

# ADAPTING TO CHANGING VIDEO ENVIRONMENT

Telecom ParisTech  
11 February 2016

# Eutelsat key data

- ▶ IGO created in 1977, ETL SA formed in July 2001, IPO in Nov 2005
- ▶ Revenues of **€1.48bn**
- ▶ Fleet of **37** satellites; global coverage
- ▶ Operating **>1,160** transponders
- ▶ Backlog of **€6.2bn**, representing **4.2 years** of revenues
- ▶ **1,000** employees of **> 30** nationalities

As of 30 June 2015

# Breakdown of revenues by application

Video: 63%

Video 63%



- Direct-to-Home (DTH) →
  - Cable headends
  - Professional Video
- ~ 5,800 channels
- 37% Free-to-Air (FTA)
  - 63% Pay-TV
- HD penetration of 12%
- 19% on HOTBIRD

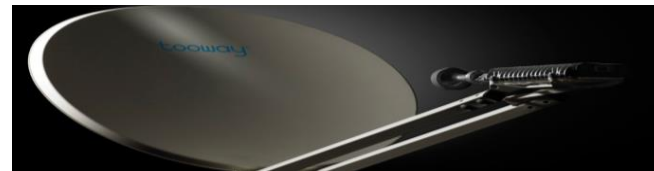
Data: 37%

Data Services  
16%



- Mobile backhaul
- Corporate networks

Value-Added  
Services: 7%



- Broadband Internet
- Mobility (aircraft, ships)

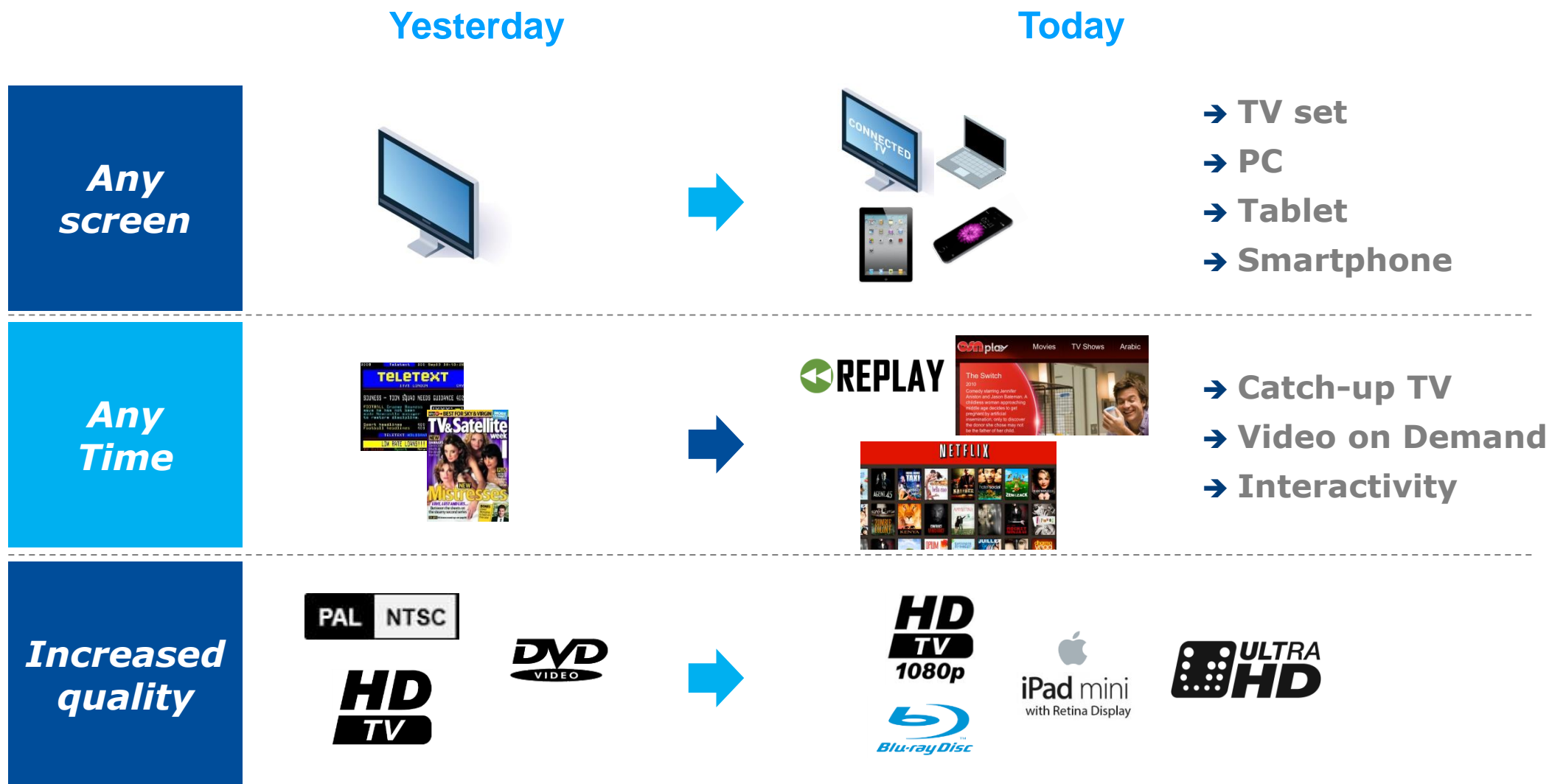
Government  
Services: 14%



- Government and administration
- Departments of Defense

As of 30 June 2015. % of revenues excluding Other revenues and Non-recurring revenues

