SATELLITE GROWTH OPPORTUNITIES

ITU INTERNATIONAL SATELLITE SYMPOSIUM 2016

JEAN-FRANCOIS FENECH – CEO EUTELSAT ASIA

BALI, SEPTEMBER 7-8, 2016

AGENDA – THE VIEW OF A FSS OPERATOR

1. EUTELSAT IN A NUTSHELL
2. THE HIGH THROUGHPUT SATELLITE REVOLUTION
3. A GROWING VIDEO MARKET
4. NEW APPLICATIONS FOR SATELLITES: THE INTERNET OF THINGS EXAMPLE

A LEADING GLOBAL SATELLITE COMPANY

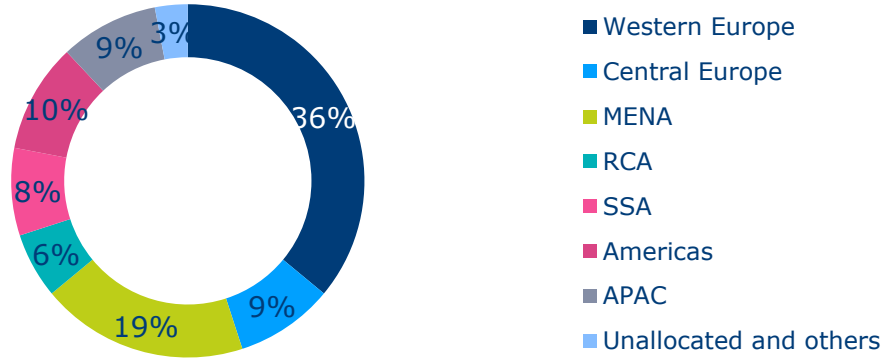
KEY DATA

- 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 €5.8bn, representing 3.9 years of revenues

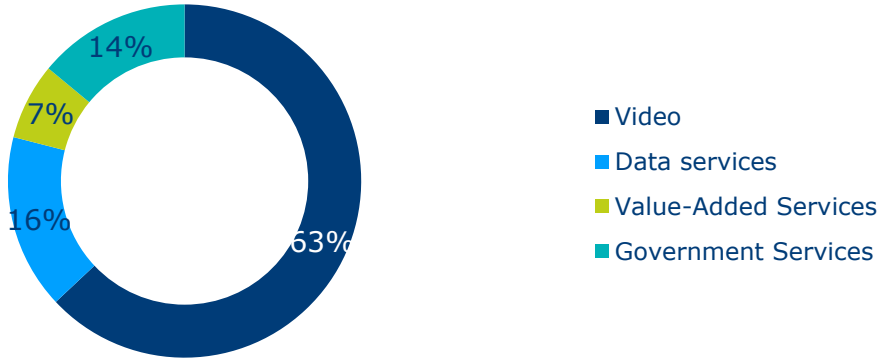
Data as of 31 December 2015, except revenues which are as of 30 June 2015

