

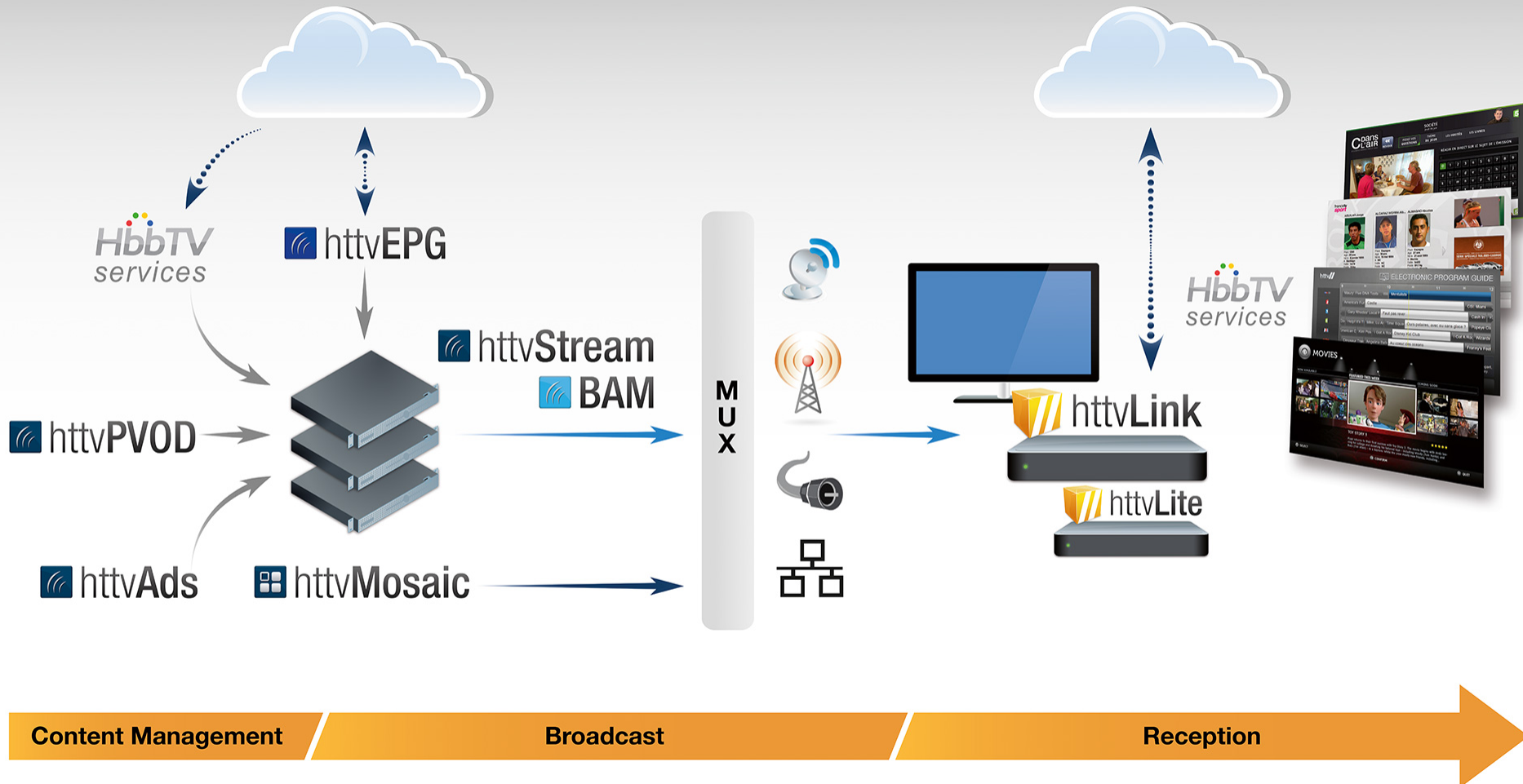


The Future of HbbTV

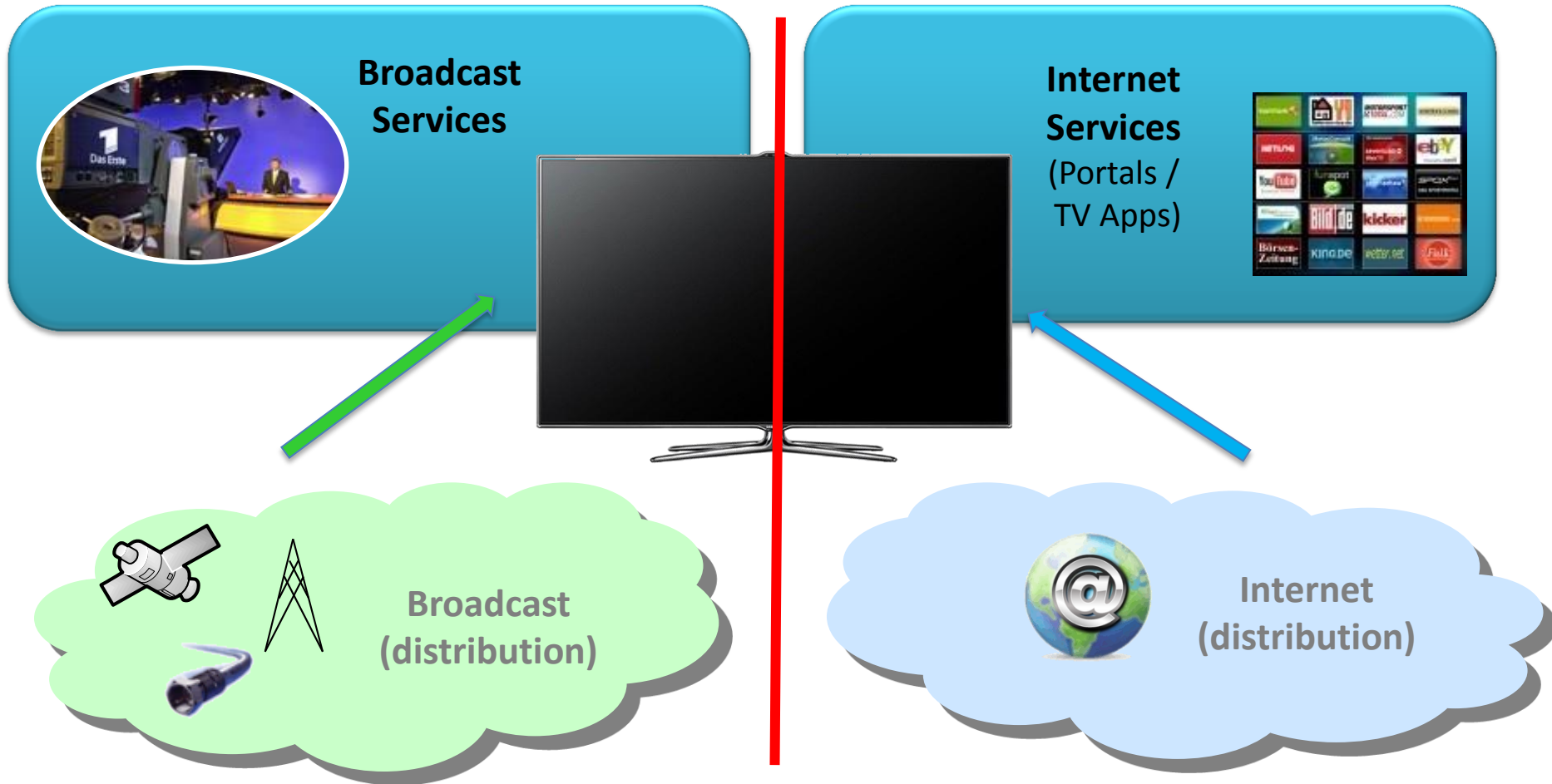
Régis Saint Giron
HTTV CEO

- **Technology and solution provider for interactive Digital TV**
- **International implementation**
 - French Headquarter since 1999
 - Singapore Engineering and Sales office since 2011
- **Interactive TV experts**
 - Over 100 iTV applications deployed
 - HbbTV, OpenTV, NDS, MHP
 - EPG (NagraGuide) deployed over 6M STB
- **End to End Digital TV Product Line**
 - Head End Play Out Servers
 - STB Software products
 - Connected TV solution based on **HTML5** and **HbbTV**
- **Around 1 million deployed STB**

