H2B2VS

Hybrid Broadcast-Broadband distribution for new video services

A use cases perspective
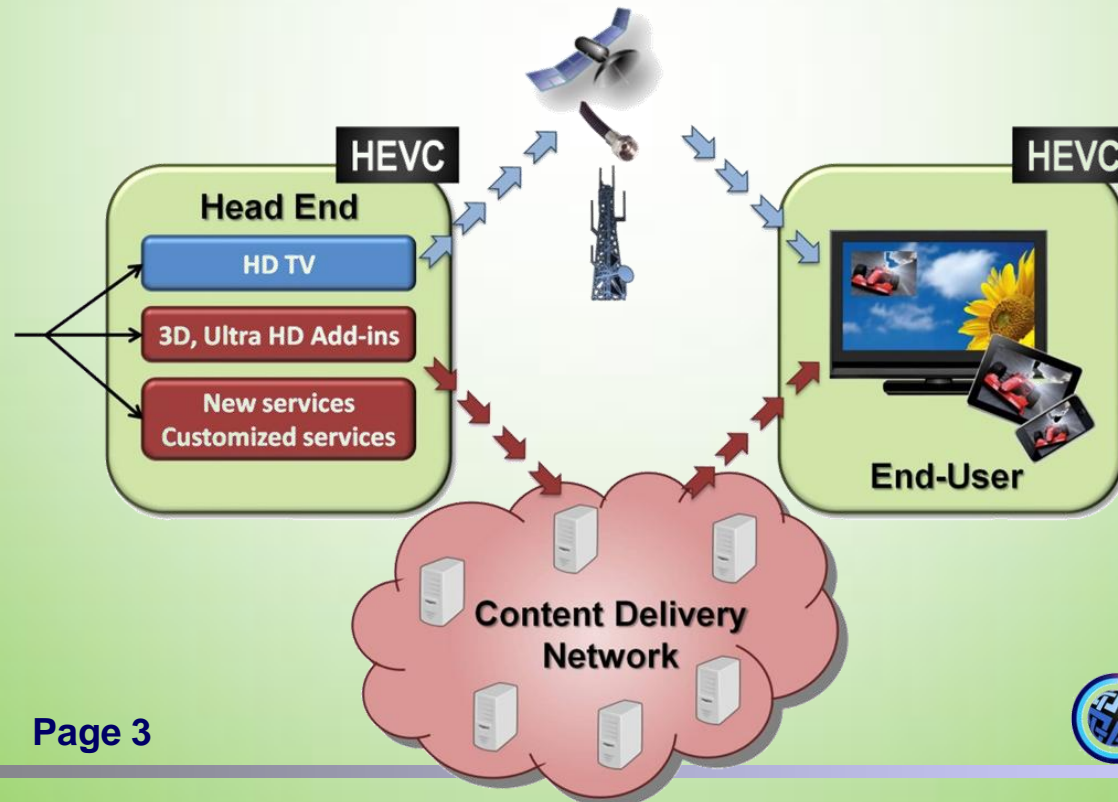
Raoul Monnier

October 2014

THE H2B2VS PROJECT

Project objectives

Hybrid distribution of TV programs and services over

- Broadcast network (terrestrial, satellite, cable) and
- Broadband network (ADSL, fibre, mobile, …),

By making use of a new compression technology: HEVC
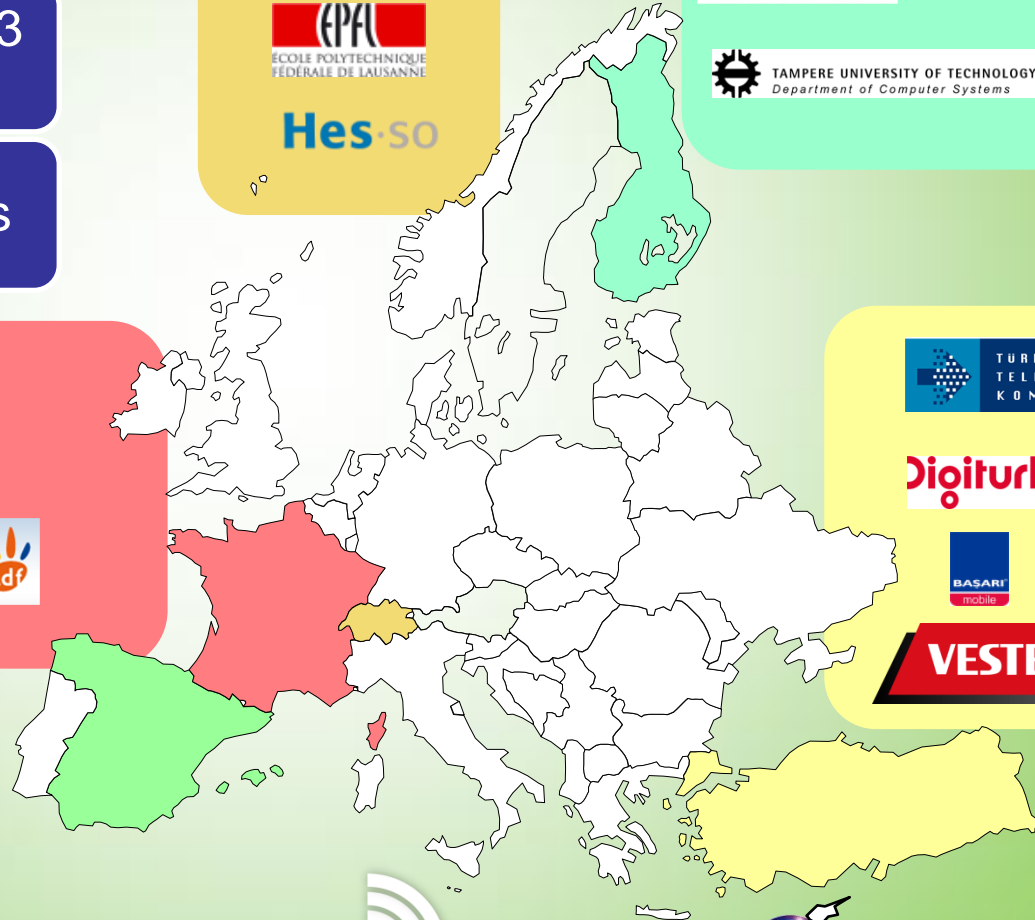
Celtic-Plus
Smart Connected World

