EBU

OPERATING EUROVISION AND EURORADIO

TECHNOLOGY & INNOVATION

Get an edge

DISTRIBUTION TRENDS AND THE HYBRID REALITY

BRAM TULLEMANS, EBU

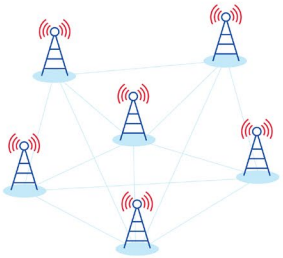
MBT CONFERENCE 2025

THE EBU COMMUNITY IN NUMBERS

The European Broadcasting Union is the world's leading alliance of Public Service Media

COMPOSED OF

115
MEMBER ORGANIZATIONS



IN **56** COUNTRIES

OPERATING

493
TV CHANNELS

704
RADIO STATIONS

594
LOCAL WINDOWS

1313
ONLINE SIMULCAST CHANNELS AND STATIONS

272
EXCLUSIVE ONLINE LINEAR SERVICES

PROVIDING CONTENT IN

158
LANGUAGES

TO A POTENTIAL AUDIENCE OF

1.07
BILLION PEOPLE

MOST OF MEDIA TIME SPENT IS CONNECTED

Average daily time spent per media type (self reported)
In % of internet users 16-64 and 16-24 –Q1-3 2024 - 14 European countries

NOT CONNECTED

Broadcast TV
Broadcast Radio
Print press

40%

60%

CONNECTED

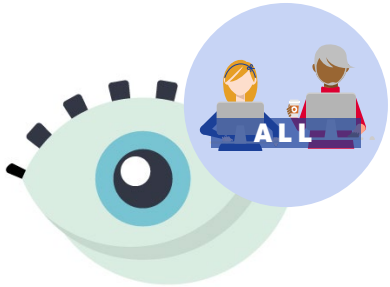
Social Media
Music streaming
Online TV
Podcast
Online press

25%

75%

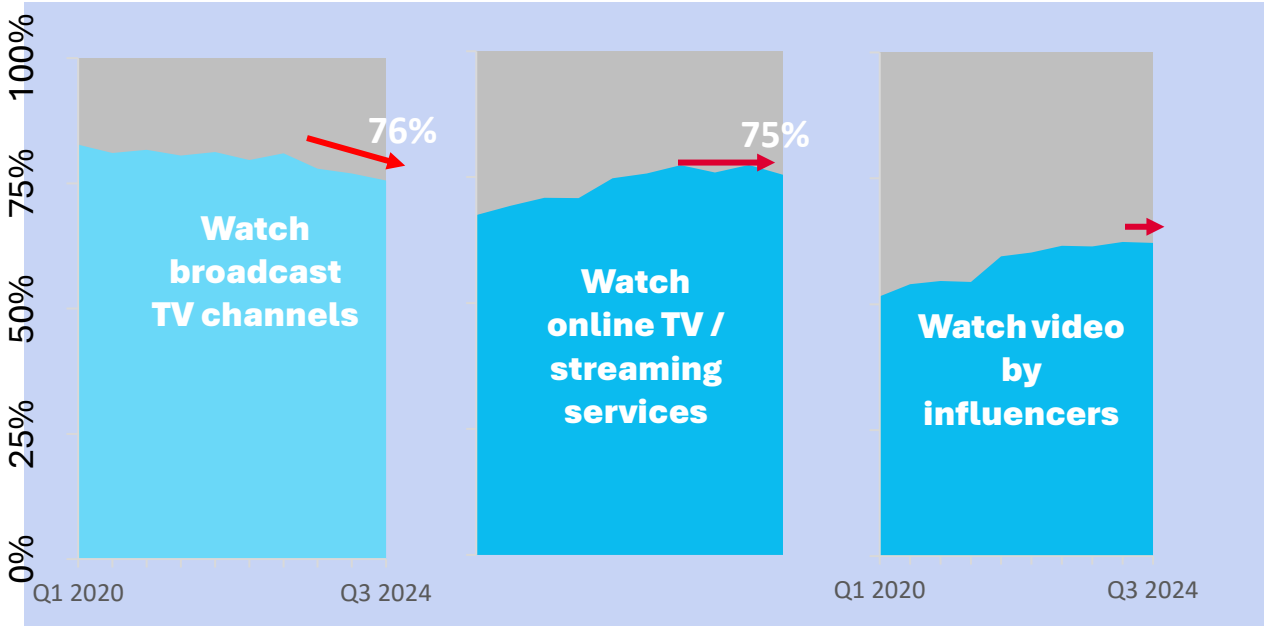
Source: EBU MIS based on GWI – Average of all quarters per year
14 Countries: Austria, Belgium, France, Germany, Ireland, Italy, Netherlands, Poland, Portugal, Spain, Sweden, Switzerland, Türkiye, UK

VIDEO MEDIA REACH: STREAMING NOW RIVALS BROADCAST



Weekly users by media

In % - Evolution Q1 2020 – Q3 2024 (only first and third quarters measured) - In % of internet users 18-64



Source: EBU MIS based on Ampere Consumer Survey 14 countries, (only first and third quarters measured)