REVENUE BREAKDOWN

By geography

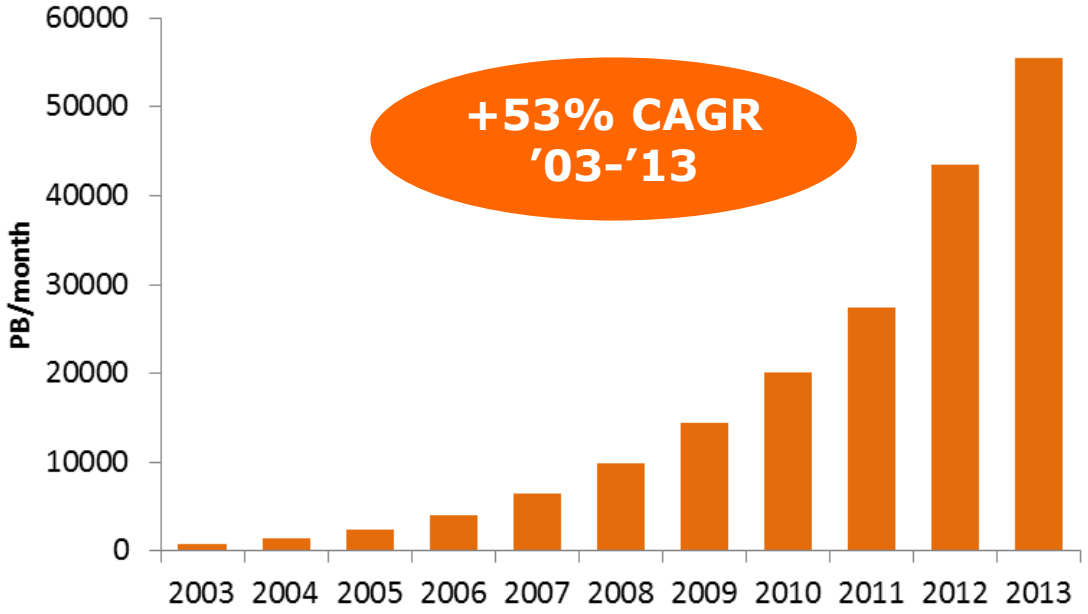


By application



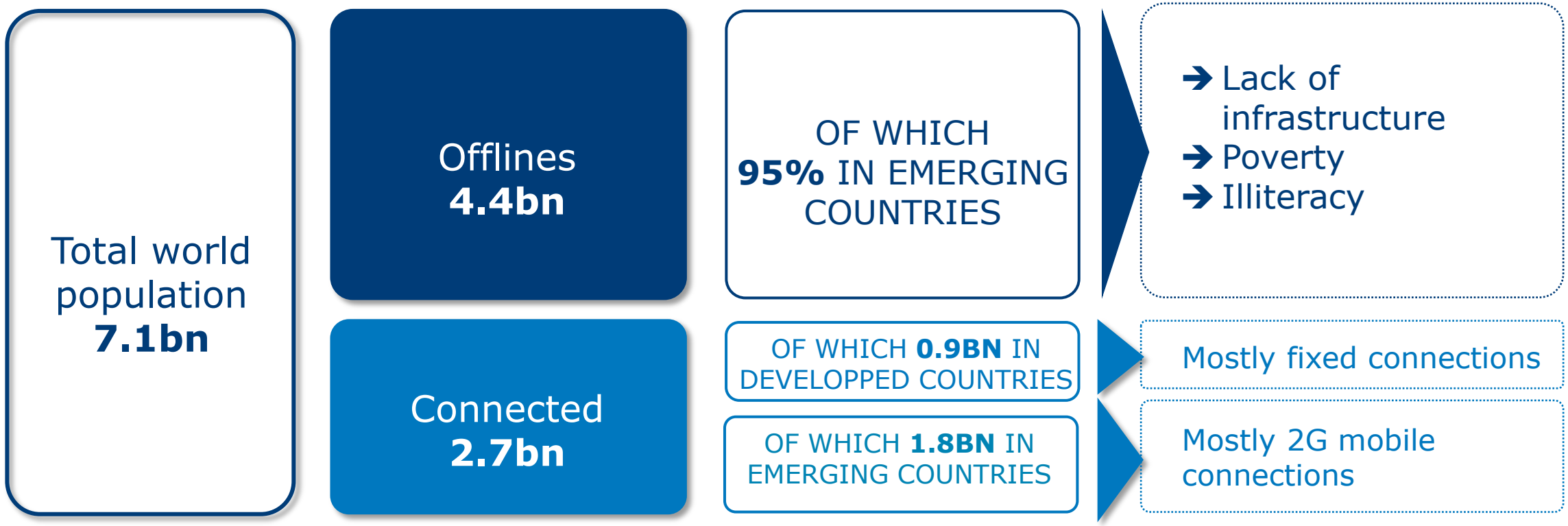
DRIVERS OF DEMAND: EVER INCREASING GROWTH OF USAGES

- **Total IP traffic has been multiplied by 70 since 2003 (+53% CAGR)**
  - ➔ More internet users (+13% CAGR)
  - ➔ Traffic per user (+35% CAGR)
- **Video is a big driver: 64% of consumer Internet traffic in 2014, will be 80% in 2019**