# TV VIEWER EXPECTATIONS ARE CHANGING: 'ADVANCED TV EXPERIENCE'



# TV ACTORS ARE BUILDING HYBRID TV SOLUTIONS TO DELIVER THIS 'ADVANCED TV EXPERIENCE'

## ▶ How to address all the viewers expectations ?

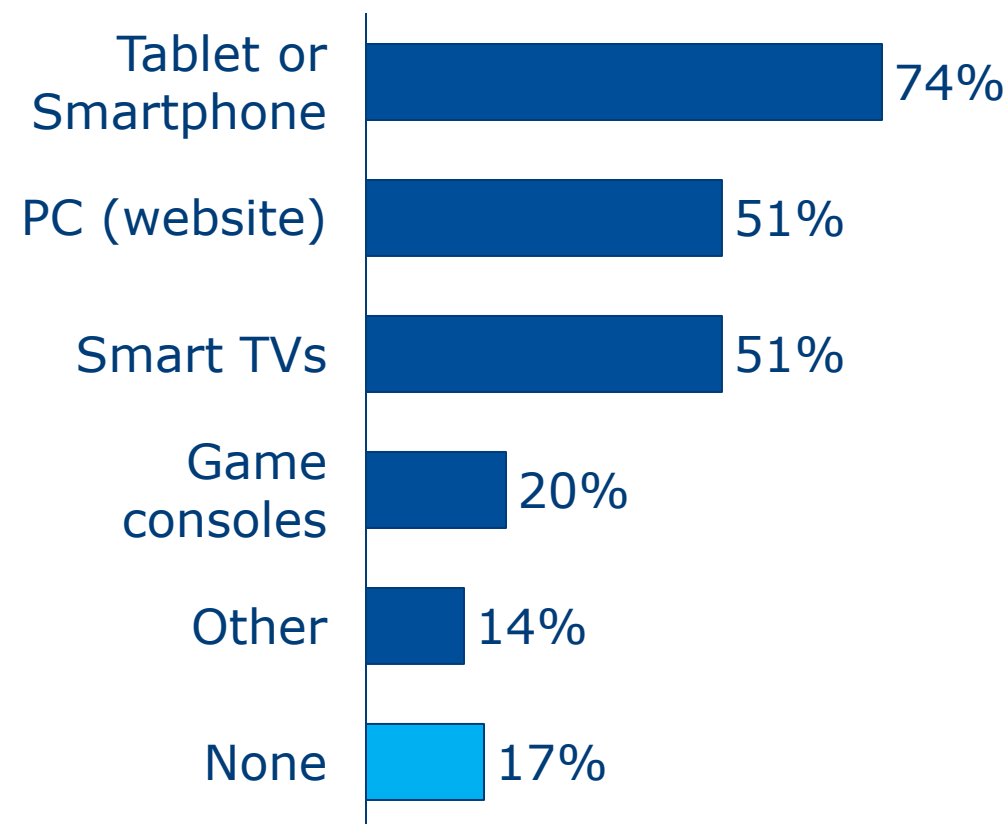
### ✓ Challenges:

- Watch TV on a PC or tablet
- Long-tail catalogue for video on demand
- ...

### ✓ Reaction as of today:

- To maintain user experience excellence, most TV platforms complemented their linear broadcast offer...
- ... with new services based on broadband infrastructure (OTT)

## ▶ Which IP devices are you addressing? (Broadcasters and DTH TV platforms)





# WHILE USAGES INCREASE, OTT VIDEO DISTRIBUTION SHOWS SEVERAL WEAKNESSES

## ➤ Inability to reach the entire population

- Lower image quality ...
- ... Or even no video service at all

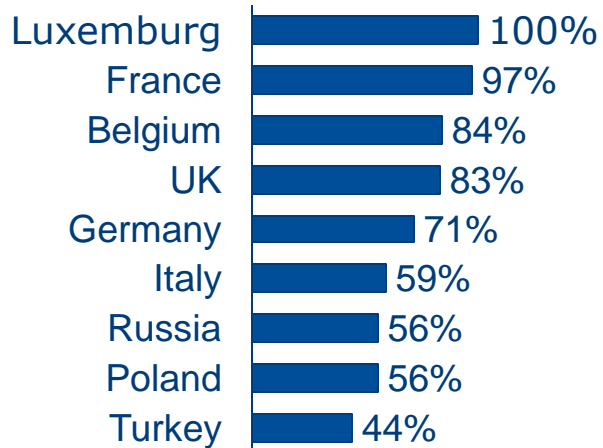
## ➤ Growing distribution costs

- CDN costs increase with the audience

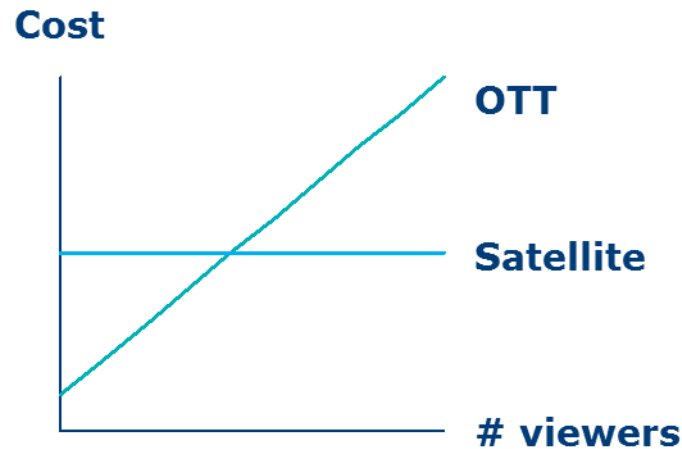
## ➤ Lower quality of service, especially at peak hour

- Broadband networks saturated by OTT demands

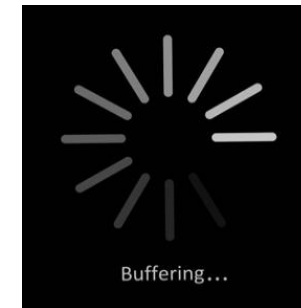
### ▶ Broadband penetration (2014)