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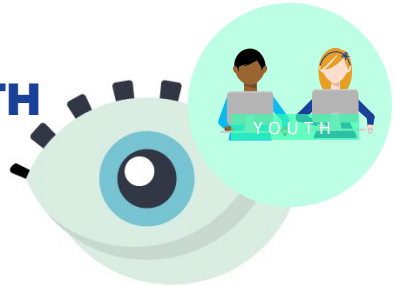
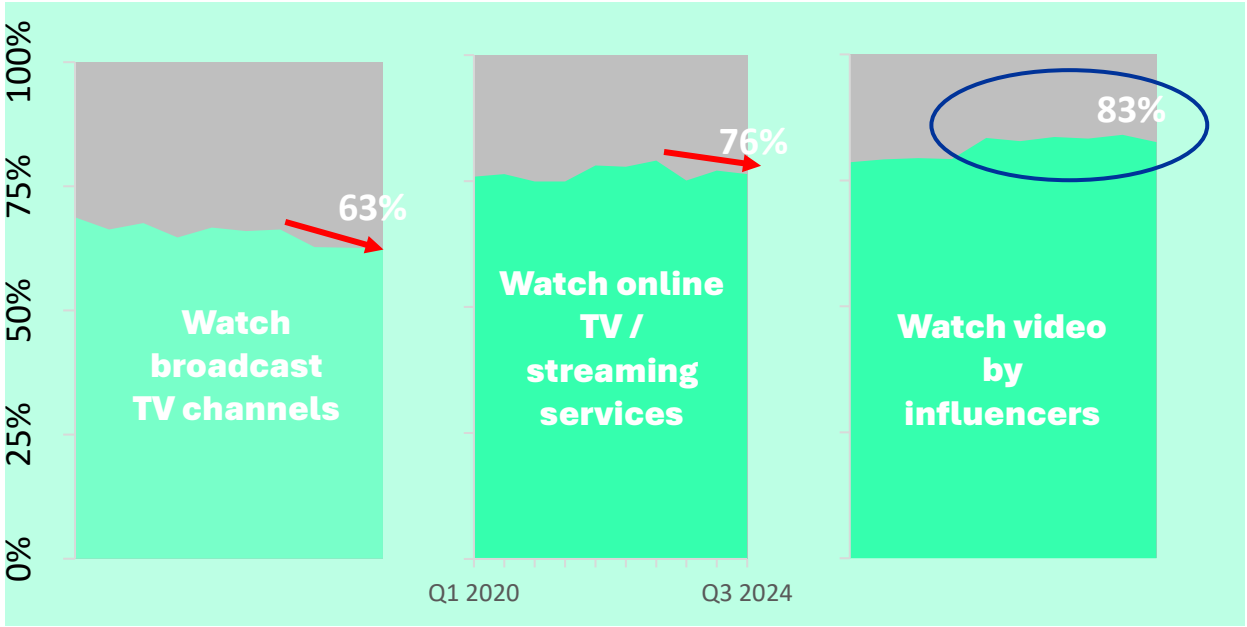
INFLUENCERS' VIDEO OVER STREAMING SERVICES FOR YOUTH



Weekly users by media

In % - Evolution Q1 2020 – Q3 2024 (only first and third quarters measured) - In % of internet users 18-24



Source: EBU MIS based on Ampere Consumer Survey 14 countries

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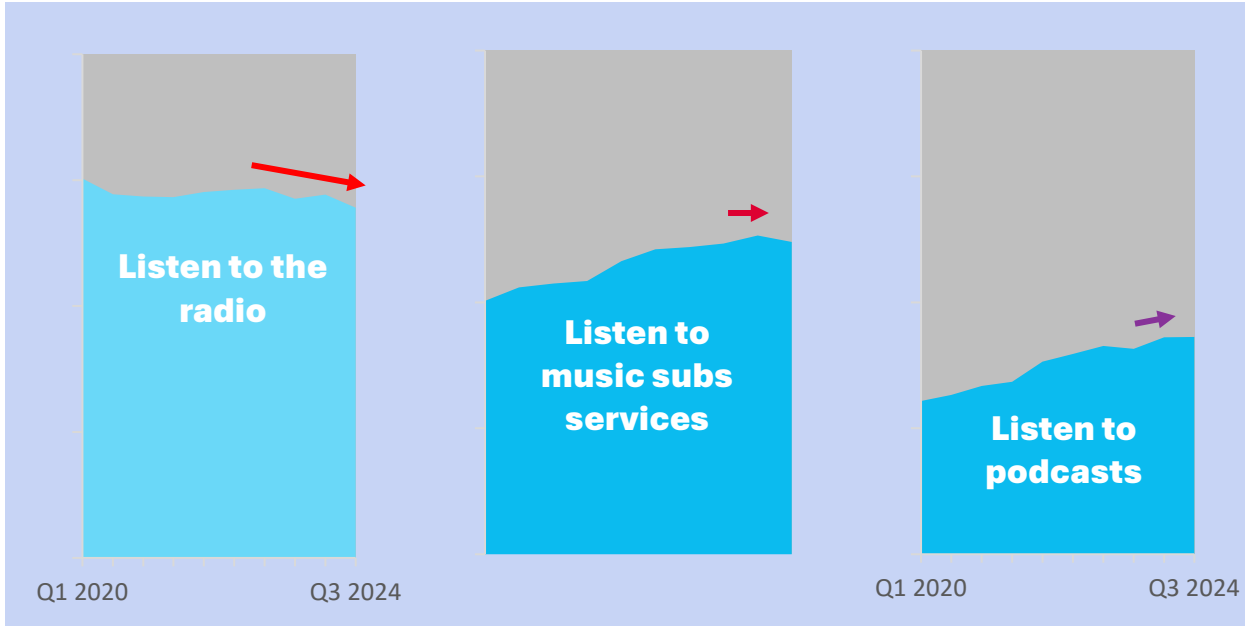
AUDIO MEDIA WEEKLY REACH: PODCAST CONTINUES TO GROW

Weekly users by media

In % - Evolution Q1 2020 – Q3 2024 (only first and third quarters measured)



Source: EBU MIS based on Ampere Consumer Survey 14 countries, (only first and third quarters measured)