HTTV global offer



From Connected TV to



... HbbTV – a new paradigm



**Broadcast
Services**



HbbTV

**Mixing
TV Entertainment
with
the Internet Power**

**Internet
Services
(Portals /
TV Apps)**



(distribution)

**Internet
(distribution)**

Hybrid broadcast broadband TV



- **Combines the best of Television and the Internet**
 - Gives the broadcasters control over the internet
 - Provides service interoperability over any HbbTV devices
 - Provides cost-effective reach to the widest audience
- **Broadcaster & TV Manufacturer initiative**
 - Moving to Pay TV
- **The most deployed open interactive TV standard**
 - Deployed in Europe
 - Deploying in Asia (Malaysia, Vietnam...) and Australia
 - Interest in Latin and North America as well as in Africa...

HbbTV key goals



Broadcast remain anchor for service usage



No central gatekeeper, No portal needed



Independently maintain brand and UI design



Fast application development by using a web browser



Data transmission in broadcast, Broadband not essential



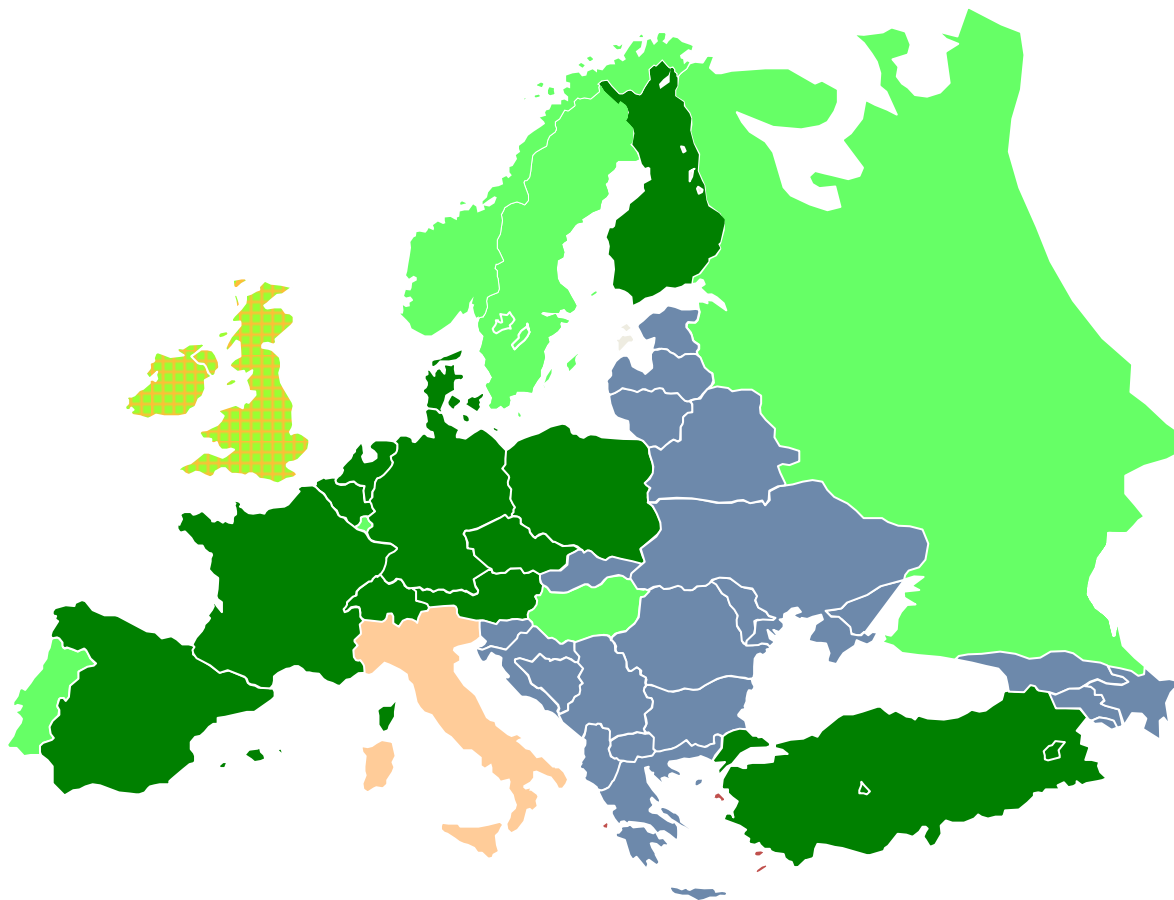
Limited receiver extra cost compared to basic HDTV