### ▶ OTT distribution cost pattern




### ▶ Internet bottleneck at peak hour

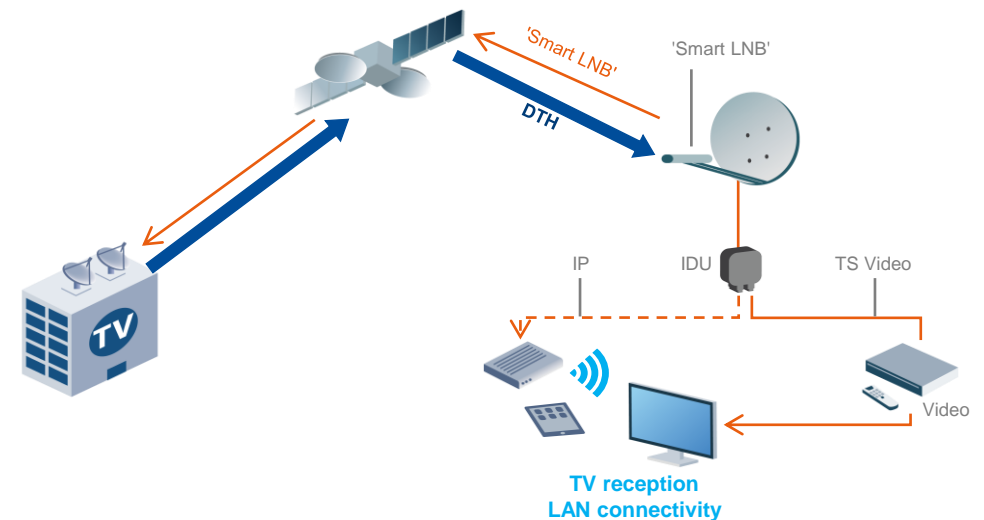
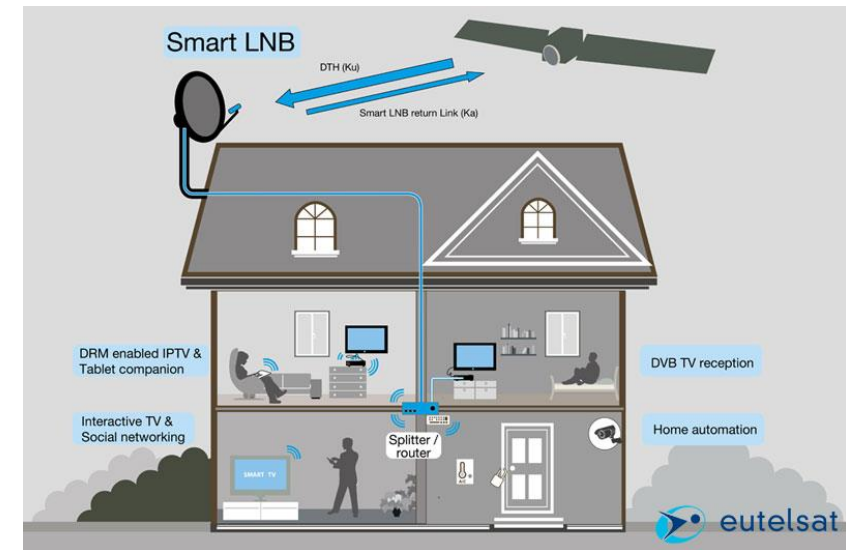


Adaptive bit rate transforms your HD content in SD or worse

# Satellite replicating experience available through terrestrial networks

EXPERIENCE	EUTELSAT SOLUTION	STATUS
INTERACTIVITY ON-DEMAND	 smartlnb	Already in production
OTT EXPERIENCE VIA SATELLITE	Sat On-demand	Late stage development
MOBILITY MULTI-DEVICE	Native IP Multiscreen	Late stage development
ERGONOMIC NAVIGATION	Smart EPG <sup>1</sup>	Work in progress

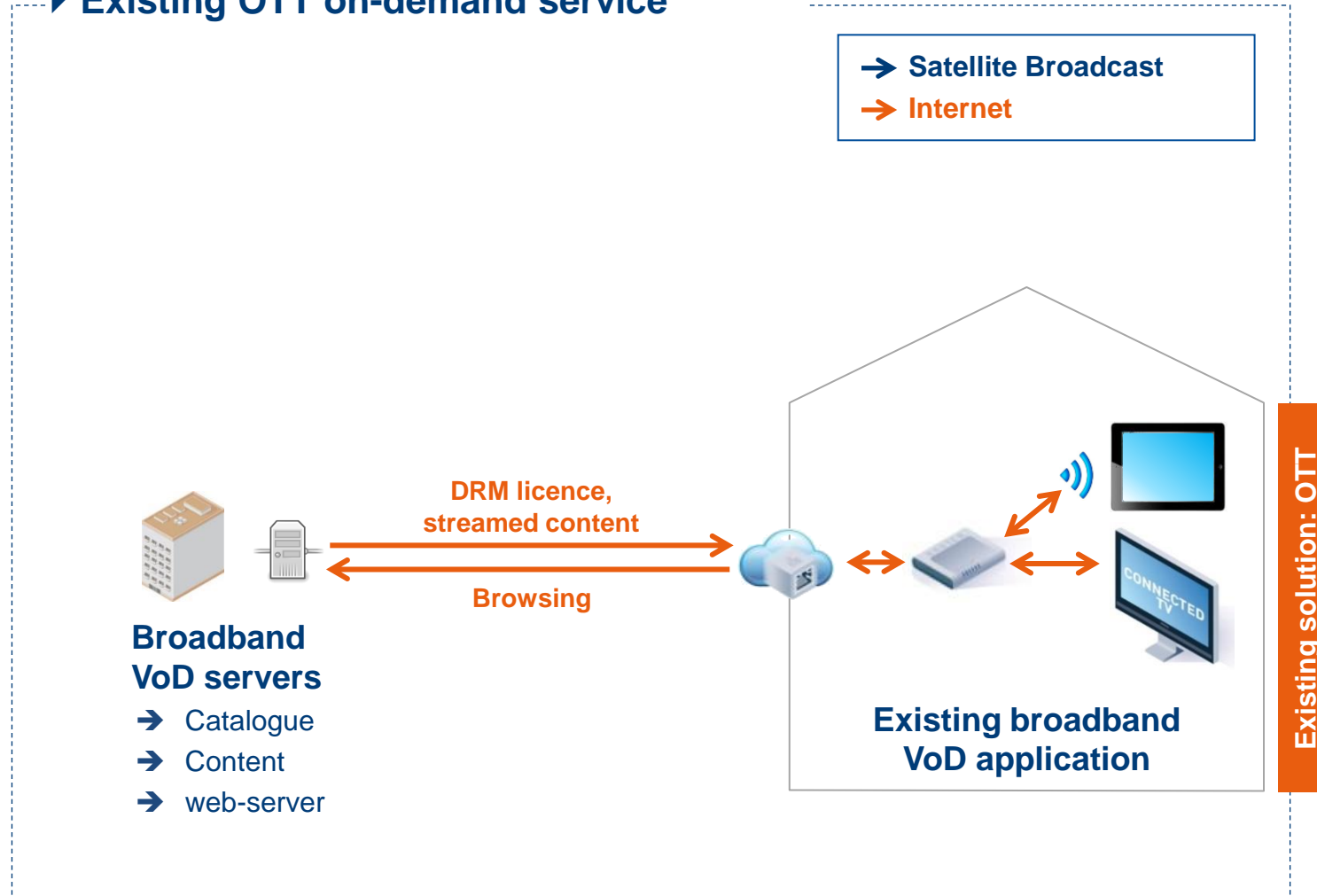
- ▶ **Low-cost home device, compatible with existing satellite equipment**
- ▶ **Providing narrow band return on top of regular DTH reception**
- ▶ **Enables TV platforms to deploy connected TV services via satellite:**
  - Push VOD
  - Pay-per-view
  - Social TV
  - Live show participation
- ▶ **Audience measurement**
- ▶ **Mass market production to begin soon**
- ▶ **Interest notably in fast-growing markets**