Project summary

Eureka/Celtic + project

Started in February 2013
End in November 2015

21 Partners, 5 countries

Demonstrators
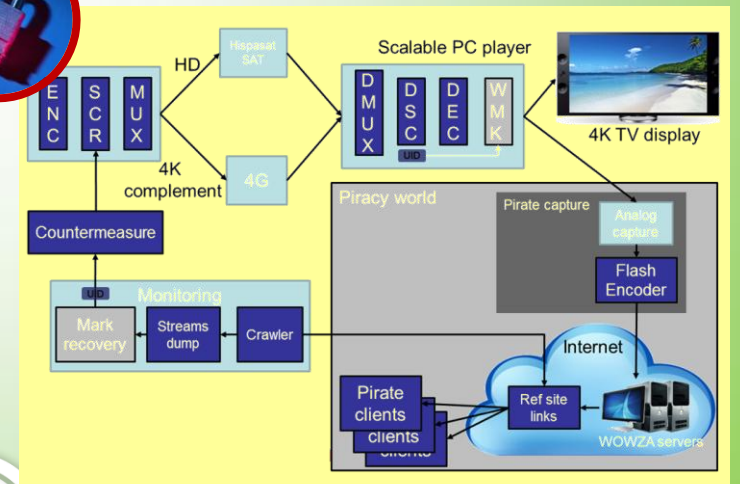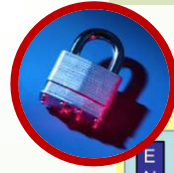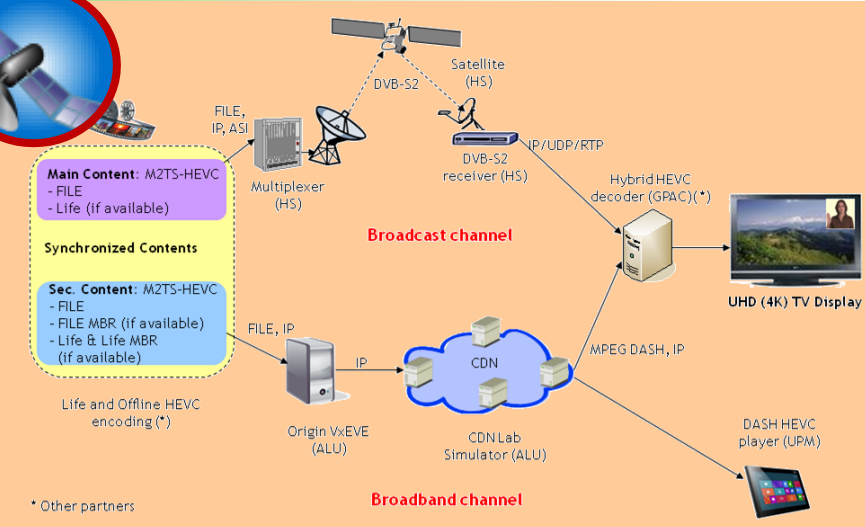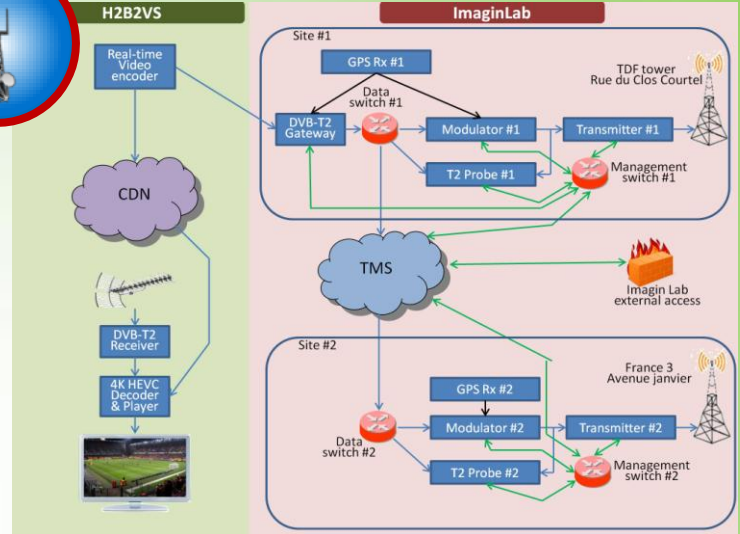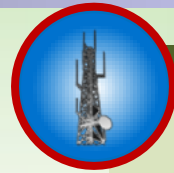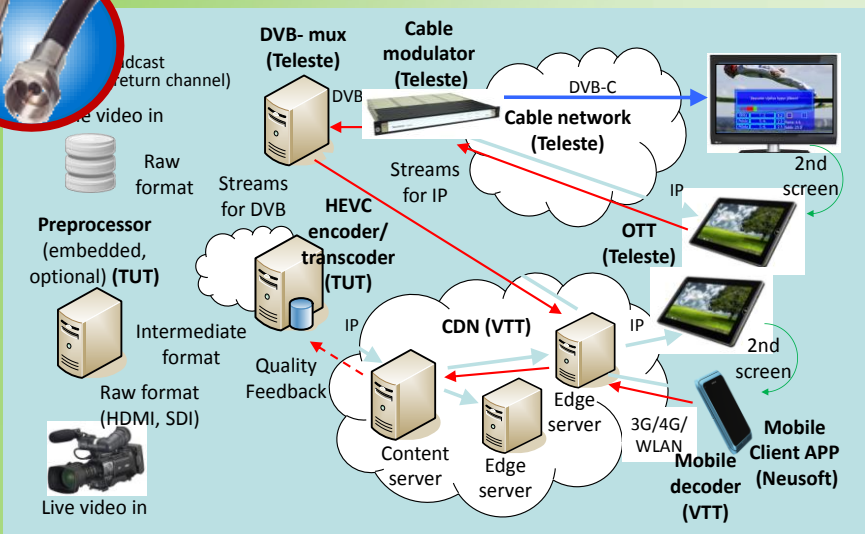
USE CASES