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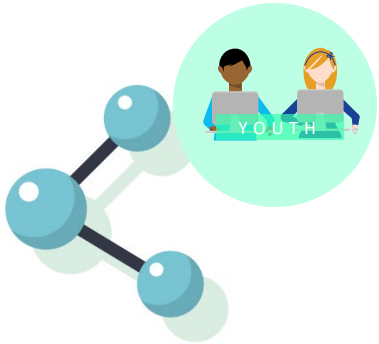
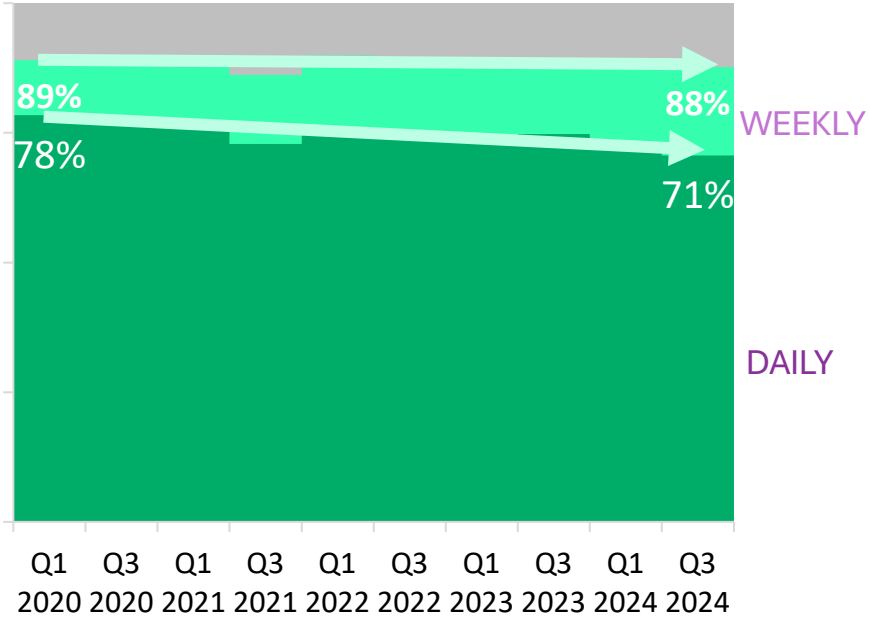
SOCIAL MEDIA, THE END OF GROWTH?



Weekly and daily users by media

In % - Evolution – Internet users 18-24



Source: EBU MIS based on GWI – Average of all quarters per year

14 Countries: Austria, Belgium, France, Germany, Ireland, Italy, Netherlands, Poland, Portugal, Spain, Sweden, Switzerland, Türkiye, UK / Ampere Consumer Survey 14 countries

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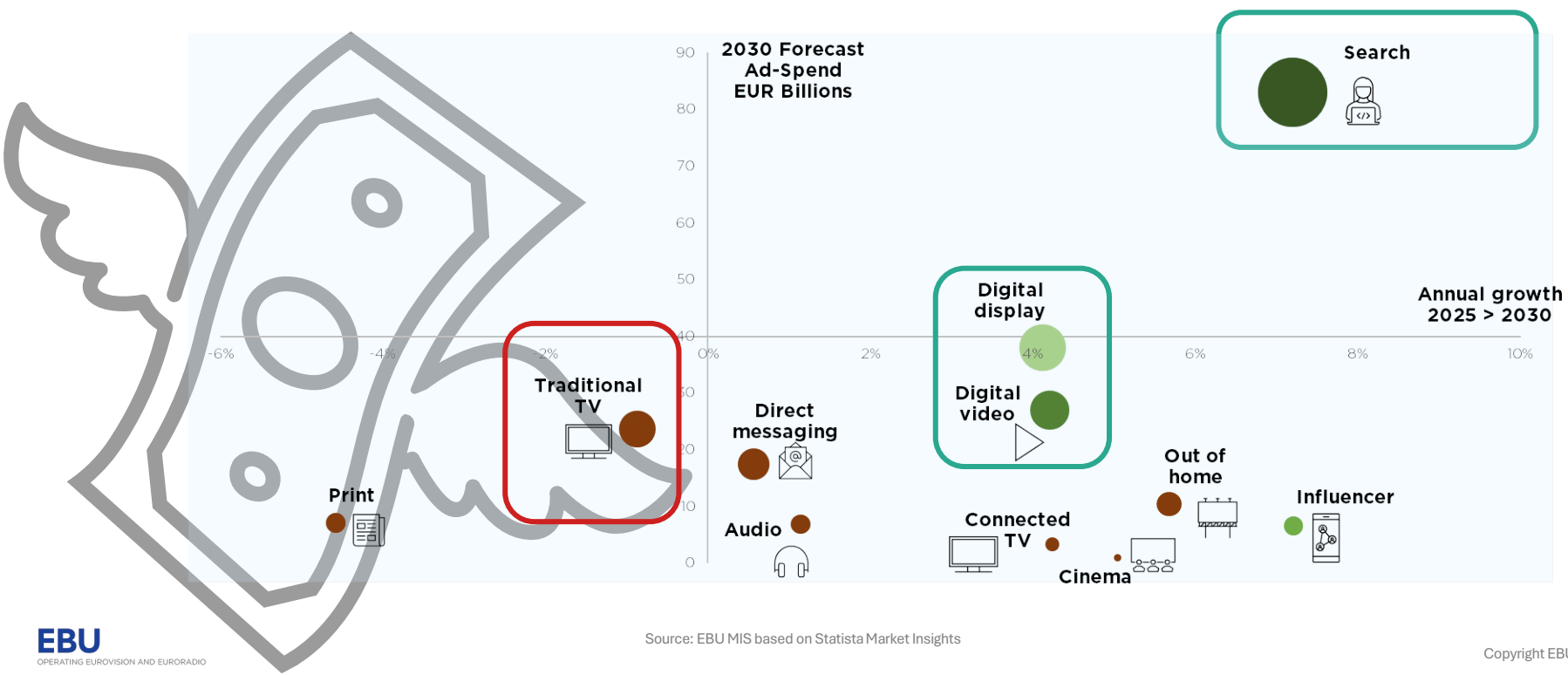
THE SEARCH REVOLUTION IS POISED TO RESHAPE THE ATTENTION ECONOMY