# ON-DEMAND EXPERIENCE: BROADCASTERS CAN EXTEND THEIR OTT SUCCESS BEYOND CURRENT OTT LIMITATIONS ...

## ▶ Existing OTT on-demand service

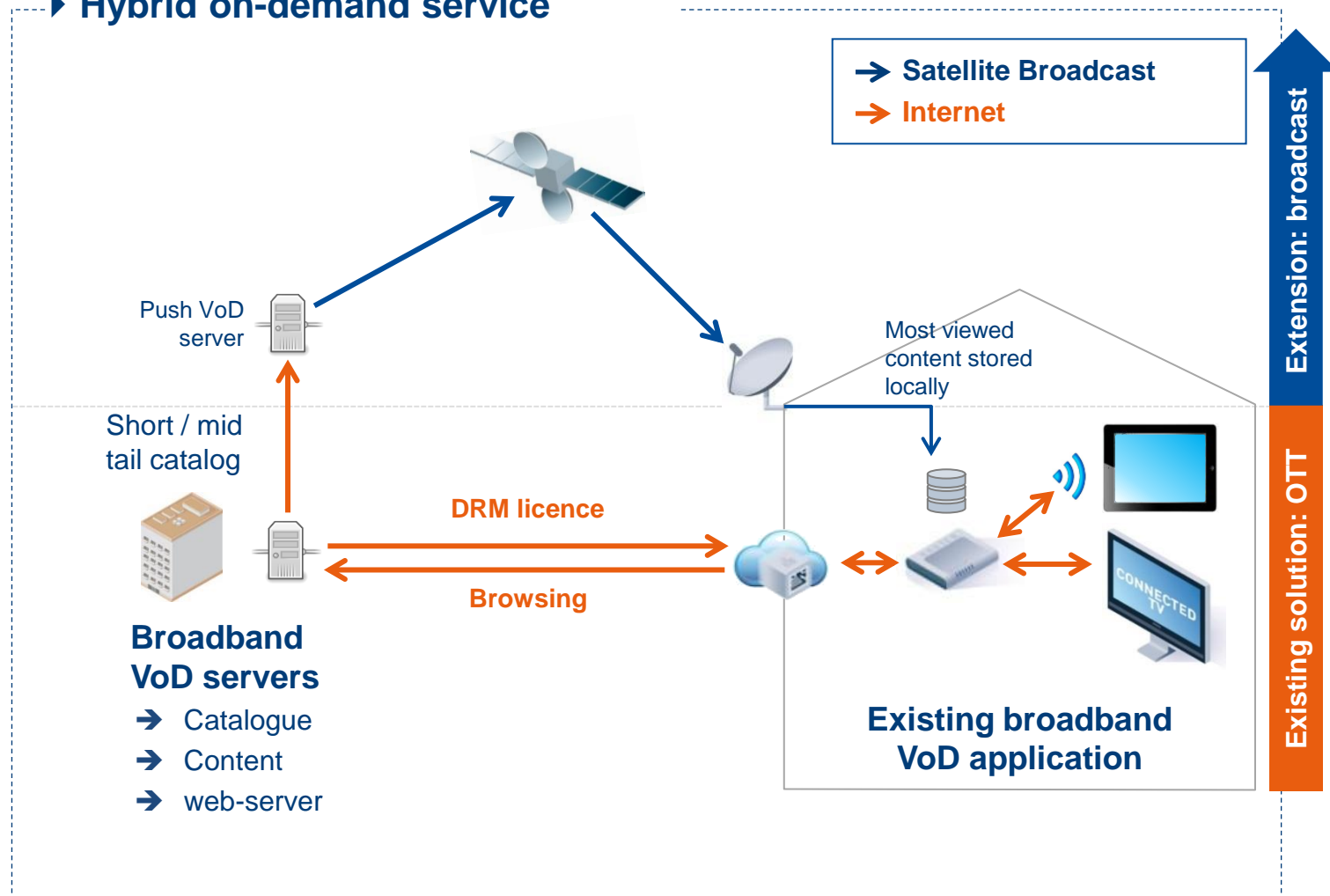


## ▶ OTT limitations

- Limited reach
- No guaranteed quality of service
- Costs proportional to audience

# ... BY INTEGRATING SEAMLESSLY BROADCAST CAPABILITIES

## ► Hybrid on-demand service



## ► “Sat-On-Demand”

- Distribute via satellite, store content locally, pre-packaged for tablets/PCs, ready for immediate viewing, ...
- ... fully compatible with existing OTT VoD services:
  - same back-end (incl. DRM)
  - Same customer applications
  - Access to long-tail catalogue through internet (in lower quality)