HbbTV a fast growing momentum



- **More deployments in Europe**
- **Deployments outside Europe**
- **More HbbTV Devices**
- **More services**
- **New attractive services**
- **Moving to PayTV networks**
- **Deploying HbbTV 1.5 to the market**
- **HbbTV 2.0**

HbbTV deployments in Europe



in regular operation

announced / trials



no information

other plans

HbbTV caught interest
also outside Europe
e.g. US, Australia; South-
East Asia, Africa

HbbTV deployments in Europe

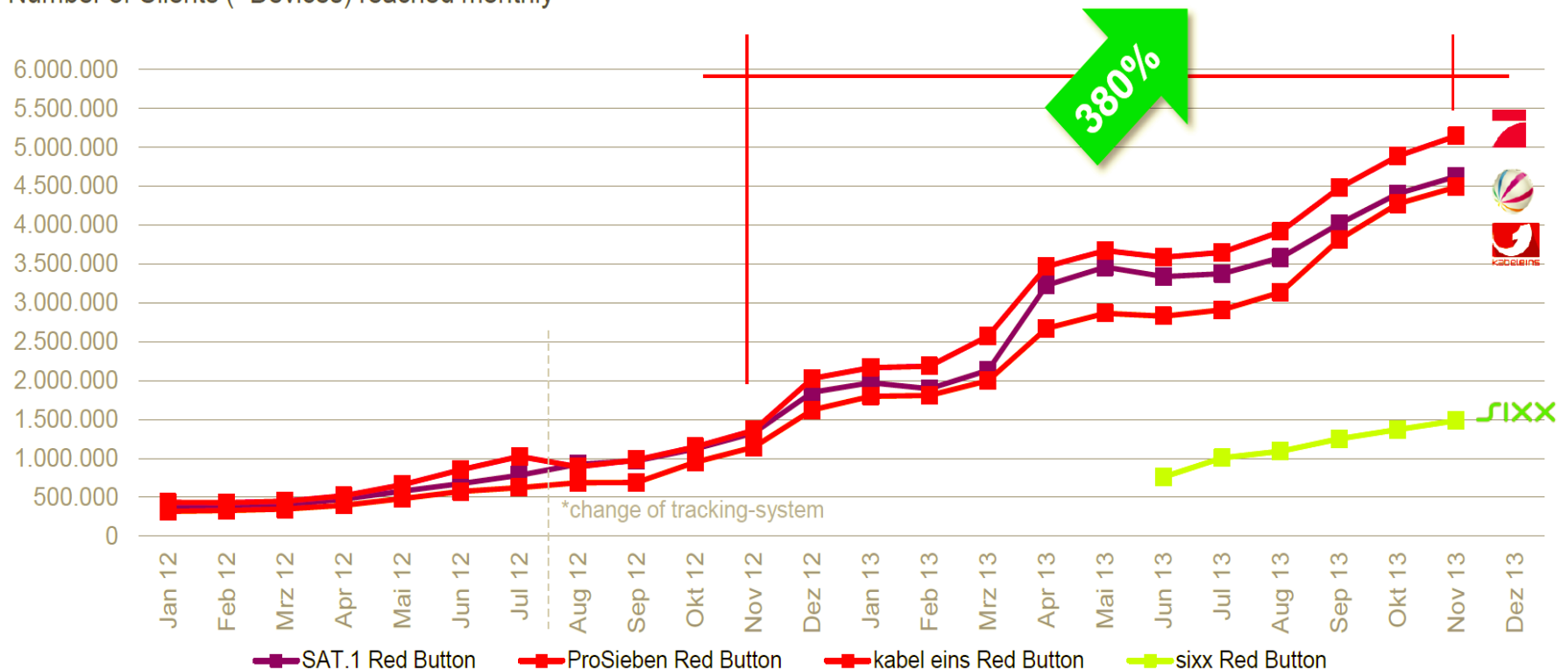


- **Germany** 
 - More than 70 active HbbTV applications
 - On satellite (e.g. Astra) and Free-To-Air terrestrial
 - On Cable Telecolumbus and Primacom, Kabelkiosk.
 - Moving to IPTV with KabelKiosk and DT (trial)
- **France** 
 - A dozen of permanent HbbTV 1.1 services on Terrestrial
 - MyTF1 VOD first HbbTV 1.5 service incorporating MPEG-DASH adaptive streaming and supporting the Marlin and PlayReady DRM system
 - Available on Fransat satellite
- **Spain** 
 - A dozen of HbbTV services have already been deployed
 - TDT Hibrida is the Spanish HbbTV 1.5 DTT specification

HbbTV usage figures (Germany)



Unique Devices - SAT.1, ProSieben, kabel eins
Number of Clients (=Devices) reached monthly



Source:
Internal Tracking SevenOne Media

HbbTV deployments in Europe



■ Austria

- ORF is running an HbbTV portal on its satellite service and a roll-out is planned in 2014 on the DVB-T2 pay TV platform.