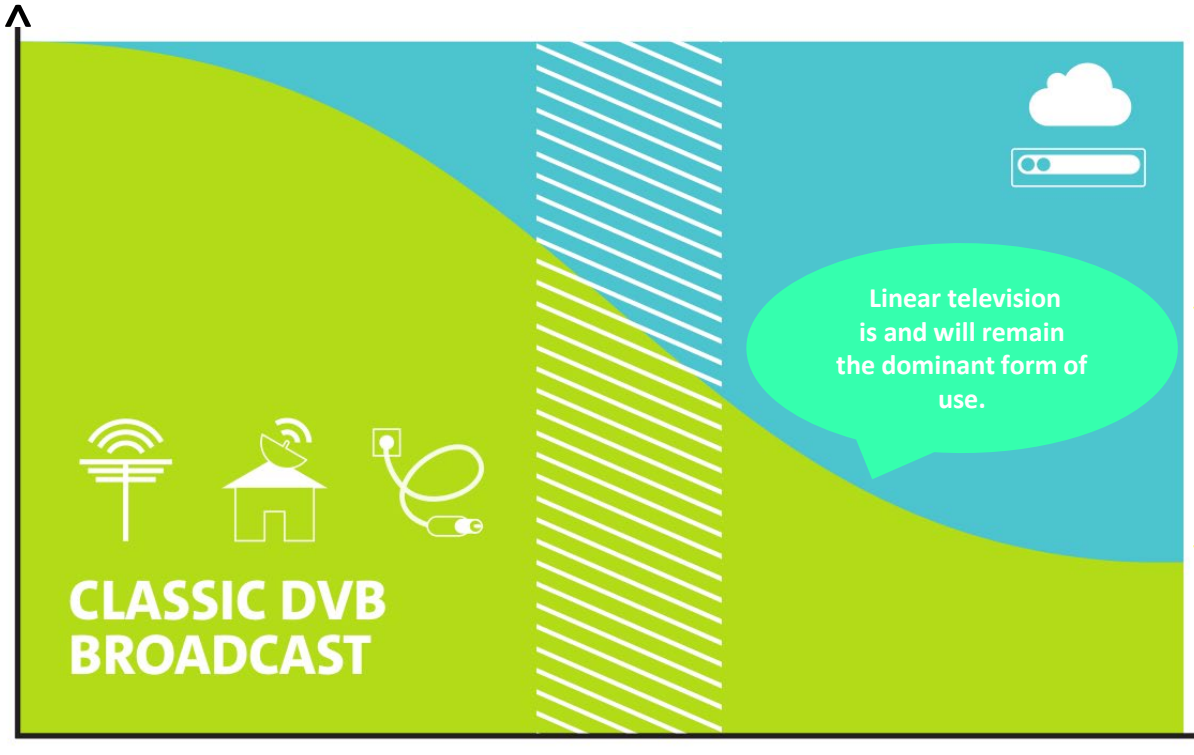
Forecasted European advertising revenue/spend 2025 > 2030

Size of bubble = forecasted size of ad-spend in 2030



Source: EBU MIS based on Statista Market Insights

The Hybrid Reality



Shifting audience behaviour

Linear vs on-demand

Matured Broadband Distribution

Distribution costs

Cord-Cutting

Changes in SATCM and DTT usage

UHF Band / WRC

OTT Operators

Global Platform Operators

The Transition for Media Distribution has a different pace in distinct markets

ONLINE DISTRIBUTION TRENDS WITHIN THE EBU

Maturity level of online distribution platforms increases over years

The Origin is the Master Control Room of online delivery

Load balancing traffic over multiple CDNs is a core competence

Data retrieved from the yearly EBU MIS survey within the EBU Membership

HIGH GROWTH OF TRAFFIC

Average growth year over year since 2017 is about 25%. Covid period gave a boost with up to 37% growth in 2021.