# Multi-screen delivery solution via satellite: native IP multiscreen

- ▶ **Eutelsat the first enabler for multiscreen delivery via satellite to portable devices**
- ▶ **Combination of native IP multicast with local WiFi distribution**
- ▶ **Compatible with all mobile devices**
- ▶ **No increase in distribution costs as the number of users increases**
- ▶ **Benefits for broadcasters**
  - OTT via satellite in markets underserved by terrestrial networks
  - Increased channel reach with detailed audience measurement
  - Nomadic TV reception in public spaces
  - Formats tailored for smartphones and tablets enabling up to 100 channels per transponder and richness of channel line-up
  - Universal coverage



# Multi-screen delivery solution via satellite: how it works

## END-USER PREMISES INSTALLATION

### EASY INSTALLATION



- 1 Satellite dish (standard)
- 2 Dedicated satellite receiver (satellite gateway)
- 3 Internet connection (e.g. DSL, 3G, Satellite)
- 4 WiFi access point (standard)
- 5 Smartphones / Tablets with dedicated app

## USE CASES

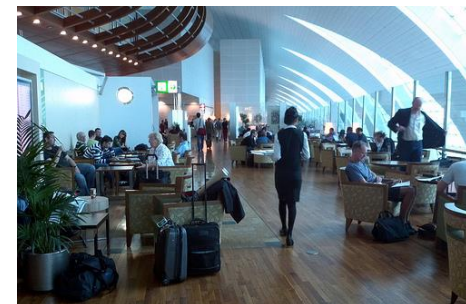
### ► At home

- Typically 4-5 simultaneous users
- Consumer-grade WiFi access point



### ► In public spaces

- Typically 40-50 simultaneous users
- High-end WiFi access point is required
- Commercial benefits for hotels, cafés...



# EUTELSAT IS TRANSFORMING HOT BIRD FTA EXPERIENCE INTO A MODERN USER-CENTRIC ONE

## ▶ “Smart EPG” project on Hot Bird

/// **TV program guide covering all Free to Air channels on Hot Bird**

/// **Available on smartphone, tablet and PC**

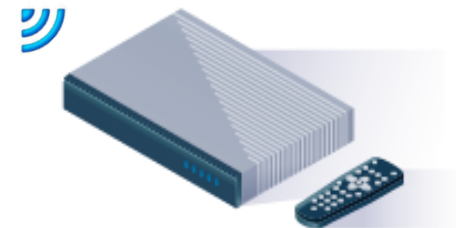
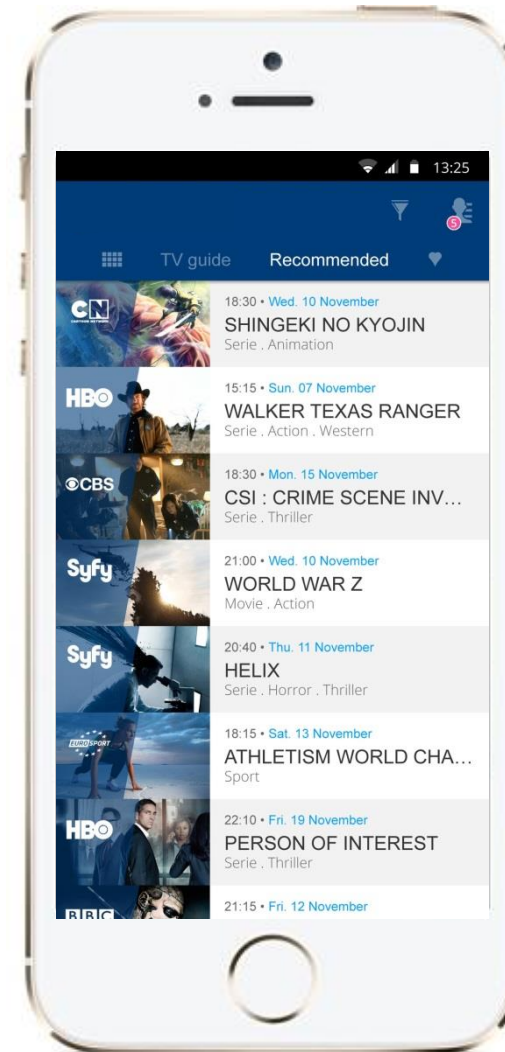
/// **Embeds rich program information**

- Program images
- Classified by genre, theme, language, ...
- Link to additional (non linear) content

/// **Included services**

- Recommendation engine
- Alerts/PVR-record on relevant content, favourite series
- Zap on a selected program from the app

**Live by April 2016**





# FRANSAT CONNECT: 1<sup>ST</sup> FRENCH DTT OPERATOR PORTAL AVAILABLE ON RETAIL TV SETS AND SET TOP BOXES

## ► Fransat connect

Available on STB and IDTV certified by Fransat

Powered by 

### TV Guide



- EPG +10 days,
- Roll-back TV on 7 days,
- Showcase top TV daily

### TV Channels Portal



- Quick zapping mode
- Enriched TV information

### REPLAY & VOD



- Catch up TV,
- VoD services (MyTF1 VoD)