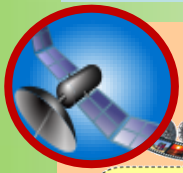# All Use Cases are HYBRID Use Cases

Main information is sent by the Broadcast network

Additional information comes through the Broadband network

- – Scalable video
- – Additional/better audio
- – Personalized contents
- – …

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Four categories of Use Cases

Picture quality improvements

Customized TV

PIP & 2nd Screen

Network Improvements

Picture quality improvements

Hybrid distribution of 4K HEVC programs
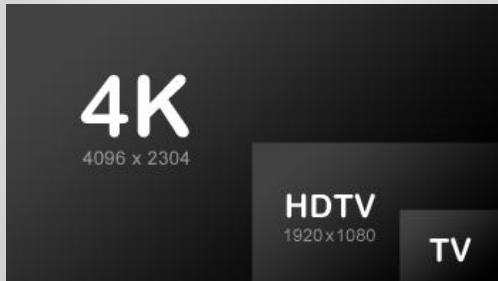
Hybrid distribution of 3D HEVC programs

Hybrid distribution of other UltraHD HEVC programs
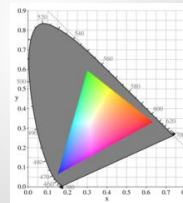
HDR   Wide gamut   HFR

Customized TV

Additional Audio Services

Better quality
Other languages

Trick modes on broadcast programs

Content personalization

Multi-camera
End of a drama
Personalized
advertising

Educative applications for disabled or ill people

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PIP & 2nd screen

PIP Use Cases

Follow-up of another program

Sign language

2nd screen Use Cases

2nd view Social sharing HEVC social TV
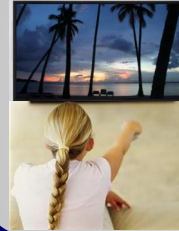
Alternative/additional content from the main program to the 2nd screen

Live betting

Networks improvements

Uninterrupted TV service by switchover or FEC

Smart Broadcast Network
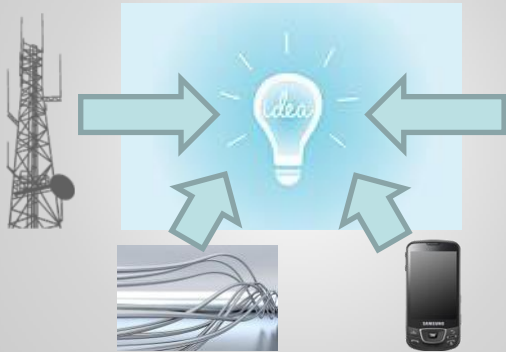
Regional Variation of a National Program