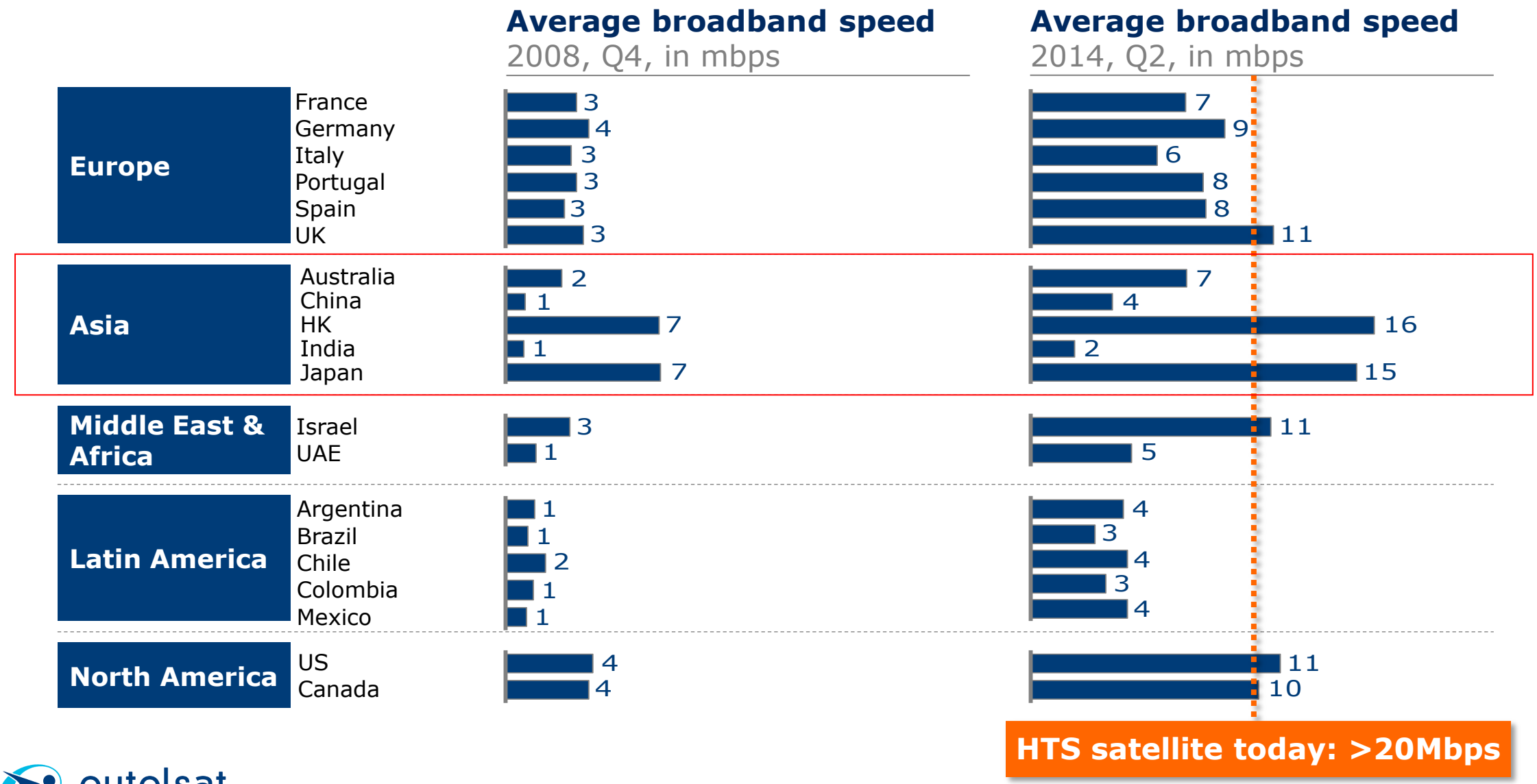


- **Traffic will again triple in the next 5 years to reach 2 Zettabytes in 2019**
- **Mobile traffic grows 3 to 4 times faster than fixed traffic**
- **Growth will be driven by new applications: Internet of Things, mobility**