■ Czech Republic

- Czech public broadcaster Czech Television has developed a range of HbbTV 1.1 services

■ Hungary

- Antenna Hungaria is currently testing their first HbbTV services on Terrestrial

■ Poland

- TVP is operating a full range of HbbTV 1.1 services over DVB-T since over a year with good consumer usage

■ The Netherlands

- Dutch broadcasters NPO and SPS have deployed HbbTV services
- Main issue is access to the consumer due to limited cable access
- Must Carry government initiative

HbbTV deployments in Europe



■ Scandinavia



- The NorDig standard organization has dropped MHP and selected HbbTV 1.5
- Public service broadcaster, DR, is running a pilot of its catch-up service on HbbTV with great success.

■ Switzerland



- Radio Télévision Suisse, has launched RTS+ an HbbTV service with SuperText, Catch up and dedicated offerings for people with disabilities
- Accessible over Cable and Satellite

■ Turkey

- Digiturk is using HbbTV on their Satellite platform with around 1M HbbTV STBs

■ UK



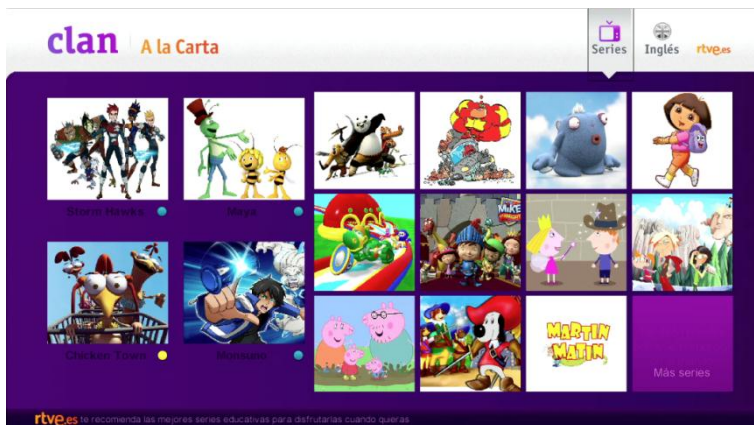
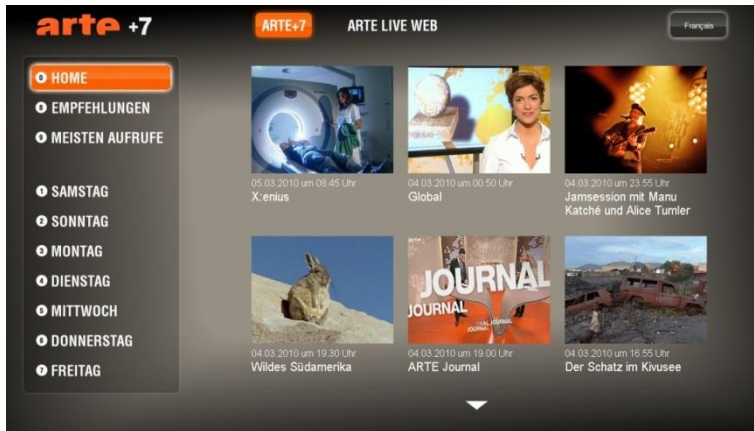
- In the UK, the DTG-driven CTV project specified in D-Book 7 Part B heavily references HbbTV 1.5
- Intellect, the manufacturers organization, has released a specification which is wholly based on HbbTV
- Freesat G2 refers HbbTV