All Use Cases use the TEMI synchronization

Broadcast

MPEG-2 TS

| ..... | PAT | PMT | TEMI | Video frame | ..... | Audio frame | TEMI | Video frame | ..... | TEMI | Video frame |

URL#1

Time codes

Media CDN

Broadband

Video Frame

Video Frame

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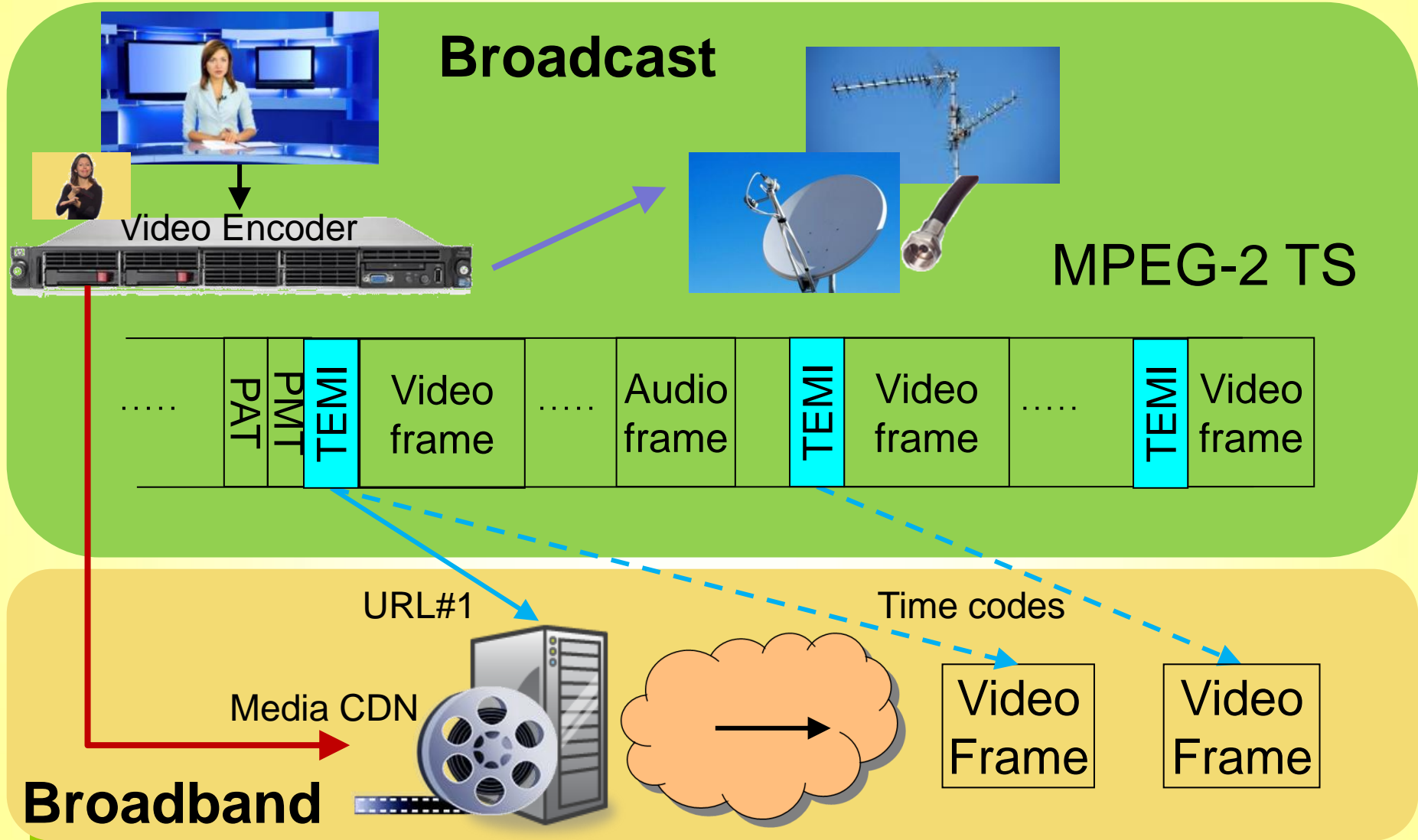
Collaboration with other bodies

BUSINESS MODELS

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6 different Business models were identified

Services paid by the end user

Services sponsored by commercials

Services sponsored by Public Authorities

Services paid by the Broadcast Network Operator

Services paid by the TV channel

Services paid by the bouquet operator

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6 different Business models were identified

Services paid by the end user

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Live Betting

Content Right Owners

Service Provider

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Betting supervisor

TV channel

Broadcast & Broadband operators

End User

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Services sponsored by commercials