INFRASTRUCTURE IS THE MAIN BOTTLENECK TO MORE GROWTH



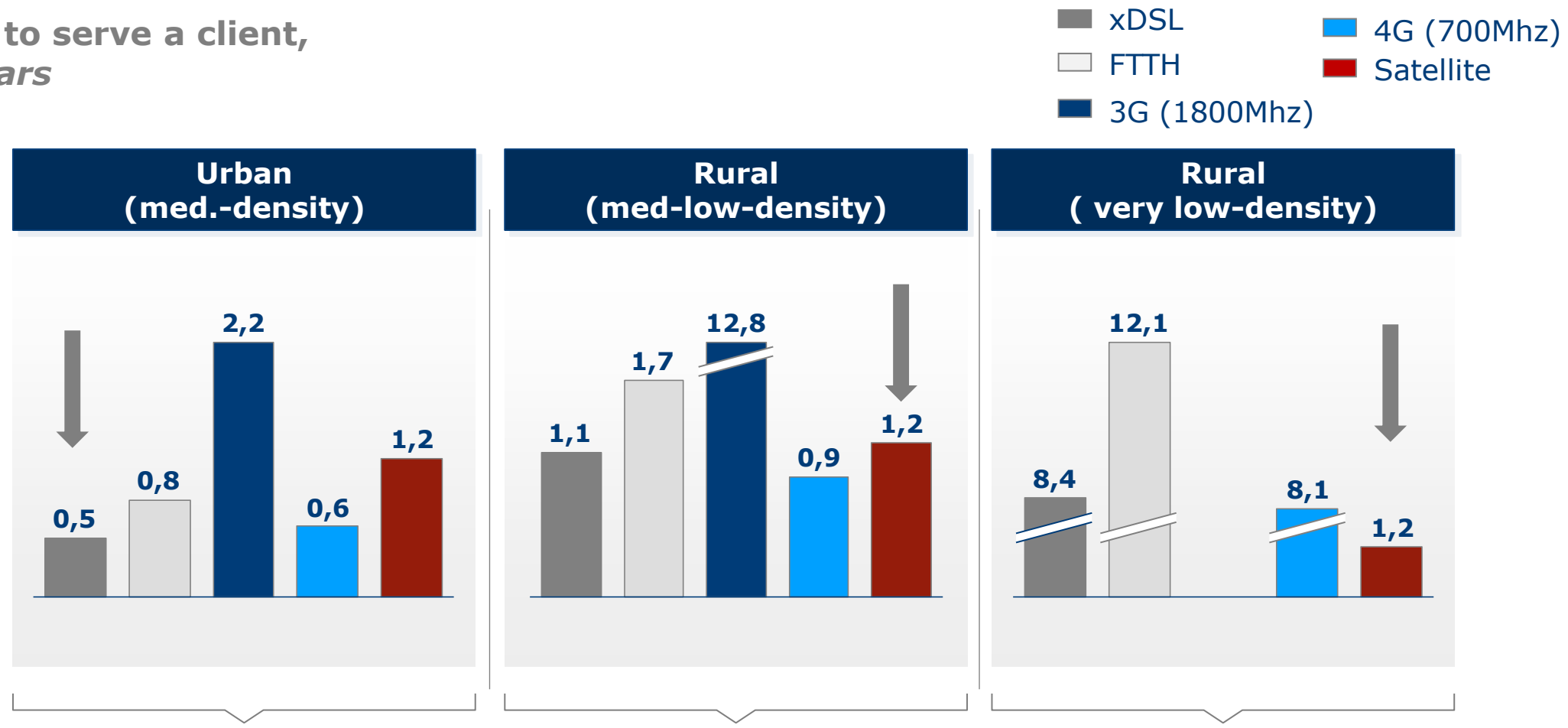
FIXED TERRESTRIAL BROADBAND SPEEDS HAVE TRIPLED SINCE 2008 AND SATELLITE STANDS THE COMPARISON



SOURCE: Akamai

SATELLITE DOES NOT ONLY PERFORM WELL, IT IS ALSO COST COMPETITIVE

Incremental cost to serve a client, in *thousands dollars*



Cost of greenfield deployment

Fixed Broadband leads

Satellite and mobile broadband are comparable

Satellite leads

THE 'HTS' REVOLUTION

- **The "High-Throughput Satellite" principle has led to the development of a new satellite architecture:**
  - → Coverage in multi-spot beams with frequency reuse
  - → Smaller beams to improve coverage performances
  - → Increase of the overall capacity on satellite