### Radio Stations Portal



- Full line up of the radio channels on satellite

### Third part applications



- Traffic, Weather forecast

### FRANSAT APP



- TV Guide & remote Control
- Available for free on
- iOS and Android



# Broadband by satellite

## HTS: a step change, opening the Broadband market to satellite

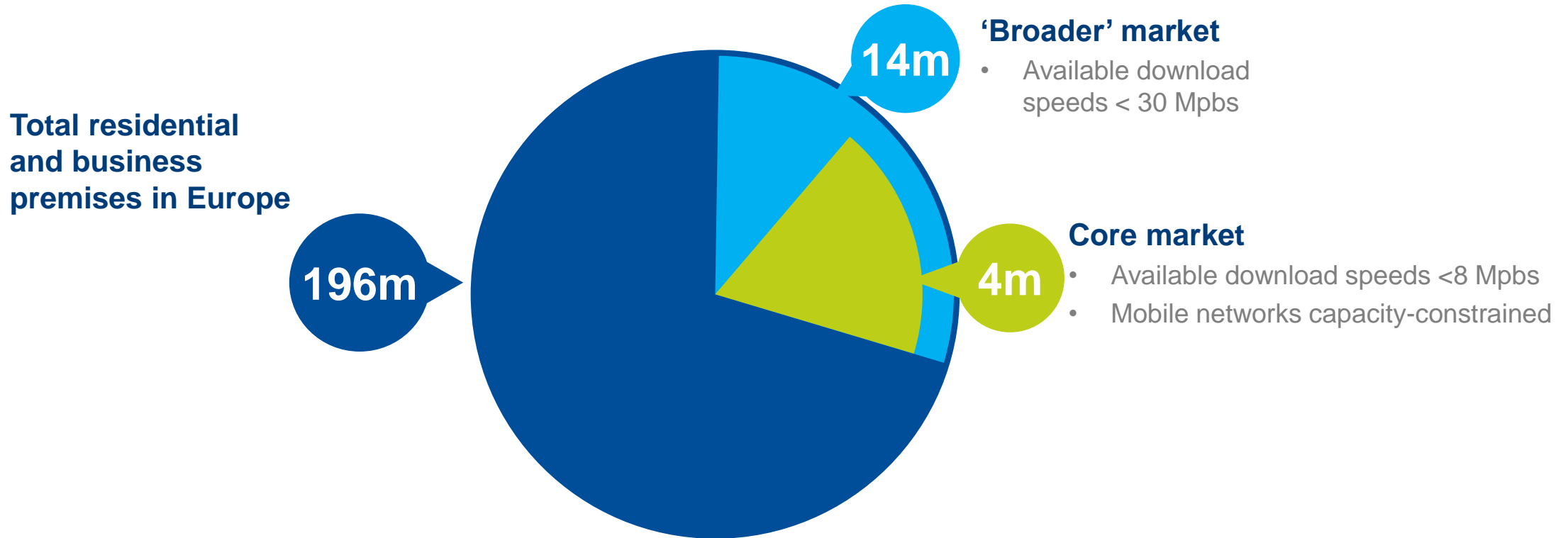
Significant improvement in economics for KA-SAT versus regular capacity



Further improvement to come with future generations of HTS satellites

# Europe: significant addressable market

WESTERN EUROPE: ESTIMATED MARKET FOR SATELLITE BROADBAND IN 2025 (M households)



Significant addressable market long-term, even larger today

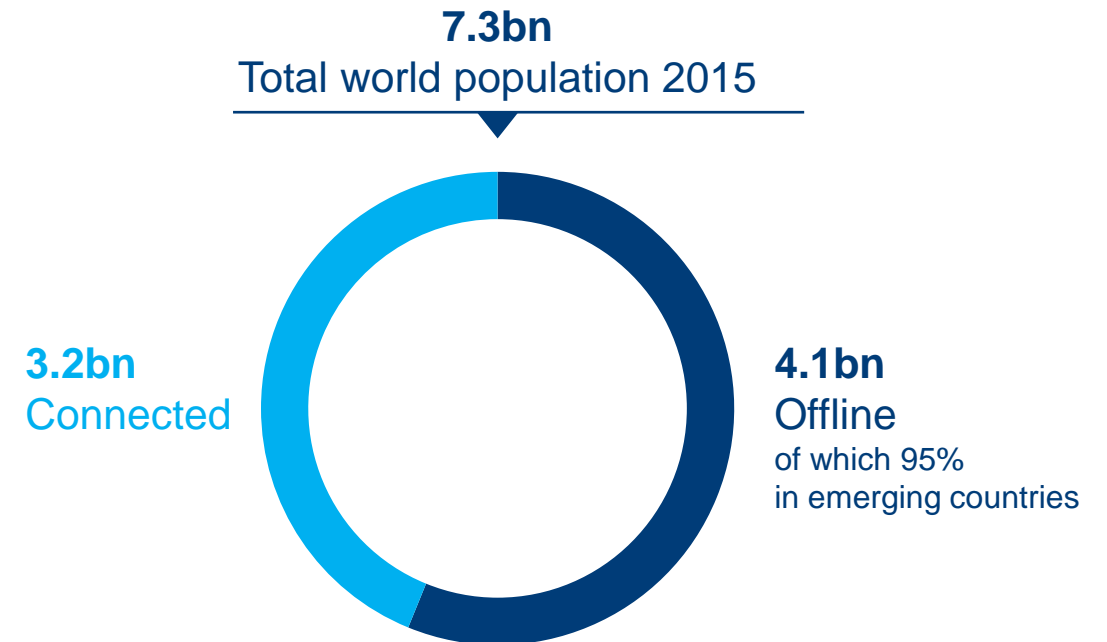
# The satellite broadband opportunity in fast-growing markets

## ► Insufficient scale of terrestrial broadband networks

- Fixed line infrastructure less developed
- Mobile networks for broadband less deployed and often congested
- Roll-out of terrestrial networks takes time and money

## ► High cost, limited performance and low reliability services where they exist

## ► Internet access a necessity for growth and development



Areas with under-developed infrastructure favour satellite

# Africa: Two initiatives for timely access to the market

## AMOS 6

- ▶ **Multi-year lease of Amos-6 HTS Ka-band payload**
  - 18 HTS Ka-band spot beams
  - ~18 Gbps o/w c. 50% for Eutelsat
- ▶ **Facebook secured as an anchor partner**
- ▶ **Service expected to start end-2016**
- ▶ **Timely investment opportunity**



## FOLLOW-ON SATELLITE

- ▶ **Procurement of a a new-generation HTS satellite from TAS**
  - All-electric satellite
  - New Spacebus Neo platform
  - Unprecedented flexibility
  - Baseline mission: 65 spotbeams, ~75 Gbps with option to double capacity
- ▶ **Quasi-complete coverage of SSA**
- ▶ **Launch expected in 2019**