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Advertizing Personalization

Advertising Agency

Service Provider

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Brand

TV channel

Broadcast & Broadband operators

End User

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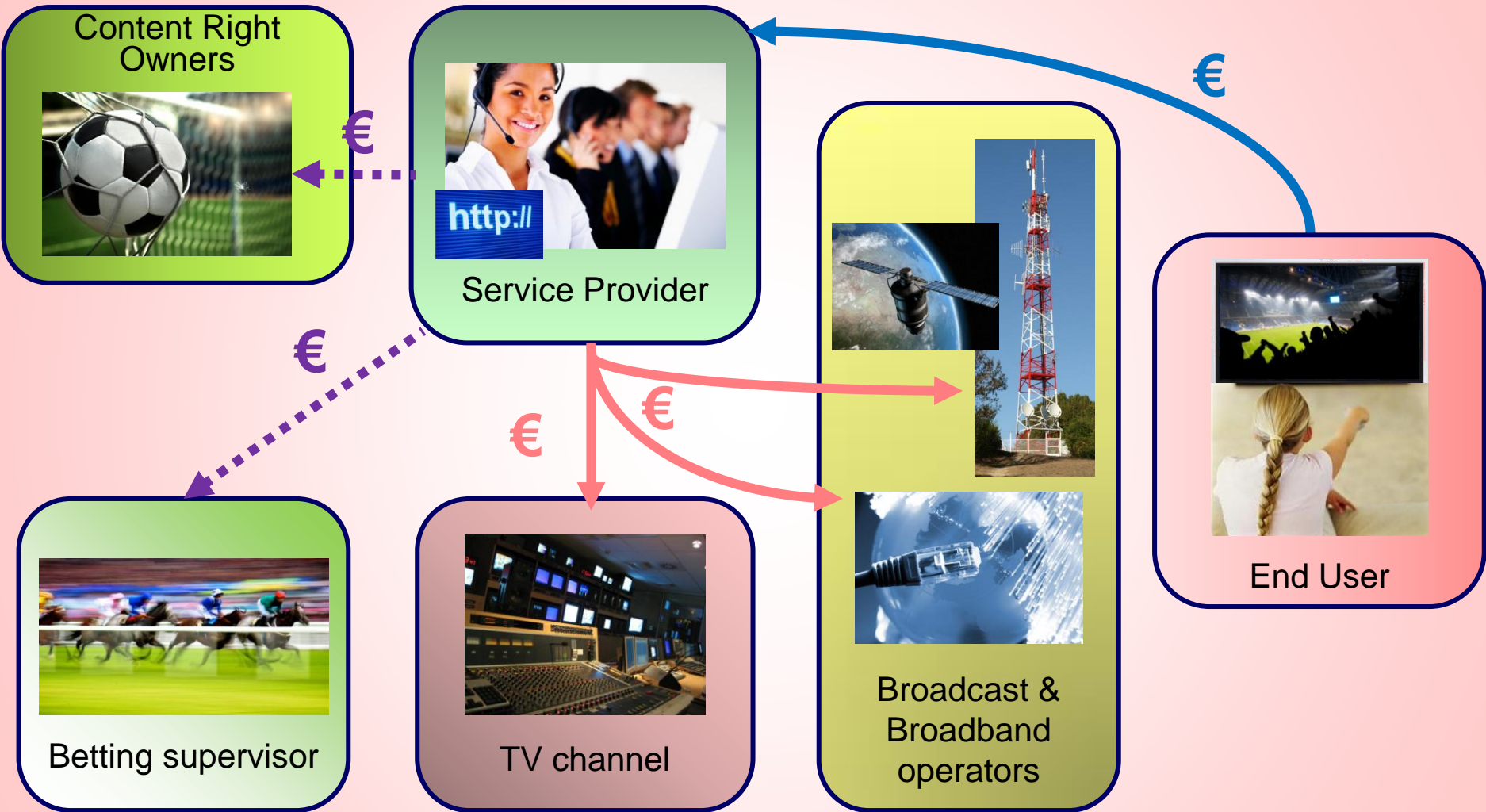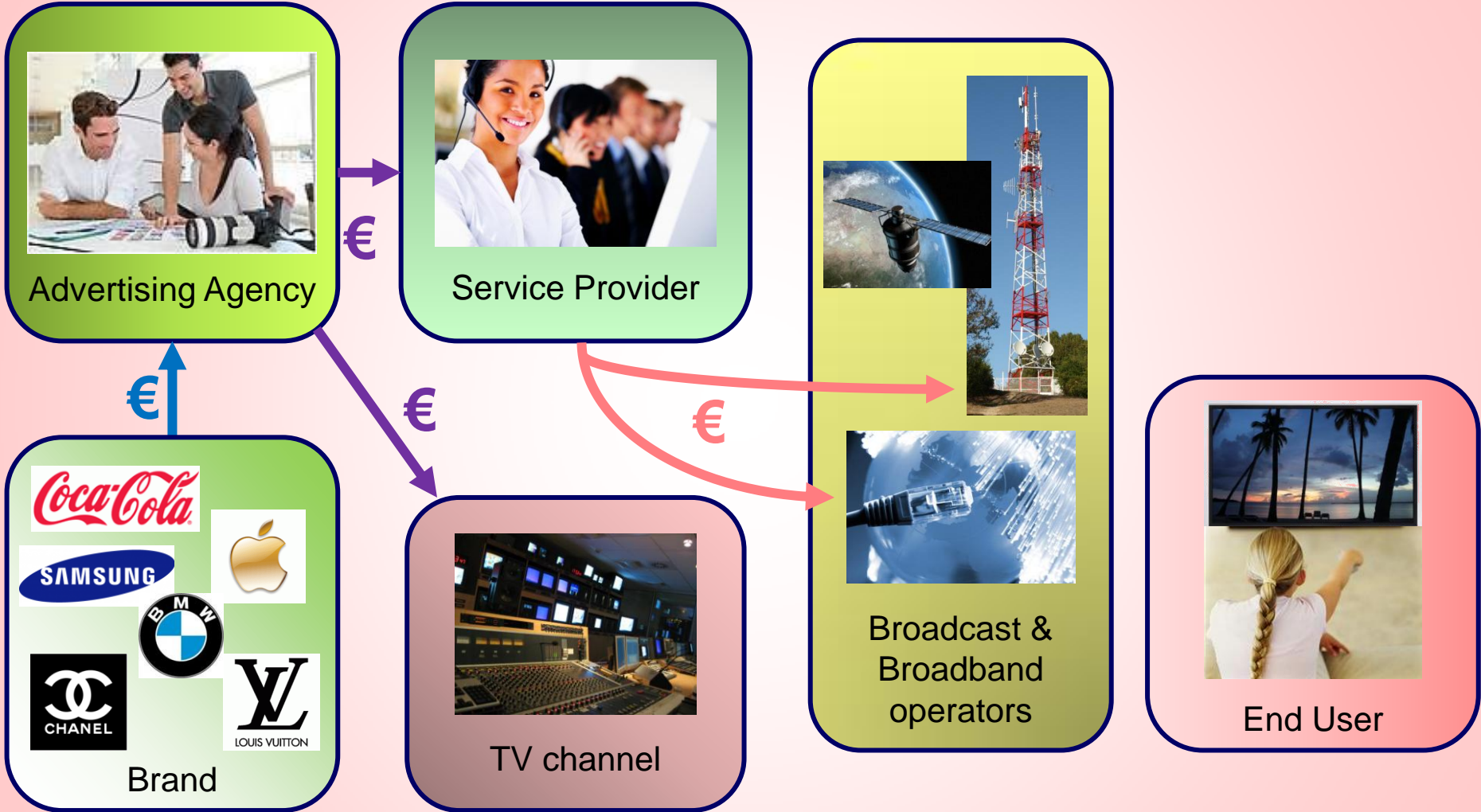
6 different Business models were identified