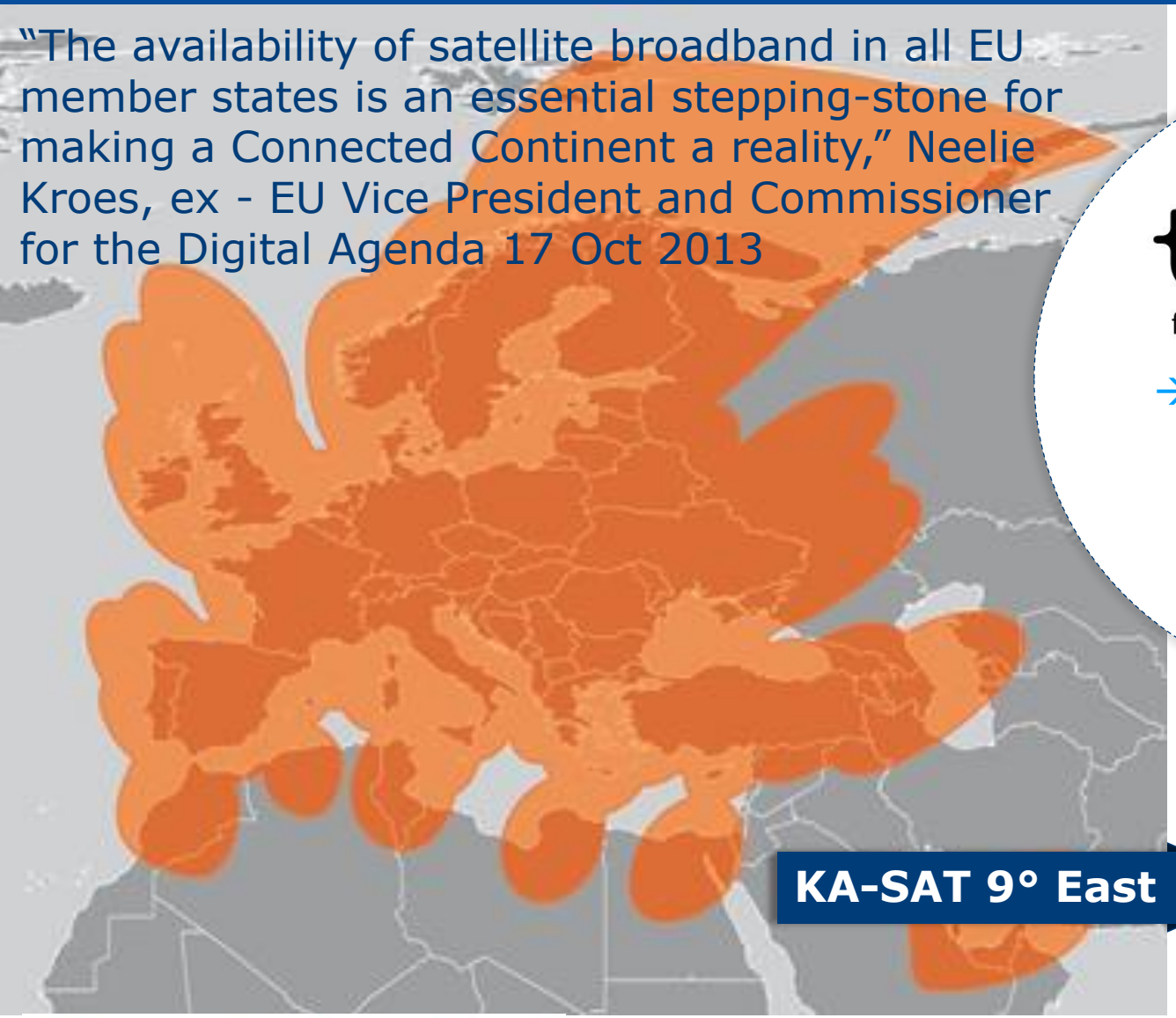
- **This improvement enables service evolution:**
  - → Decrease of Mbit costs and prices
  - → Smaller terminals thanks to better satellite performances
  - → New broadband markets for consumer or associated markets

- **Each HTS has a specific market positioning**
  - → Frequency bands linked to availability and expected performance
    - → Ka-band for internet access for consumers and SMEs
    - → Ku-band for professional services (enterprise, Telco)
    - → Nevertheless, depends on available spectrum, coverage size, etc.

- **To extract all the benefits of an HTS, size matters, which is only possible by aggregating the needs of several countries and sharing as many parts of the HTS infrastructure between them**

HTS VALUE PROPOSITION FOR EUTELSAT: BROADBAND FOR CONSUMER WITH THE EUROPEAN EXAMPLE

"The availability of satellite broadband in all EU member states is an essential stepping-stone for making a Connected Continent a reality," Neelie Kroes, ex - EU Vice President and Commissioner for the Digital Agenda 17 Oct 2013



