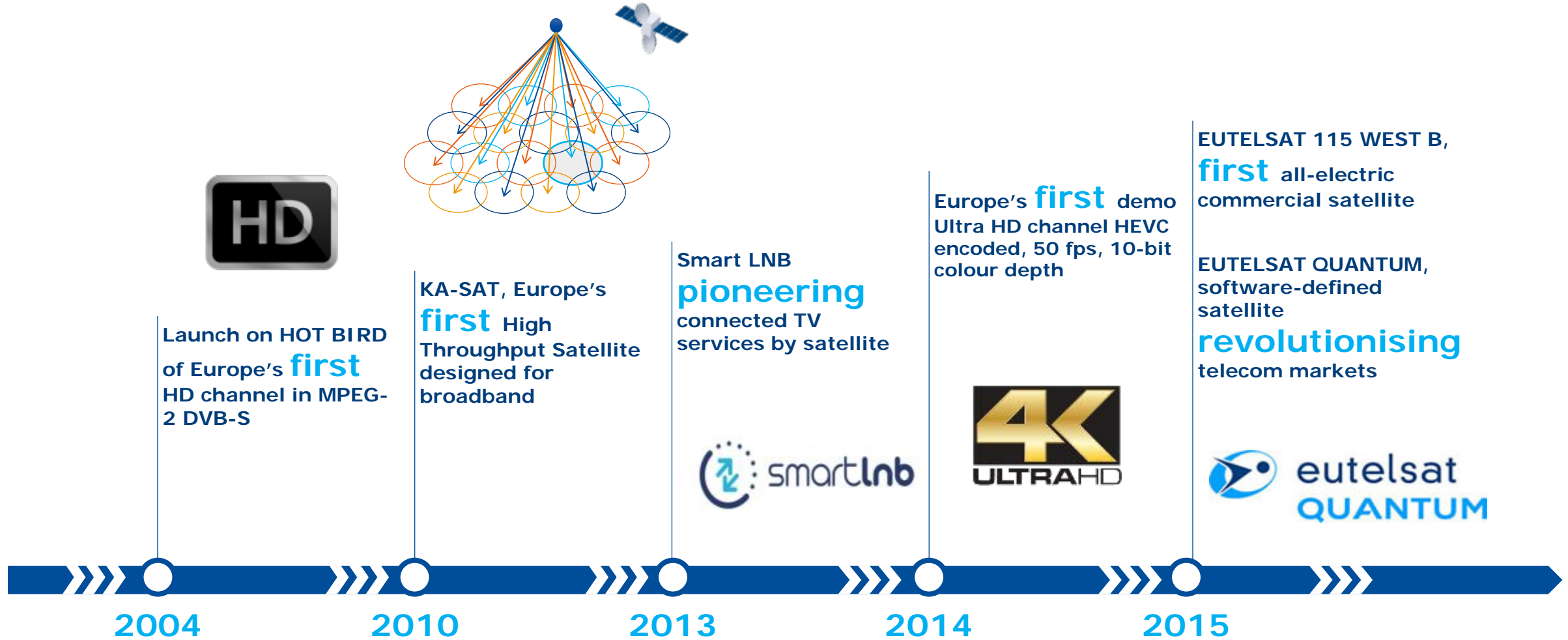
CLOSE TO OUR CUSTOMER BASE



THE SATELLITE VALUE CHAIN



AT THE FOREFRONT OF INNOVATION



SHAPING THE FUTURE THROUGH INNOVATION

IN SPACE

ON GROUND

Bandwidth efficiency

→ HTS for fast-growing markets

→ Encoding schemes for higher compression

→ Enhanced access protocols for Interactive TV services

Security

→ Signal prevention / detection techniques

→ Increased resilience to jamming

Flexibility

→ Reconfigurable payloads

→ On-board power allocation to optimise capacity

→ Multi-band reception systems (C/Ku, Ku/Ka)

→ Hybrid set-top-boxes

Customer experience

→ 'SmartLNB'

→ Multi-screen home IP distribution

→ Home automation

→ Mobile broadband

EMERGING ISSUES : ORBITS MANAGEMENT

▶ GEO Congestion : more than 450 satellites

▶ Need for stable rules :

- ▶ To prevent interferences
- ▶ To shape future satellites according a future identified regulatory environment
- ▶ To make the best use of the orbit and allow new actors (nations, operators) to join the space telecommunications domain
- ▶ To anticipate new coming and challenging situations : end of life of satellites policies

▶ Preserve the benefit of the GEO solutions :

- ▶ For the end users : extending, diversified and secured services
- ▶ For the operators : coverage and flexibility
- ▶ For the governments : build more extensively upon the mix of state-owned assets and commercial assets

▶ Secure stable and rational management of the different orbits : space as a common good

- ▶ To prevent interferences between the different signals coming from the different orbits
- ▶ To extend the notion of « debris management » in accordance with the new developments

➤ Continuity and security are key to commercial operators:

- ▶ Because it is key to the customers : satellite is not only the back up of the terrestrial infrastructure for the critical times; it is an infrastructure per se, and will be even more
- ▶ Mobility is becoming the standard shaping the level of expectation from the end-users
- ▶ IP and data transfers are unifying most of the satellite services : conventional differences between observation / navigation / telecommunications will increasingly be blurred. As a consequence, the security will be provided by the architecture of a system, not from a « one fits for all » solution

Only a systemic and holistic approach can ensure the expected level of security operators are looking for:

- ▶ Expected level of security will continue to increase (cybersecurity in space)
- ▶ Because space management will become more complex : more many assets in space; more many activities depending upon space assets; more many interrelated space-based assets and activities

CONCLUSION: A NEED FOR MORE SPACE GOVERNANCE

- **As a Common Good, space will need a strengthened governance : prevention of interferences and collisions will no-longer be sufficient to set up a sustainable governance of the space activities**
- **The increased number of services provided by space assets will suggest a wider inclusive process to set up rules and practices**
- **Best practices definition and implementation has demonstrated an ability to prepare for future situations, decide for efficient solutions and guide future investment**
- **Commercial operators like Eutelsat will be very committed to contribute to such approaches**