Services sponsored by Public Authorities
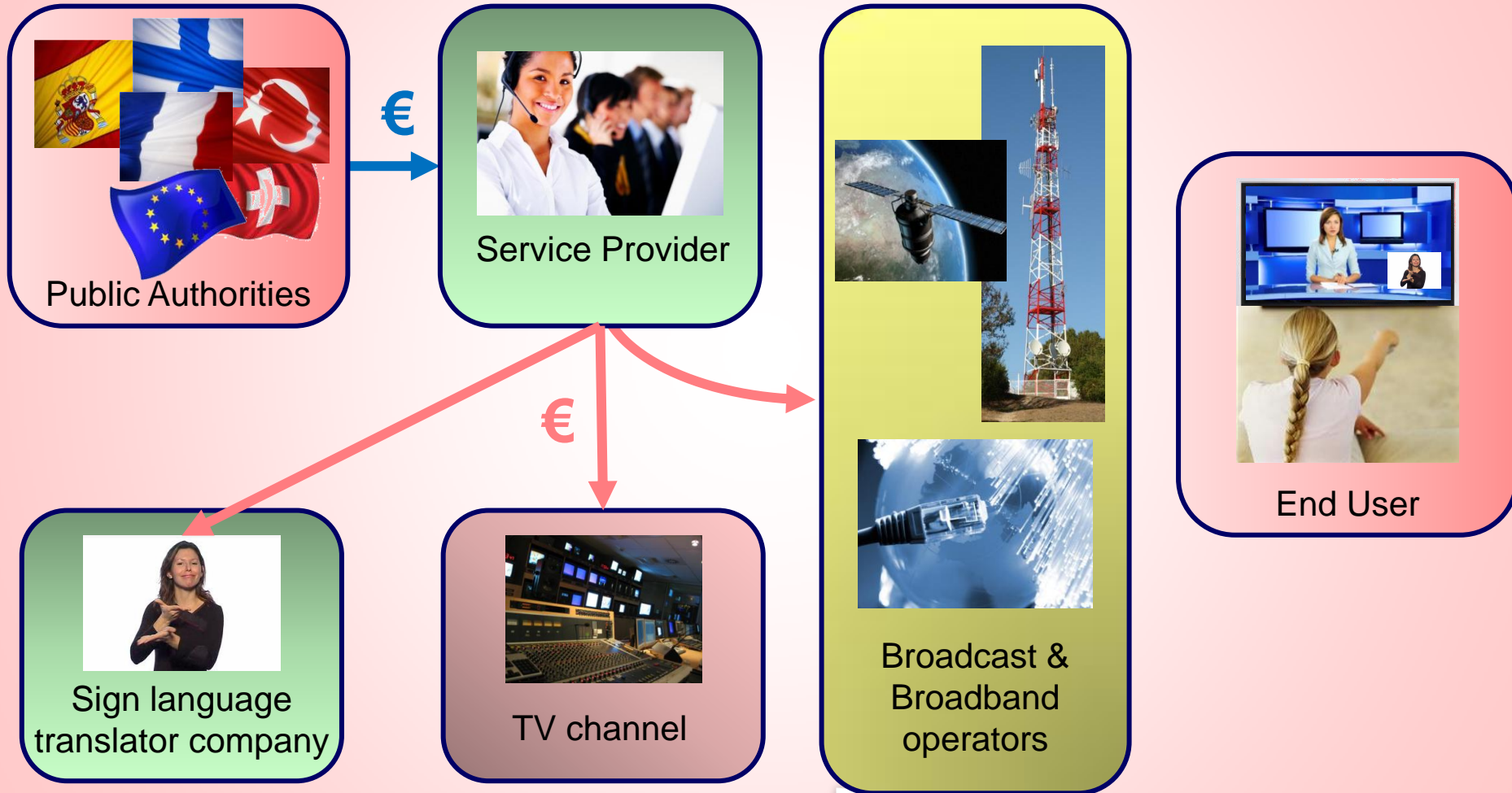
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Sign language translation