tooway™
fast internet everywhere

→ **200K subscribers**

tooway Business
Satellite solutions

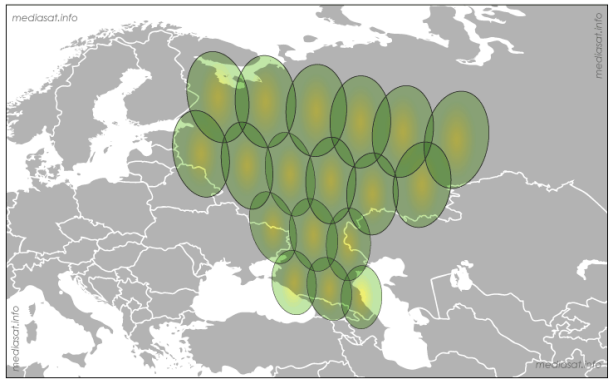
ViaSat

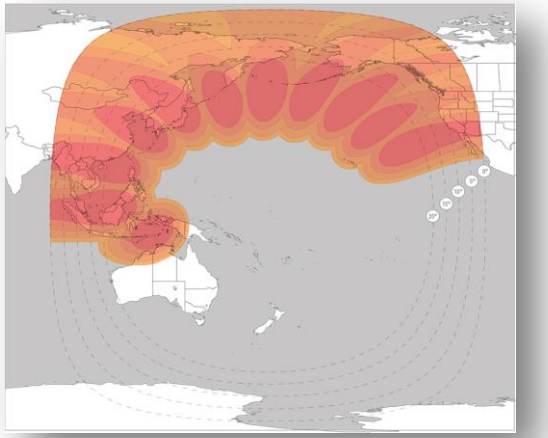
Technology & Service partner

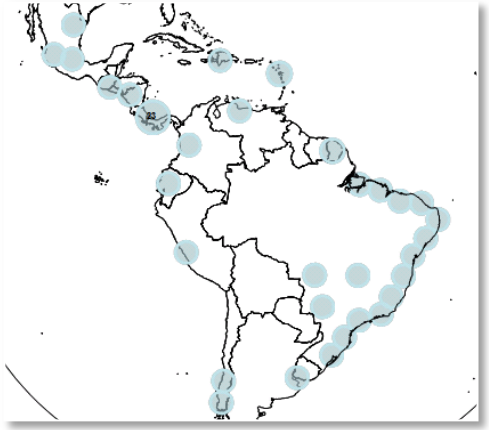
Standard terminal
- → ***IDU box***
- → ***Antenna 77cm***
- → ***3W ODU***
- → ***75W power***

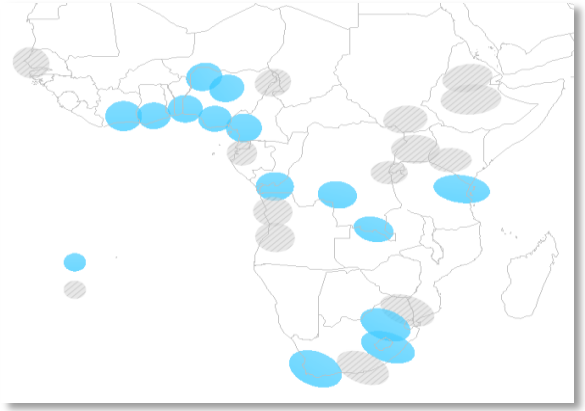
4 NEW HTS SATELLITES ARE AND WILL BE LAUNCHED BY EUTELSAT BETWEEN 2015 AND 2017

- **EUTELSAT 36C (Ka-band)**
  - Russia
  - Launch in 2015
  - 18 spots in Ka
  - Throughput > 11 Gbps
- **EUTELSAT 172B (Ku-band)**
  - Mobility in Asia and trans-pacific
  - Launch in 2017
  - 11 spots in Ku
- **EUTELSAT 65 West A (Ka-band)**
  - South America
  - Launch in 2016
  - 24 spots in Ka
  - Throughput > 35 Gbps
- **BB4 Africa (Ka-band)**
  - Africa
  - Launch in 2016
  - 14 spots in Ka
  - Throughput > 8 Gbps (and 75GBps in 2019)