Deployments outside Europe

- **Australia and New Zealand** 
 - Freeview in Australia and in New Zealand have announced to move from MHEG5 to HbbTV in 2014 on Terrestrial and Satellite
- **USA** 
 - ATSC is in active liaison with HbbTV to use the technology as part of ATSC3.0.
- **ASEAN** 
 - Malaysia and Vietnam have adopted HbbTV as part of their DVB-T2 launches
 - Thailand, Singapore, Indonesia... are actively considering HbbTV for their Terrestrial Analog Switch Off
- **Russia** 
 - Russian Television and Broadcasting Network has announced HbbTV trials on the DVB-T2 in 2013
 - HbbTV is considered by Pay TV operators
- **Africa**
 - South Africa considering HbbTV despite their initial MHEG5 decision
 - The Namibian Broadcasting Corporation has announced a roll-out of DVB-T2 HbbTV service

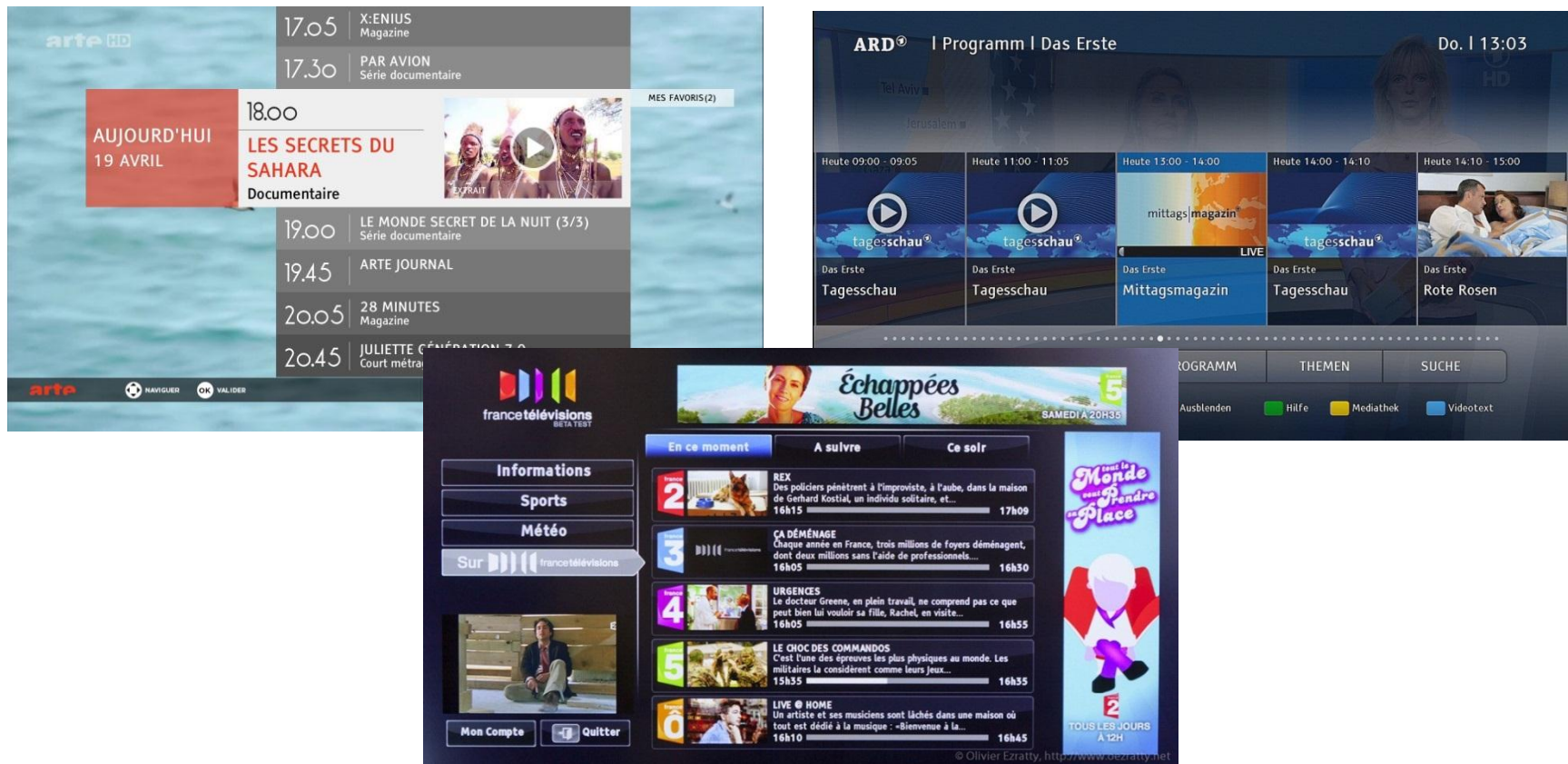
Catch-up TV Service

- 7 days into the past (limitation due to media regulation)
- Both catch-up and start-over TV
- Available on both free and premium channels



EPG

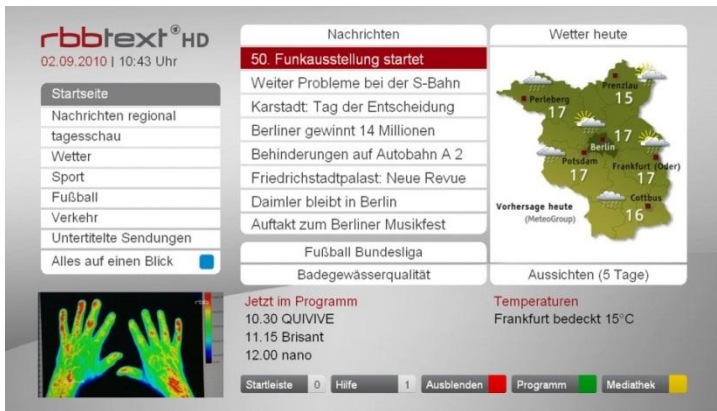
- Comprehensive view on the entire program offering: linear and on-demand
- 7 days into the past (limitation due to media regulation)
- Can be shared across all channels from the same broadcaster



Next Generation Videotext

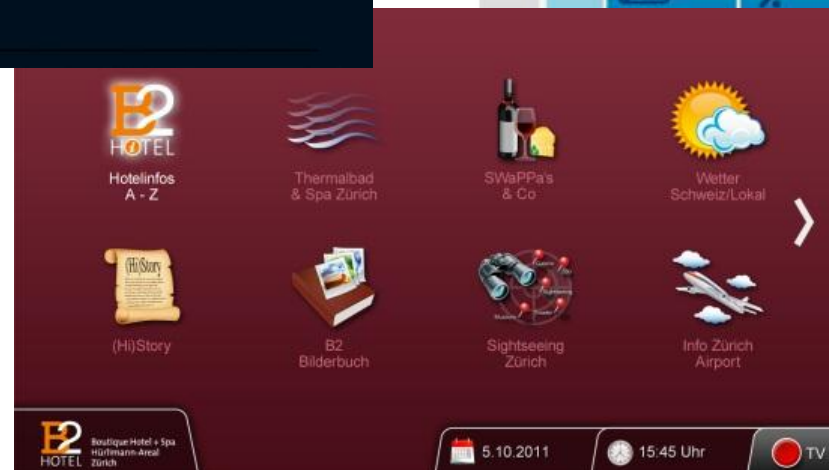
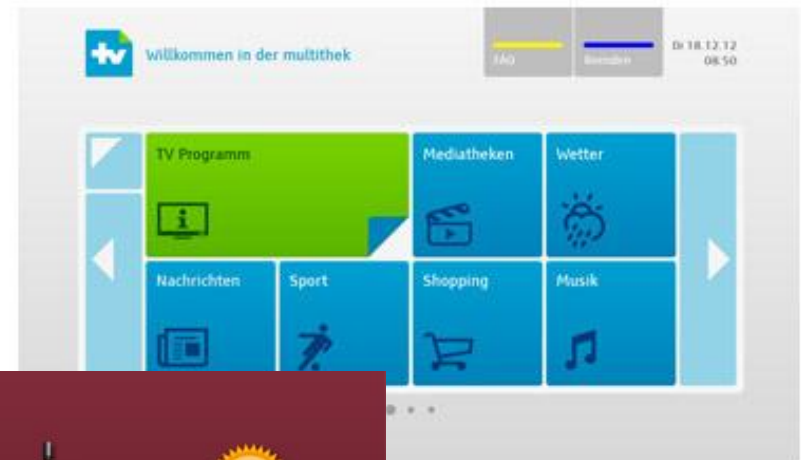