Public Authorities

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Service Provider

€

Sign language translator company

TV channel

Broadcast & Broadband operators

End User

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6 different Business models were identified

Services paid by the Broadcast Network Operator

Services paid by the TV channel
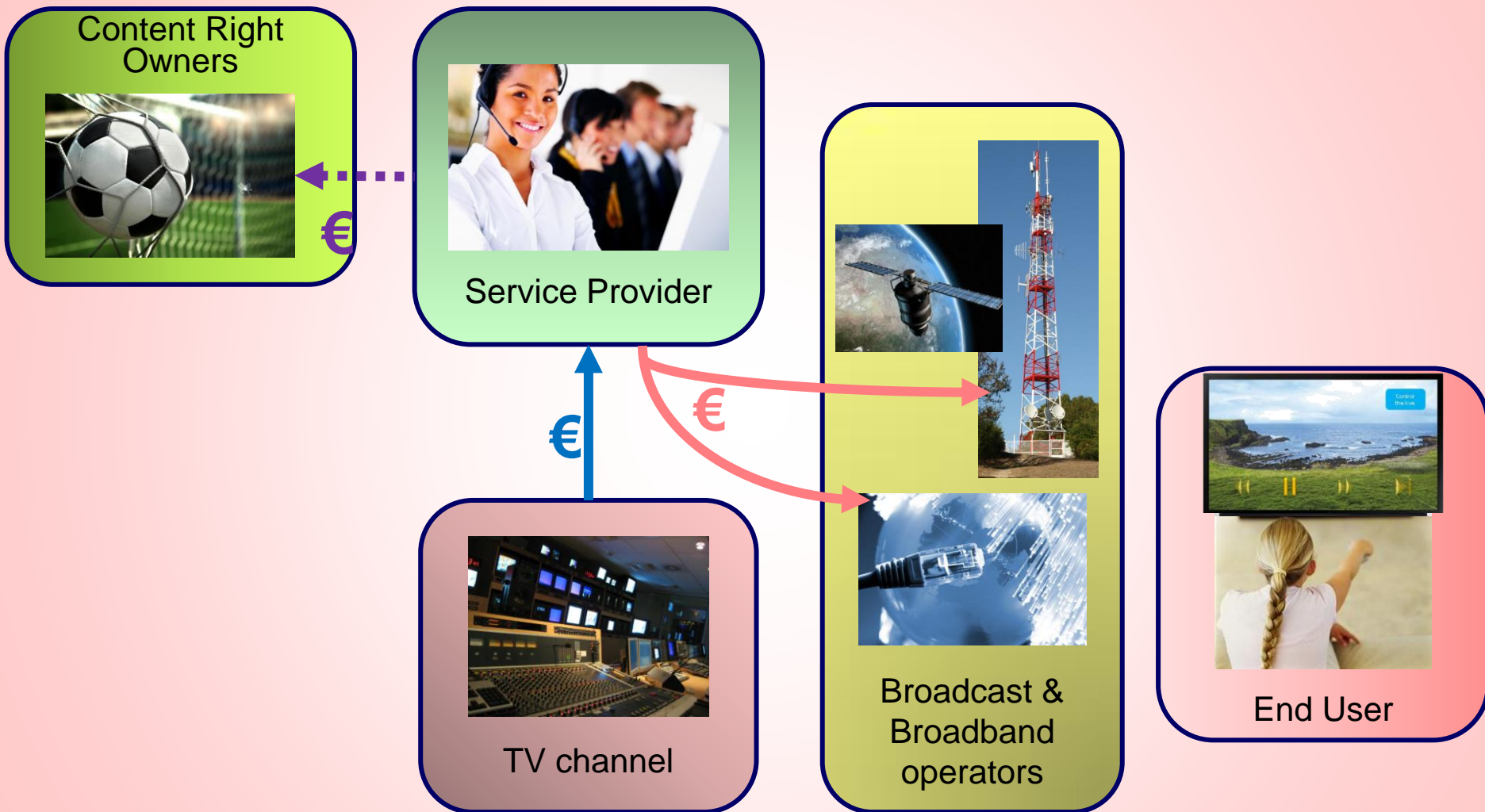
Services paid by the bouquet operator