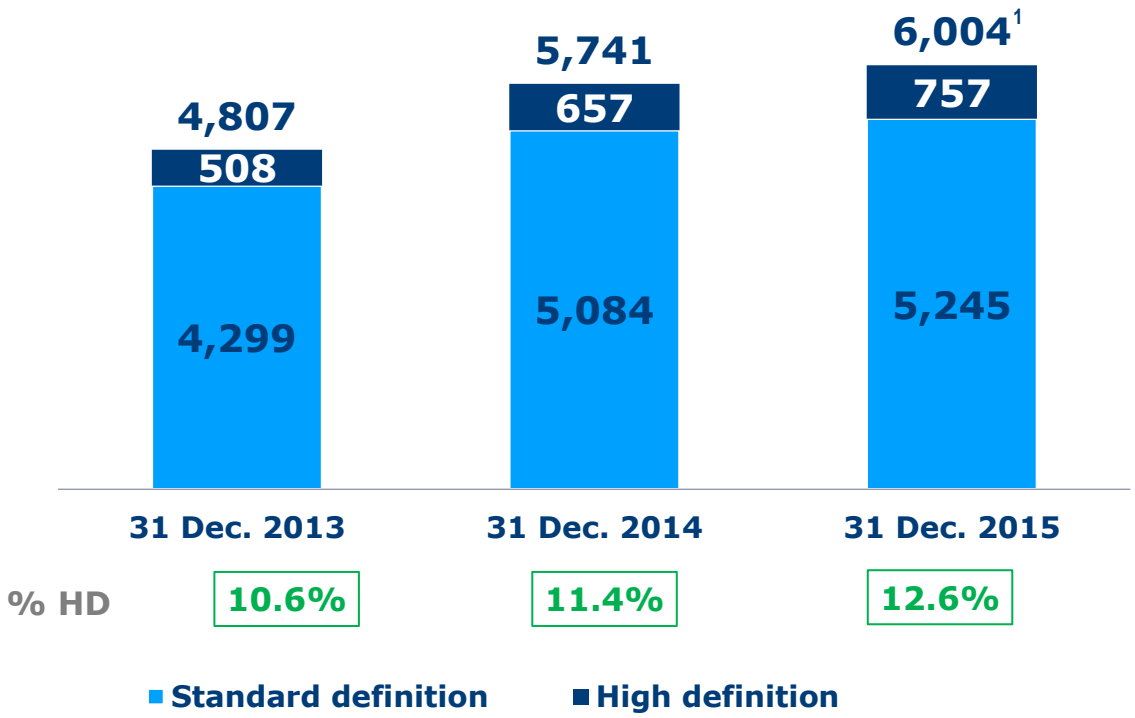
facebook

… Asia-Pacific, the next frontier…

VIDEO: OVER 6,000 CHANNELS IN 2016

- **Milestone of 6,000 channels reached end-December**
- **263 new channels over 12 months**
- **HDTV accelerating**
  - ➔ 12.6% of 6,000 channels are HD
- **Ultra HD emerging**
  - ➔ Three channels on the fleet
  - ➔ Other trials underway

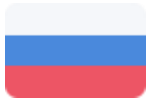
CHANNEL PROGRESSION



[1] total also includes UHD channels

LIMITED AVAILABILITY OF TV VIA TERRESTRIAL NETWORKS


USA


Russia


Brazil


Mexico


Turkey


Egypt


Tanzania

	USA	Russia	Brazil	Mexico	Turkey	Egypt	Tanzania
FIXED BROADBAND PENETRATION % OF HOUSEHOLDS	70%	44%	32%	39%	39%	10%	3%
BROADBAND SPEED % OF HOUSEHOLDS WITH >10MBPS	43%	33%	2%	6%	7%	<3%	N/A

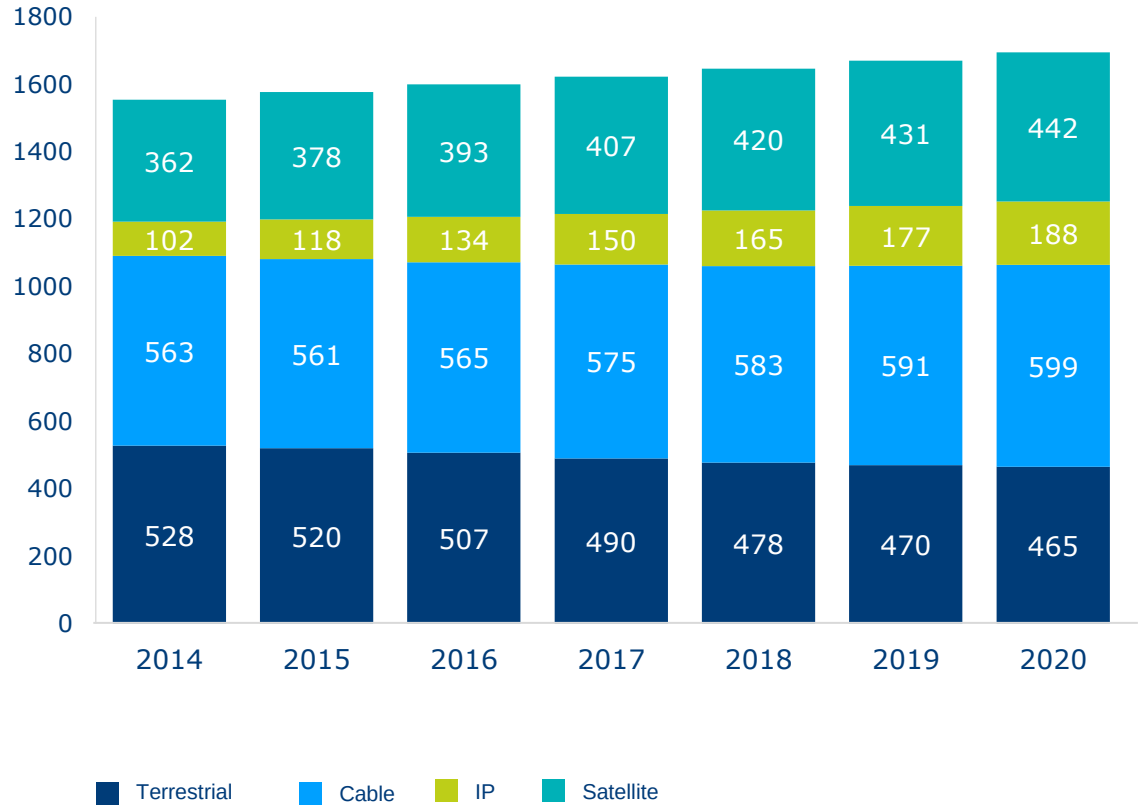
In many markets, satellite remains the most viable infrastructure for video distribution