- *High usage in Europe (several million users per day)*
- *Keeps the established and well known UI (numbered pages)*
- *Web-based technology offers lots of Internet features*
- *Seamless integration with existing infrastructure*

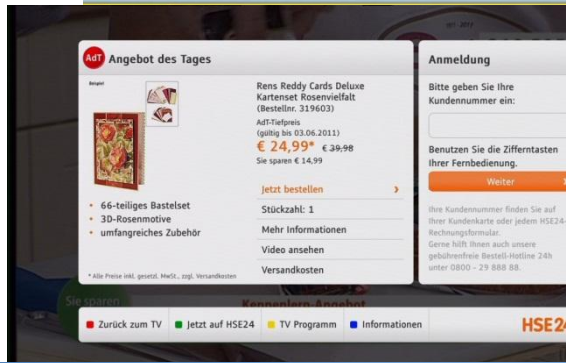


Portal services

- *Provided by network operator or device manufacturer*
- *Can provide customised portal in small deployments (e.g. hospitality)*



Other services



Improved Accessibility

- *Change font sizes for readability*
- *Sign language via additional stream*



- **Most European Connected TV sets are HbbTV enabled**
 - Germany:
 - 3.4M HbbTV TV sold in 2012
 - 90% of the Connected TVs are HbbTV
 - France:
 - HbbTV TVs represent 55% of all TV references
 - Starting at 350€ retail price
- **Growing HbbTV STB market**
 - For satellite market in Europe with embedded CAS
 - For DVB-T2 Analog Switch Off in emerging markets
 - Limited extra cost between HD receivers and HD with HbbTV

HbbTV 1.5 moving to the market



- Adding new features
 - EIT-S access
 - MPEG DASH
 - DRM APIs (DRM solution outside HbbTV)
- Deployed in France on Terrestrial and Satellite
- Deploying in Spain on TDT Hibrida
- All 2014 HbbTV deployments will be HbbTV 1.5 based
- HbbTV association working on 1.5 test suit for interoperability

HbbTV 2 target specifications



■ New technology

- HTML5 and associated technologies
- HEVC video
- Subtitle support in ISOBMFF content
- DRM in a CAM

■ New features for companion screens

- Launching a companion screen application
- Application to application communication
- Synchronizing applications and content across devices
- Remotely launching an HbbTV application

HbbTV 2 target specifications



■ Feature improvements

- MPEG DASH improvements
- Advert insertion into VoD content
- Application and content synchronization
- Non-realtime content delivery via broadcast
- Multi-stream synchronization
- Support for mouse and keyboard devices
- Reconciling key request conflicts
- Trick mode support for VoD
- Caching of object carousels

■ HbbTV 2 Product Deployments expected in 2015

HbbTV Moving to Pay TV networks

- Deployed on satellite with embedded CAS
 - HD+ SmartTV, Fransat
- Deployed on Pay TV Cable
 - KabelKiosk (Germany)
- On going deployments to replace legacy PayTV middleware with HbbTV
 - Digiturk and more to come in 2014 including Cable and IPTV networks
- Moving to IPTV
 - KabelKiosk and DT (trial)
 - Considered by PayTV operators to access Free To Air HbbTV services (IPTV Telco operators in France)

Network Operator HbbTV services



- Making Network operator's HbbTV services coexisting with the Broadcast HbbTV services
 - Kabelkiosk, Fransat example





Thank You

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