

THE EVOLUTION OF DIGITAL TERRESTRIAL DISTRIBUTION

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EBU

OPERATING EUROVISION AND EURORADIO



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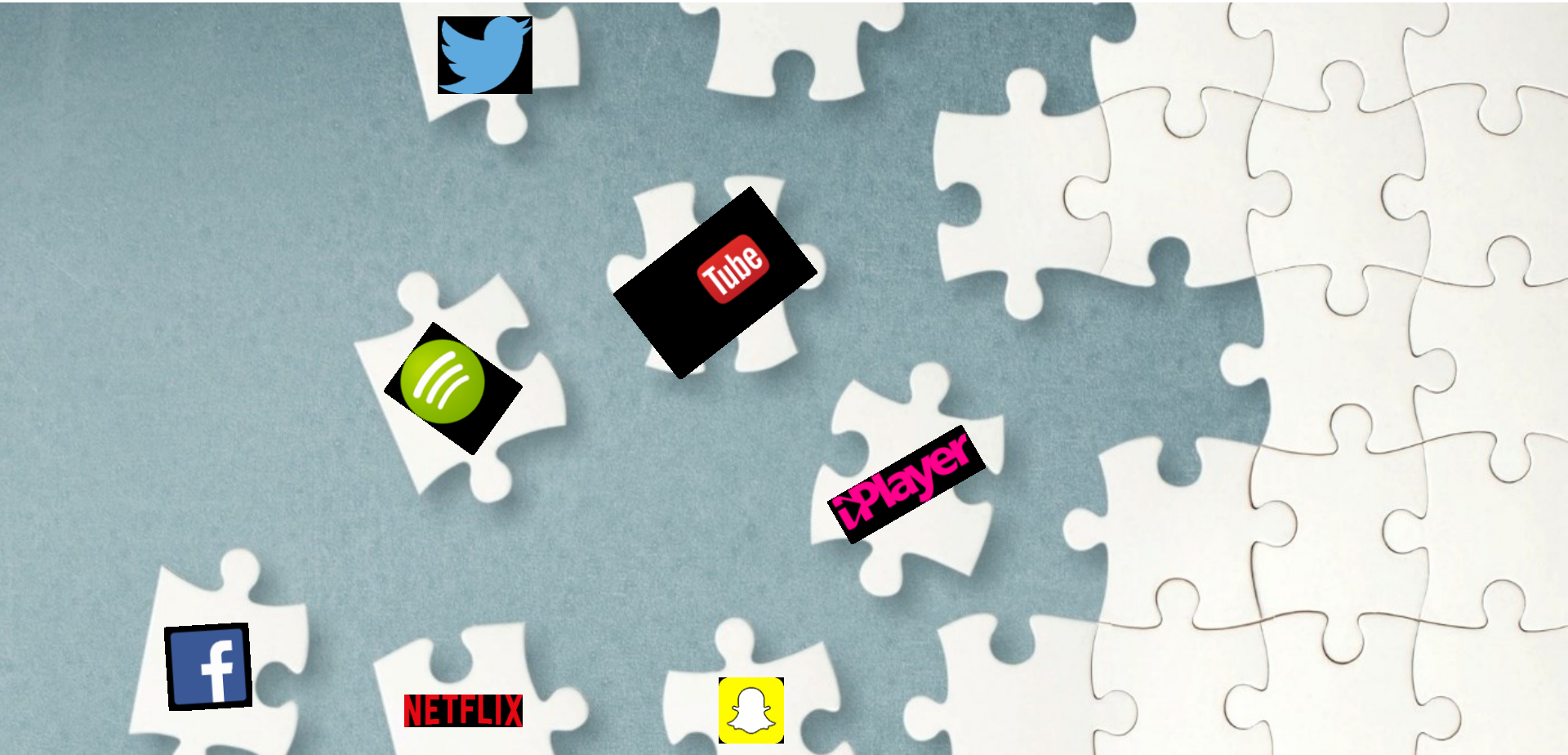
2. THE EVOLUTION OF DIGITAL TERRESTRIAL TELEVISION