PUBLIC CDN A MUST

All EBU Members use at least one third party CDN for online distribution

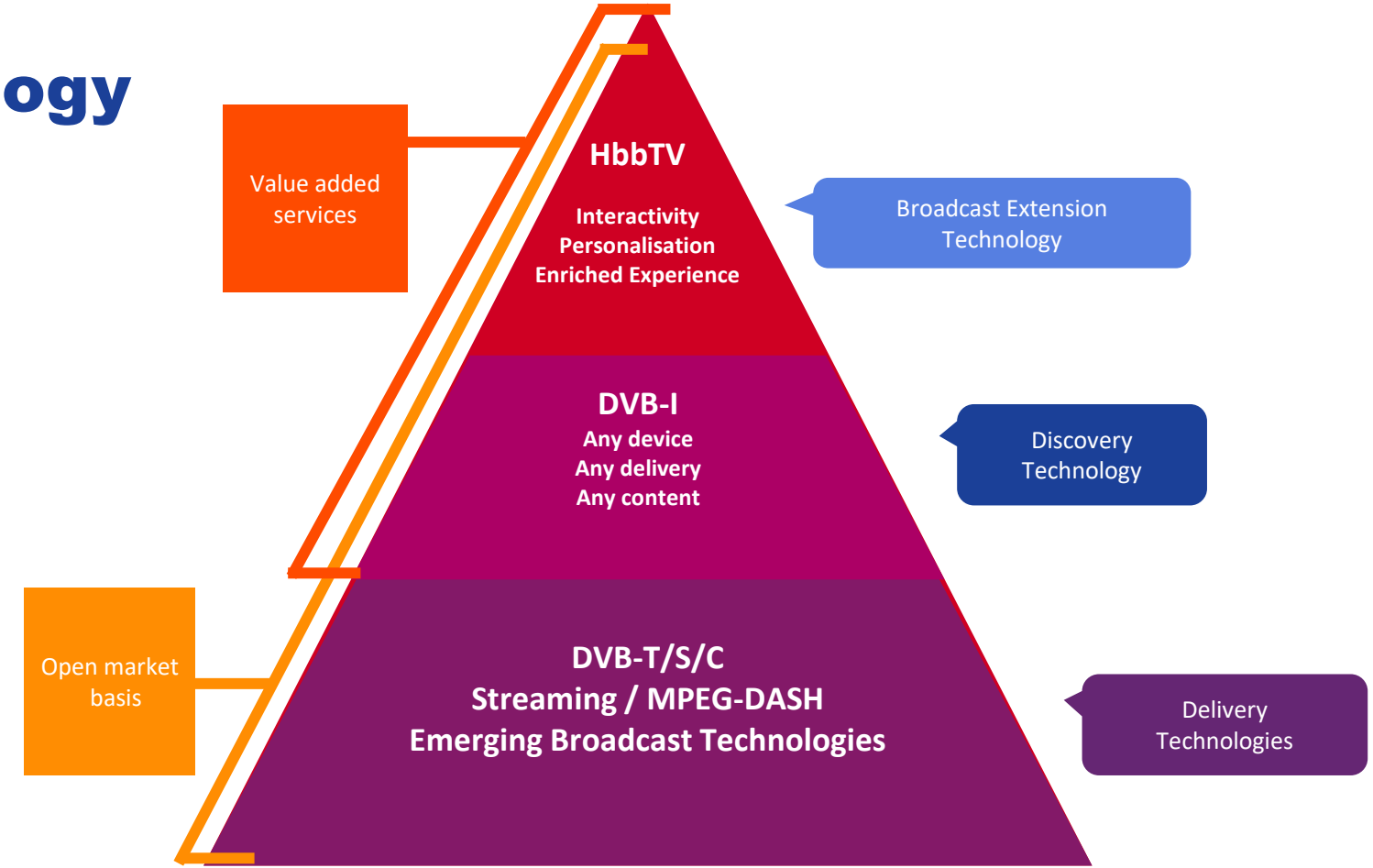
BALANCING SUPPLIERS

65% of the EBU Members operates a load balancing tool to switch traffic between multiple-CDNs

INCREASE OF HOMEGROWN CDNS

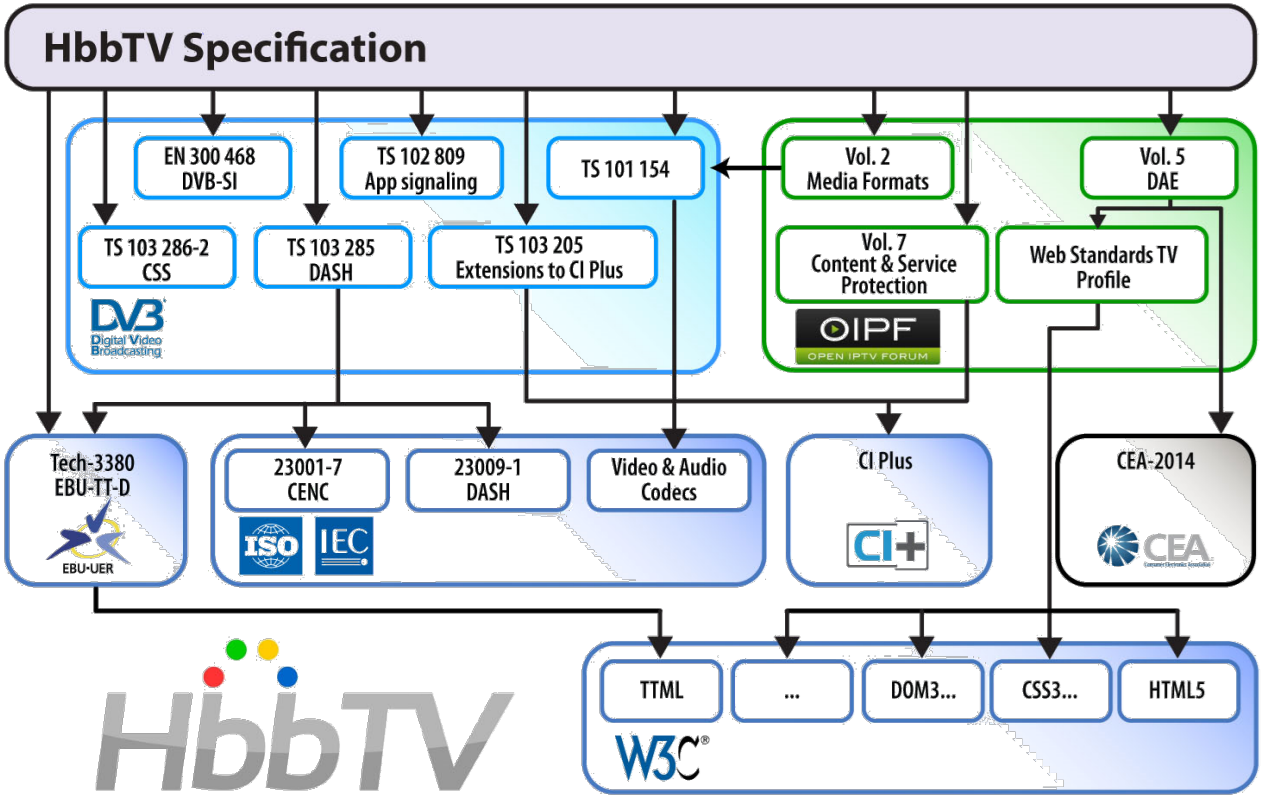
About 40% of the EBU Members operate their own CDN, growing slowly from 34% in 2017

Hybrid Technology Stack



What is in HbbTV?