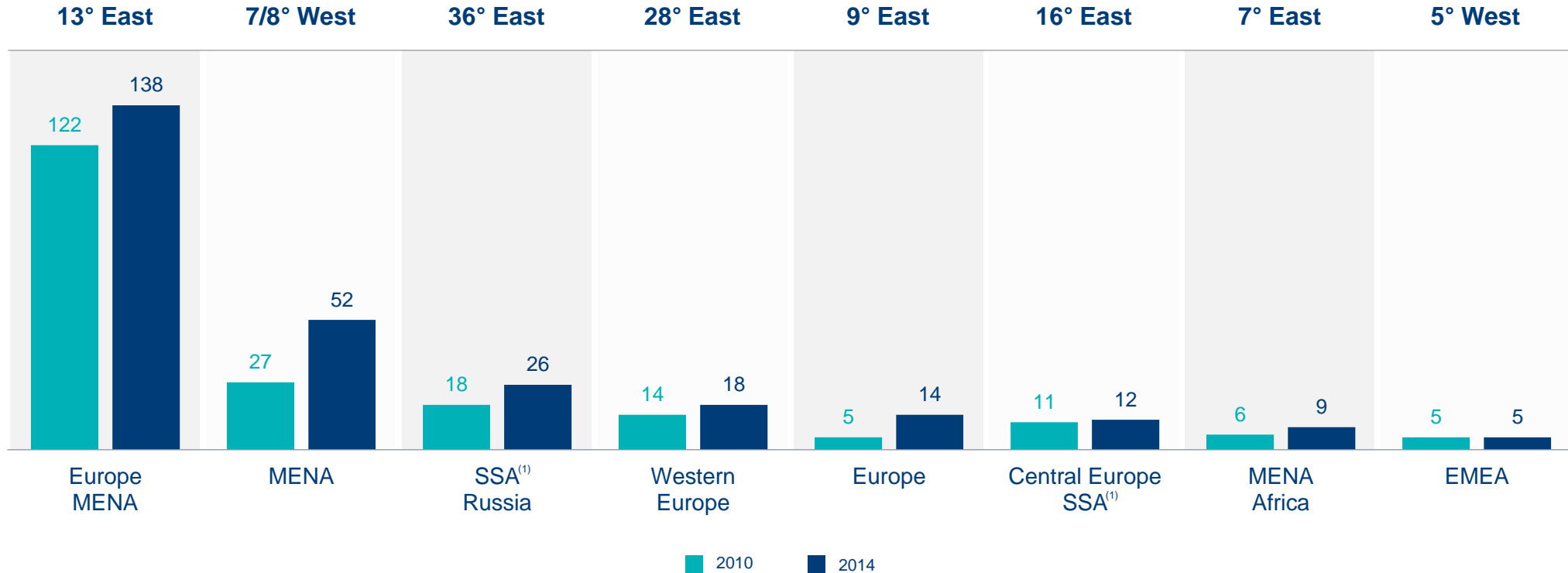
# Valuable assets: ten video hotspots...





...with a reach of ~275 million homes

AUDIENCE GROWTH (MILLION HOMES)



Growth >30% since 2010

# Capacity requirement as a function of image quality and compression

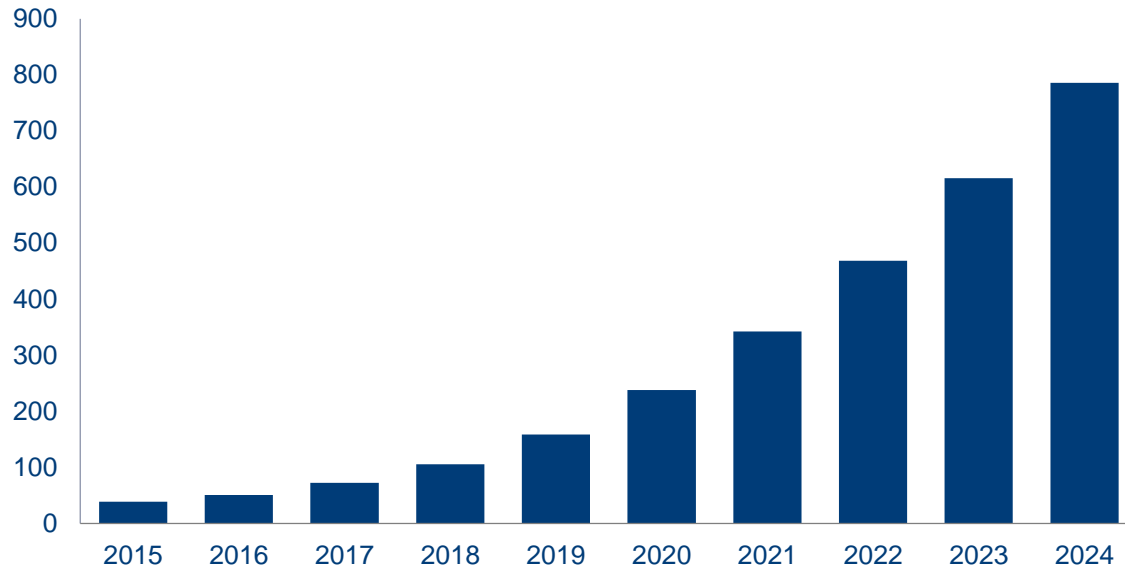
NUMBER OF CHANNELS PER 36 MHZ TRANSPONDER

Ramp-up Period	Broadcast Format	Modulation	MPEG-2 compression	MPEG-4 compression	HEVC Compression
1990s-2000s	SD	DVB-S	12	20	-
		DVB-S2	-	26	-
2000s-2010s	HD	DVB-S	2 to 3	5	-
		DVB-S2	3 to 4	6 to 8	12 to 15
2020s	4K ULTRAHD	DVB-S2 / DVB-S2X	-	1 to 2	3 to 4

Improved quality will require more capacity, better compression to facilitate transition

# Satellite to benefit from UHD take-up

## UHD CHANNELS BROADCAST BY SATELLITE



- ▶ Estimated 800 UHD channels worldwide by 2024
- ▶ Satellite to drive growth

**For distribution, satellite offers the best mix of coverage, image quality, availability and bandwidth**

# BROADCAST-BROADBAND HYBRID APPROACH

Satellite



Adsl

## Distribué par le satellite

- 1. Une offre linéaire de plusieurs centaines de chaînes**
  - Les chaînes linéaires HD et UHD
  - Tout ou partie des chaînes SD
  - Les chaînes FTA (par ex: Hotbird)
- 2. L'accès à l'offre OTT HD/UHD de l'opérateur (plateforme Pay TV ou Telco)**
  - Le contenu « on-demand »
  - Potentiellement, la short-tail des contenus à la demande, en HD (Catch-up, block-busters)