Source: Akamai's State of the Internet – Q2 2015 report; McKinsey – Internet falling behind: Barriers to Internet adoption – October 2014

SATELLITE TV GAINING MARKET SHARE WORLDWIDE

- TV homes to increase by **140 million** to 1.7 billion by 2020
- Satellite TV to grow by 80 million homes to **440 million** by 2020
- Satellite TV market share to grow from 23% to **26%** by 2020

MILLIONS OF TV HOMES BY DISTRIBUTION MODE - GLOBAL

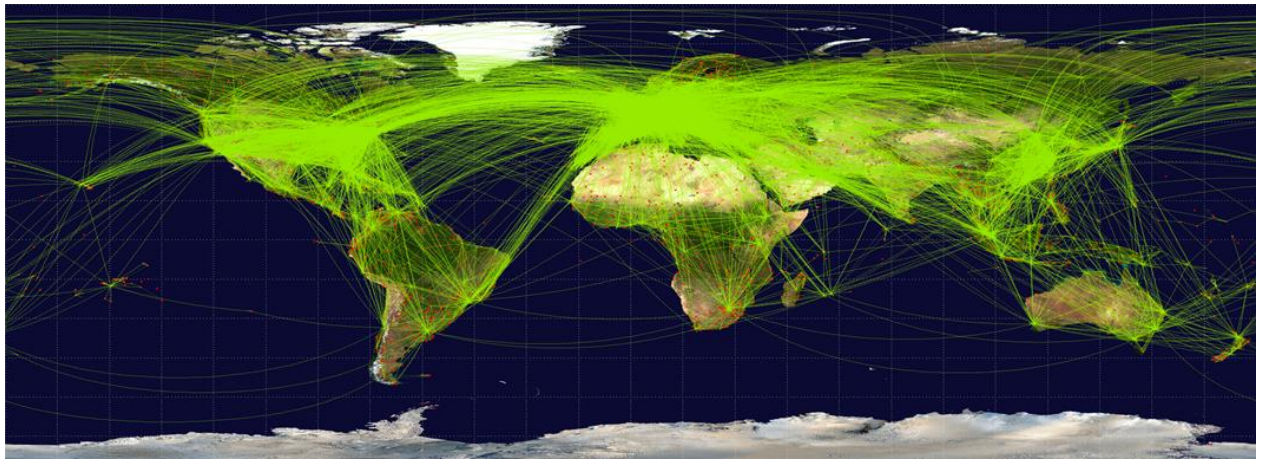


Source: Euroconsult, Digital TV Research

BEYOND BROADBAND AND VIDEO, A NUMBER OF CONCRETE OPPORTUNITIES WILL FUEL THE SATELLITE GROWTH CYCLE

Mobility

- Growing request of passengers to stay connected during flights
- In Asia Pacific, Panasonic partnership on future Eutelsat E172B High Throughput payload for in-flight broadband access on the Pacific Rim



- Maritime
  - Number of vessels equipped multiplied by 2,5 between now and 2020
  - Huge potential remains in cruising, ferries, yachts, merchant marine, fishing boats
  - Crew welfare

IoT

- Booming number of devices in the « Connected Home »
- Deployement of dedicated networks to connect billions of objects
- Potential for massive gains in key industries, with global coverage needs

INTERNET OF THINGS, A SATELLITE OPPORTUNITY

- **Data markets poised for rapid expansion with increase in volume of connected objects**
- **Global satellite M2M revenues forecast to exceed $2 billion in 2022 (Euroconsult)**
- **Eutelsat's "SmartLNB", designed for home area networks**
- **Eutelsat investment in Sigfox, pioneer in cost-effective, power-efficient IoT connectivity**

smartlnb

HOW CAN WE MAKE THE DIGITAL REVOLUTION HAPPEN FASTER?

- **Evangelize the benefits of satellite technology**
- **As an industry:**
  - unite our forces to promote standards & innovations
  - Continue to innovate in the Space segment for long term growth…
- **… but in order to unlock short term potential, focus**
  - On customer premise equipment (cost & design)
  - On marketing & distribution
  - On integration with other networks
- **As regulators:**
  - Simplify the regulatory framework for satellite broadband (blanket authorization for terminals, Ka-Band use authorization, out-of-country gateways, Open-Sky policy, etc.) and satellite DTH
  - Create a leveled-playing-field for all technologies, including satellite broadband in National Broadband Plans and ensuring access to subsidies for satellite broadband projects
  - Incentivize the States to make use of satellite broadband for equipping emergency and law enforcement services, connecting schools and local administrations, etc.
- **… and especially true in this part of the world: collaborative partnerships**

THANK YOU

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