*"An environment for running **web apps** on TV platforms in a way that is tightly integrated with the **broadcast environment**"*



Most recent HbbTV version 2.0.4

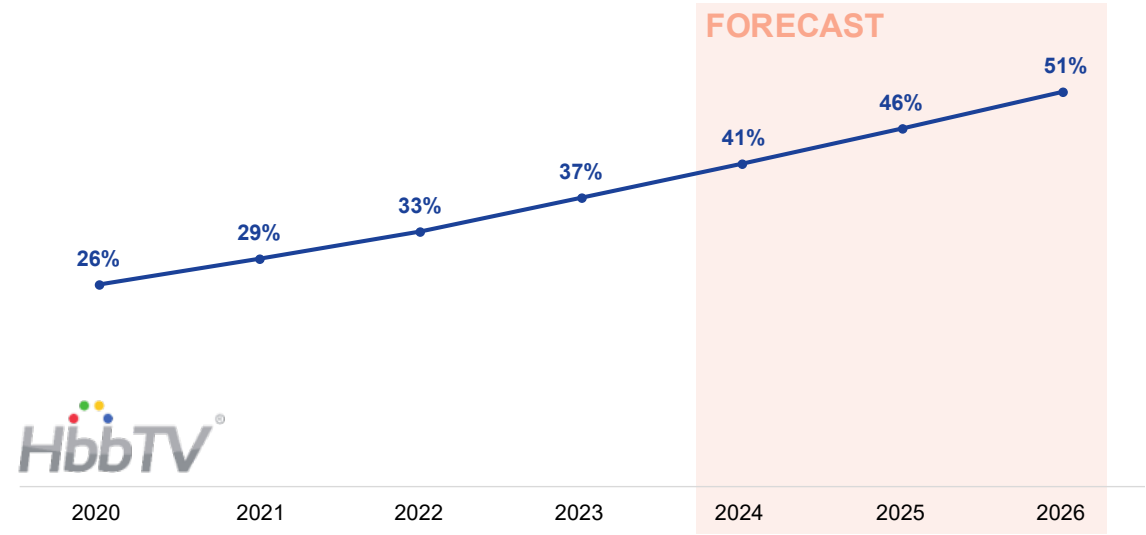
- Integration with 3 key features:
  - – Accessibility features provided by the TV or STB
  - – Live/linear services via broadband using DVB-I and DVBDASH
  - – Voice assistants such as Alexa and Google Assistant

Link to HbbTV 2.04 Specification and Explainer Doc

- 2.0.4 Accessibiltiy Many TV operating systems provide accessibility features that the user can turn on/off and configure – Subtitles, user interface magnification, high contrast UI, screen reader, feedback on user actions • Screen reader integrates with W3C ARIA ("Accessible Rich Internet Applications") – Audio description, dialogue enhancement and in-vision signing • User preferences for stream selection decision for broadcast and broadband • 2.0.4 enables apps to query; – Which features are supported – Detailed user settings for a supported feature • Apps can also request a feature be supressed – If the app thinks it can do a better job in its context • For more details, please see presentation from Nigel Moore in the HbbTV webinar – https://youtu.be/w-Q5mxsNAJc • HbbTV doesn't make any particular accessibility feature mandatory in TVs and STBs – Choice of manufacturer, platform/operator, TV OS provider, … – Framework itself is mandatory so apps can ask the questions ..
- 2.0.04 DVB-I integration Goal – Most (ideally all) HbbTV broadcast related applications to be able to run in connection with a DVB-I broadband-delivered service with as few changes as possible (ideally none) • Some key features – How a video/broadcast object can show DASH delivered content – How DVB-I services and service instances appear in the HbbTV ChannelList – How HbbTV applications are started and stopped as different DVB-I services are selected – How DASH MPD and inband events map to the DSMCC stream event API – Support for both DVB-I "application controlling media presentation" and "application in parallel with media"

HBBTV'S POTENTIAL INCREASES IN LINE WITH SMART TV SALES

HbbTV reachable households
In % of total households, Europe



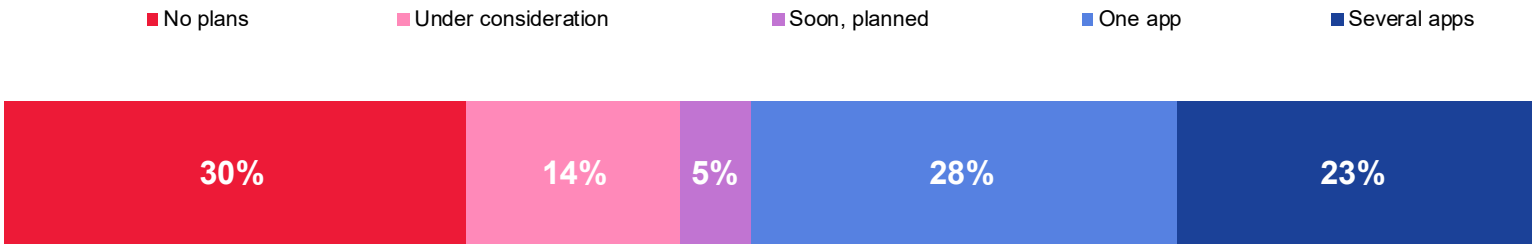
51% of European households will be reachable via HbbTV by 2026

According to Dataxis, the majority of newly sold TV sets in Europe now support HbbTV standards. They predict that HbbTV's reach will increase in the coming years, rising to 51% of all households by 2026. Adopting HbbTV standards for smart TV applications offers benefits such as improved cost efficiency, development and resource management, a consistent user experience across platforms, reduced dependence on third-party platforms, and data ownership.