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Trick modes for live content

Content Right Owners

Service Provider

€

Broadcast & Broadband operators

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TV channel

€

End User

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TWO EXAMPLES OF USE CASES WHICH WILL BE IMPLEMENTED

Trick modes for live content

- Greg is watching a program of TV+ on a large screen TV set which is connected to internet
- A pop-up appears at the right up corner indicating that Greg can navigate in the content
- Greg press the blue button of its Remote Control Device and control keys appear at the bottom of the screen

Rewind   **Pause/Resume**   **Forward**   **Back-to-live**

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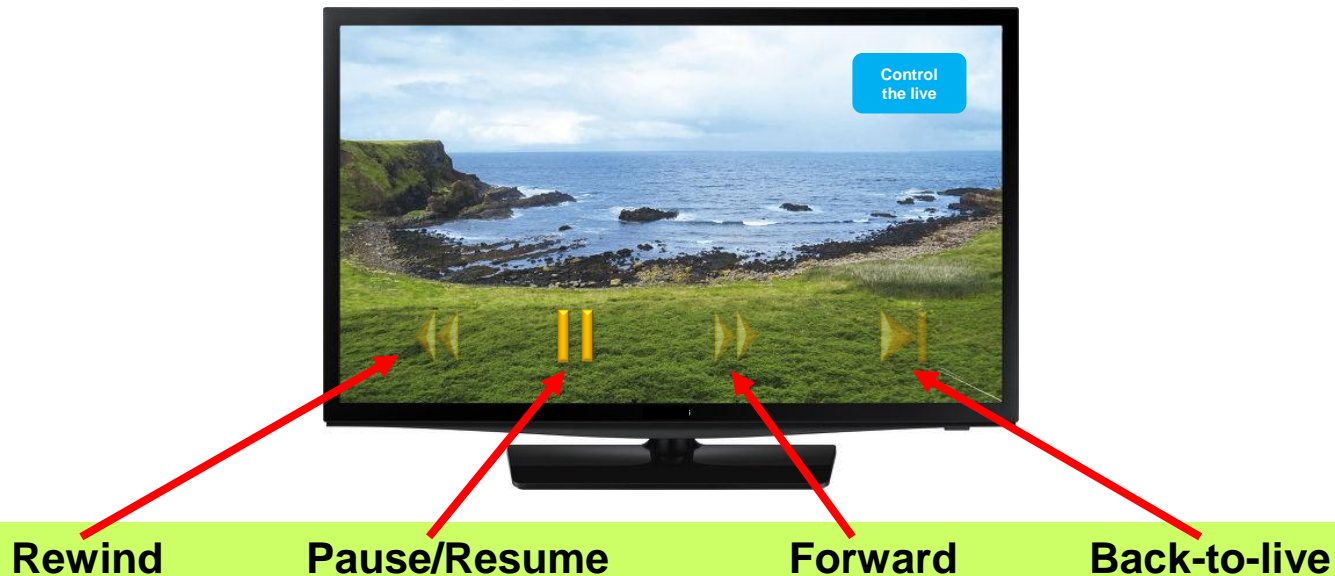
Scalable 4K content

- Bob is watching one of his favorite terrestrial TV channels on his brand new UHD TV set which is also connected to Internet
- The football match is just starting in HD quality
- A pop-up appears in the corner of the screen inviting him to watch an UHD version of the match.

- He agrees and he is directed to a web portal which proposes to buy 2 € a UHD version of the match
- He uses his credit card to purchase the UHD programme and the full UHD picture quality appears on the screen

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THANK YOU!

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