## Distribué par le Broadband (IPTV ou OTT)

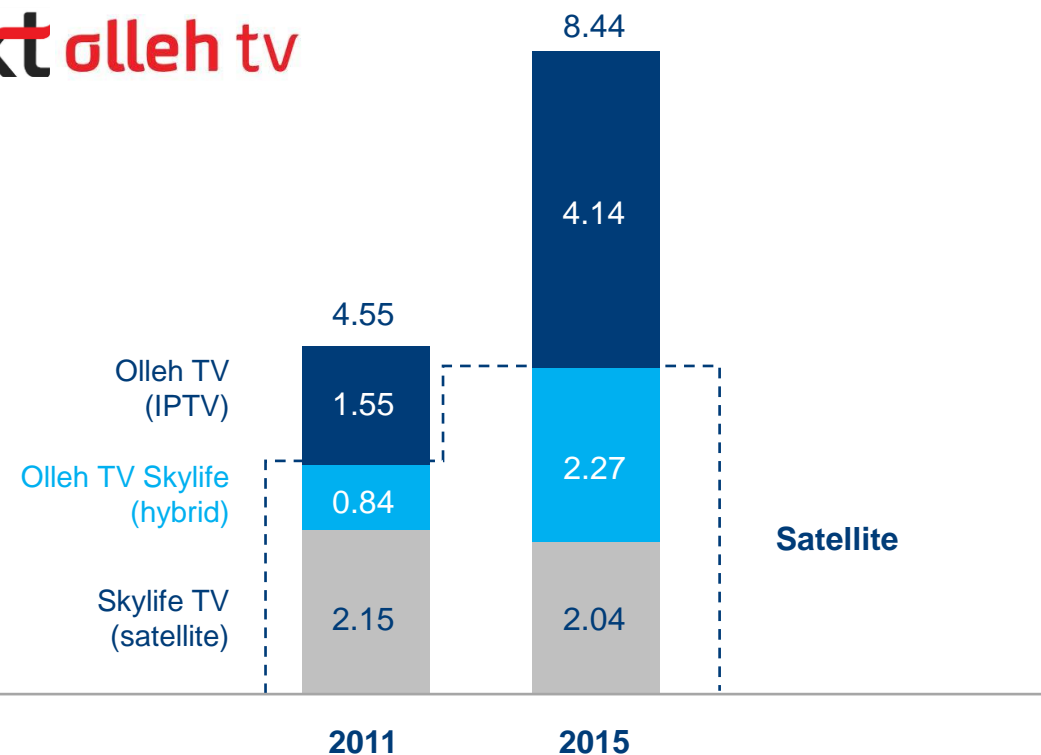
- Les chaînes linéaires SD non portées sur le satellite
- La long-tail des contenus à la demande, en SD ou HD en fonction de la connexion disponible (adaptive bit-rate)
- Les apps, toute l'interactivité, les transactions DRM...

## Case study: development of hybrid offer in South Korea

- ▶ **South Korea is one of the countries with the highest fiber penetration**
- ▶ **KT Telecom hybrid offer launched in August 2009 combining IPTV with DTH**
  - Part of a triple play offer including broadband and Voice over IP
- ▶ **Differentiated services offering**
  - Wide range of linear channels including HD channels (from satellite TV)
  - Significant VOD contents (from IP offer)
- ▶ **After adopting the hybrid platform**
  - KT was perceived to be superior to cable TV or competitor IPTV
  - Became leading IPTV player

### KT MEDIA SUBSCRIBERS (M)

kt olleh tv

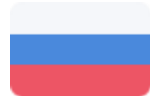


Satellite prospering in the land of fiber

# Limited availability of TV via broadband in fast-growing markets



USA



Russia



Brazil



Mexico



Turkey

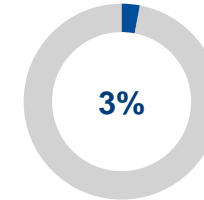
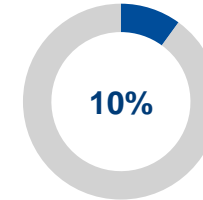
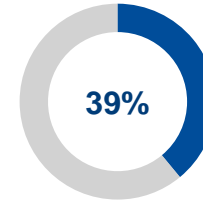
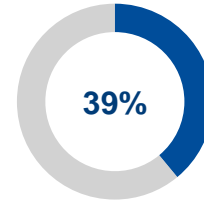
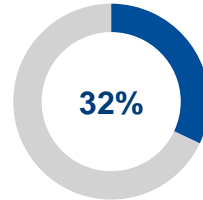
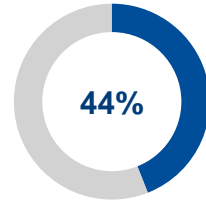
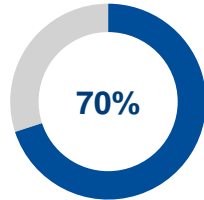


Egypt

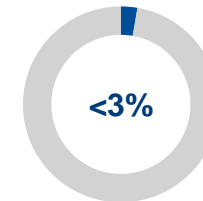
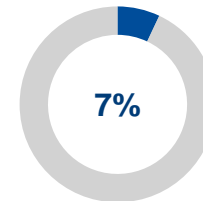
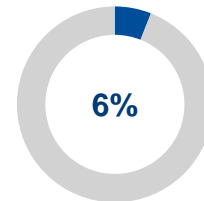
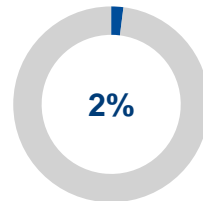
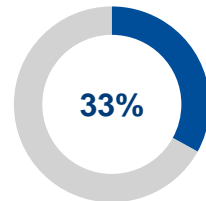
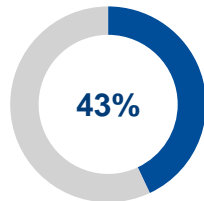


Tanzania

**FIXED BROADBAND PENETRATION**  
% OF HOUSEHOLDS



**BROADBAND SPEED**  
% OF HOUSEHOLDS WITH >10Mbps



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