Source: EBU MIS based on Dataxis – Based on European countries (excluding Russia and Belarus, no data for Ukraine either)

HALF OF ALL TV ORGANIZATIONS HAVE HBBTV SERVICES

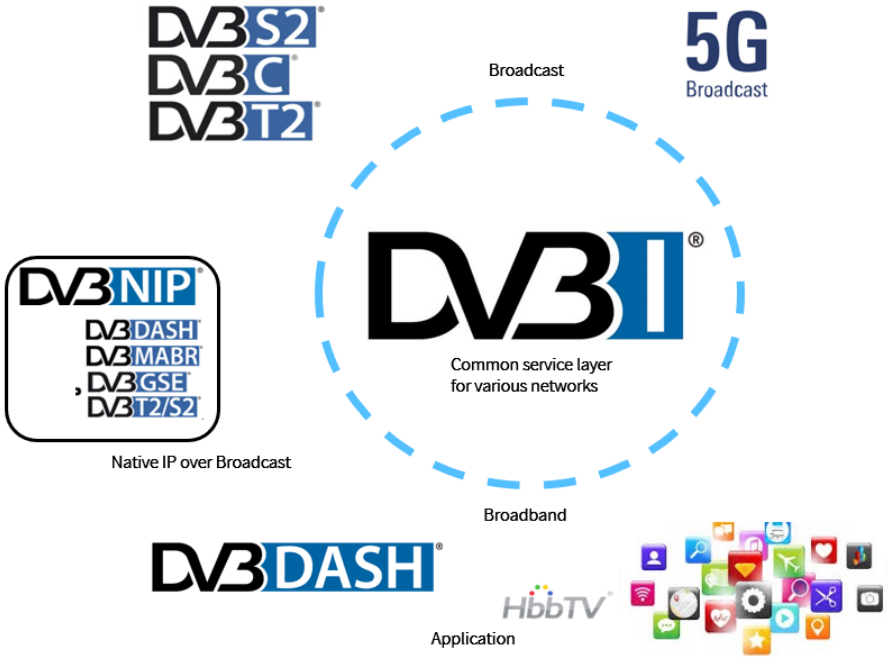
Availability of HbbTV services
In % of PSM organizations with TV services



HbbTV offers a simpler method for PSM to deliver online content on television devices. Currently, more than half of the PSM that offer TV services also provide HbbTV features, with 23% of them offering multiple apps. Most of these services primarily focus on providing access to VOD content. However, only 45% of PSM with HbbTV services offer alternative live streams, and 40% provide news coverage.

Source: EBU based on 2024 Members' data, including 43 TV organizations that answered the question – Question: Do you have a HbbTV service? What does your HbbTV service offer?

DVB-I “SERVER DEFINED TV EXPERIENCE”



DVB-I =

Metadata for Universal Service & Content Discovery

DVB-I STANDARD WILL

Unify the user experience for broadcast services on all media capable internet connected devices

DVB-I IN HYBRID WORLD

Manage changes in distribution and digital transformation

DVB-I EMBRACES DISCOVERABILTY

Prominence, findabilty, sovereignty in a “Age of Platforms“ and Visibilty for AI agents

European trials and market launch activities

› Italy – Public Trial

Germany – Market Preparation

Ireland - Trial

Spain - Trial

Operator model: Commercial deployment by Sat.tv

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Mission to **M.A.R.S.**

Multilayer – Combination of terrestrial and satellite network leverages advantages of both

Anywhere – Coverage is provided over 100% of the territory

Resilient – There are no single points of failure.

Sustainable – In terms of both cost and carbon emissions.

Media distribution with 5G Multicast–Broadcast Services

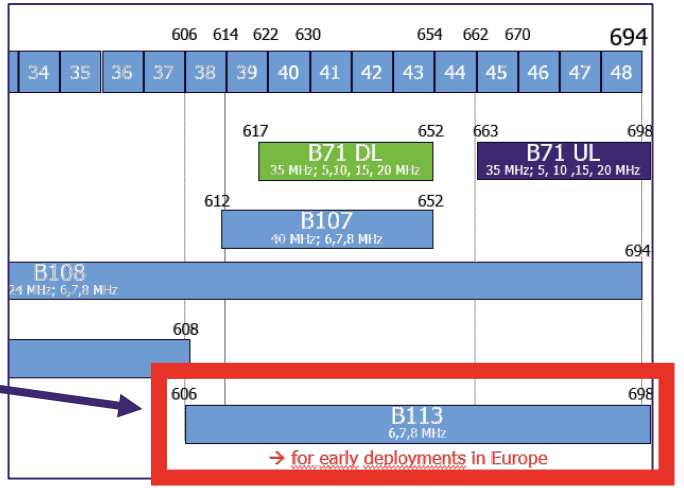
3GPP Release 17 brings Multicast–Broadcast Services (MBS) to the 5G System, based on 5G Core and New Radio. MBS allows the network to select the most suitable among point-to-multipoint (PTM) or point-to-point (PTP) delivery based on requirements set by either service providers or network operators and/or taking into account concurrent user demand.

5G-Broadcasts	Key achievements	Future challenges
Standardisation	- Bandwidth 8 MHz - Mobile band for Standalone Downlink Only	- Time Frequency Interleaving - Co-existence DVB-T2/5G BC - New bands - Further Rel.20 features
Infrastructure	- Vendor diversity	- Bandwidth optimization
Mobile Handsets	- Pre-commercial devices	- Market introduction

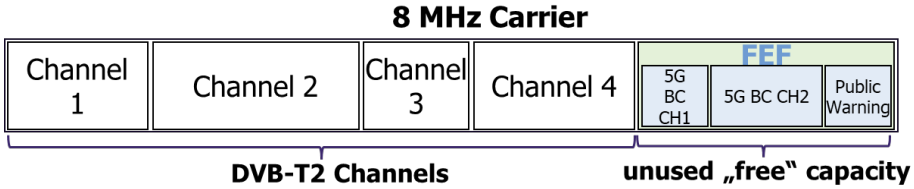
Standardisation developments

3GPP Release 19

- Time Frequency Interleaving
  - Increases robustness of the signal, especially for movement scenarios
- New band for early deployments



- Co-existence DVB-T2 and 5G BC („CAS-muting")
  - (Simplified) Concept for DVB-T2/5G BC:



➔ Allows smooth integration and **lower pre-investment deployment** scenario for Broadcast Network Operators (and fast deployment of PWS)

5G-EMERGE

Satellite-enhanced edge delivery

1 ESA ARTES

Industry Initiated Partnership Programme, with consortium partners representing stakeholders in the full delivery value chain, led by EBU and co-sponsored by ESA ARTES.

2 5G FOR CONVERGENCE

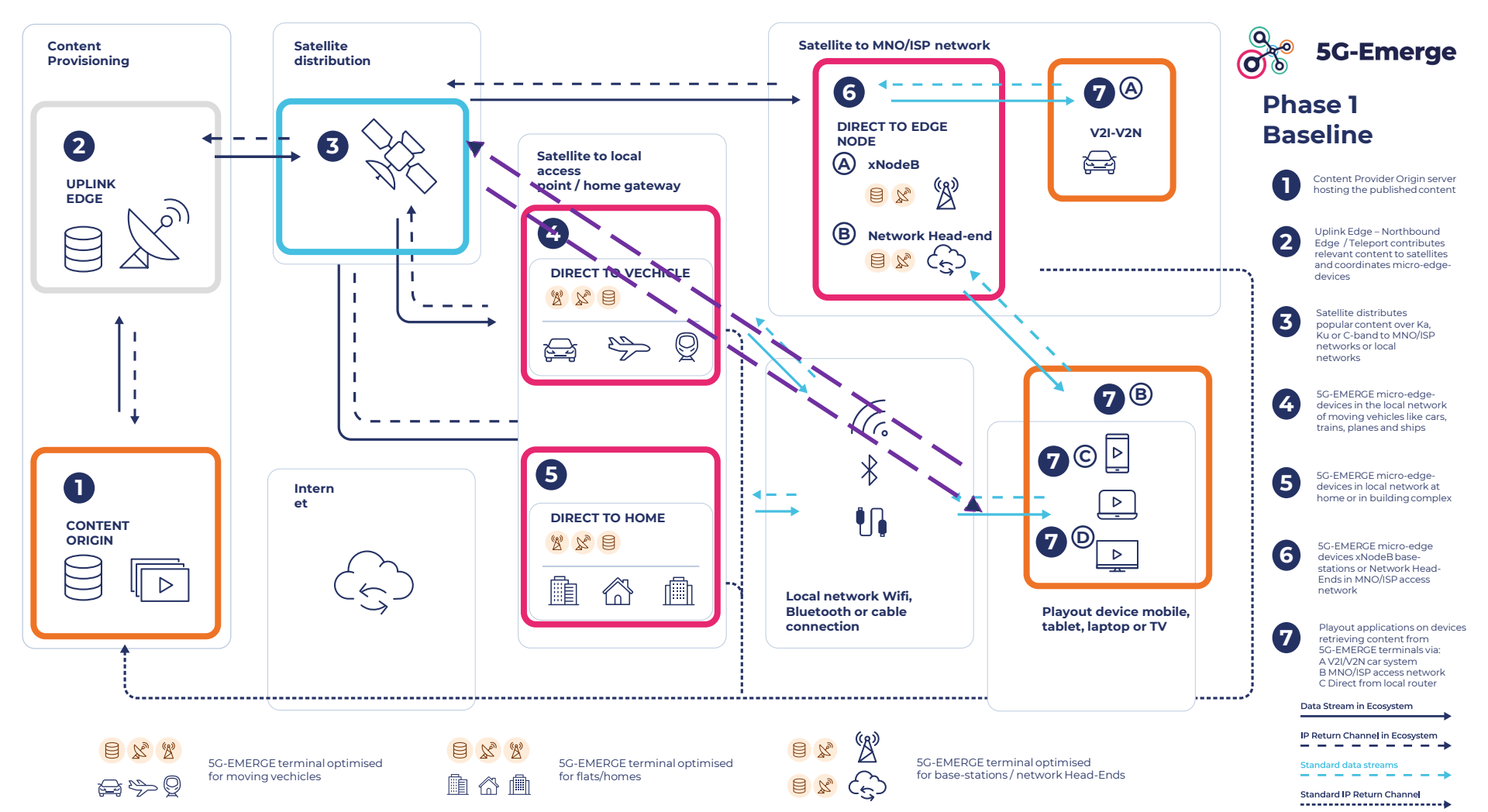
Network-slices seamlessly integrate Near Edges with distributed Far Edges through a virtualised satellite connection to 5G-Networks.

3 NATIVE IP

Hybrid infrastructure based on open standards to deploy edges in both 5G and non 5G-network head-ends, home networks and networks in vehicles.

4 BASELINE EDGE SERVICES

Edge architecture that can host applications and expose popular content transparently to end-users, with caching and satellite backhaul as core service.

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THANK YOU,
ANY QUESTIONS?