3. THE GROWTH OF DIGITAL AUDIO BROADCASTING

4. COLLABORATION FOR FUTURE DISTRIBUTION

MEDIA CONSUMPTION STATISTICS

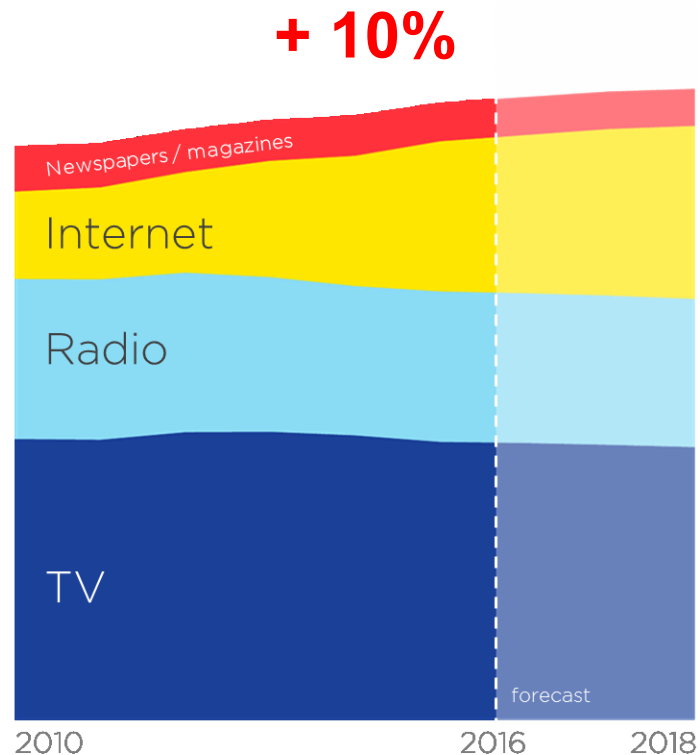
WE ARE FACING AN INCREASING COMPLEXITY



People are
spending
more and
more time
on media

Evolution of media consumption time

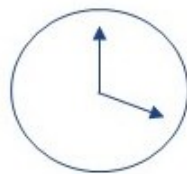
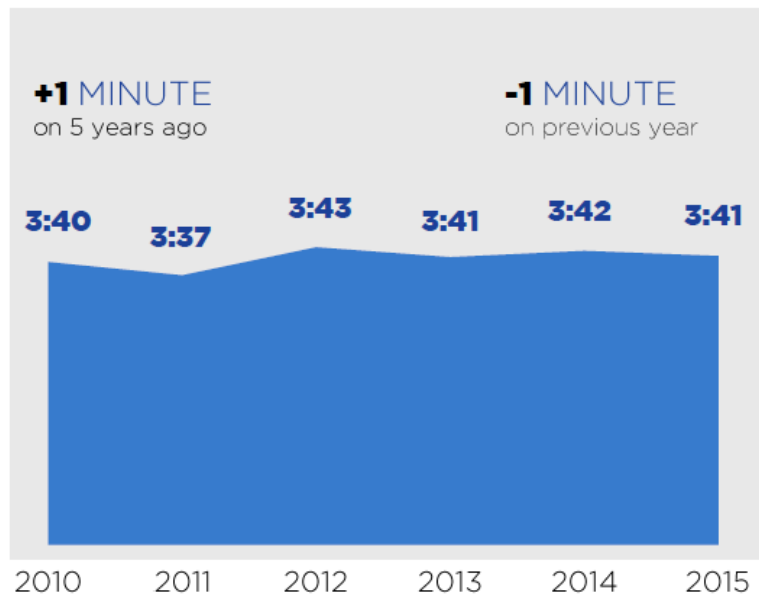
Western Europe, time spent evolution 2010 - 2018



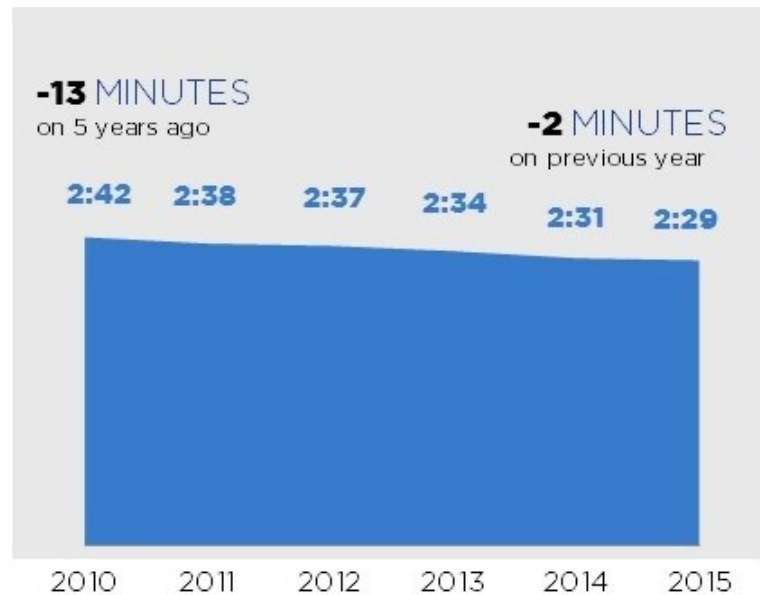
2015 MEDIA CONSUMPTION TIME



EUROPEAN CITIZENS
in 2015 watched on average
3:41 OF TV DAILY



EUROPEAN CITIZENS
in 2015 listened to on average
2:29 OF RADIO DAILY

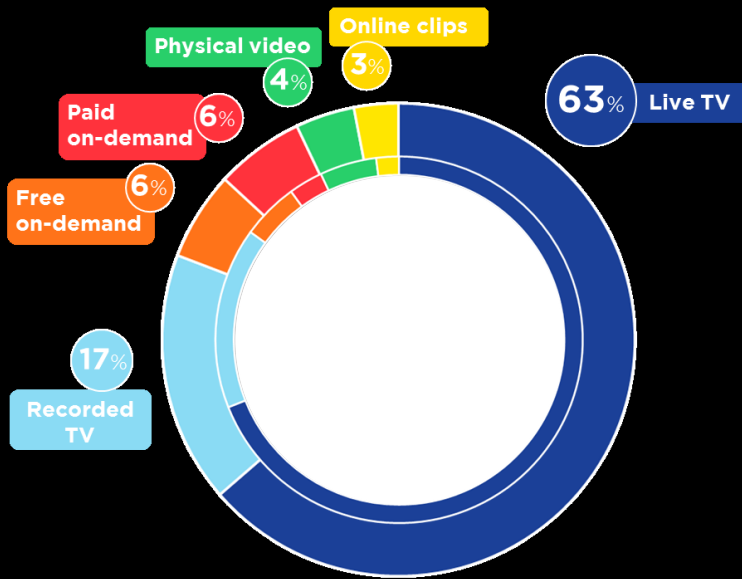


LIVE BROADCASTING IS THE MOST POPULAR TYPE OF CONTENT

Total viewing time by type of content

adults aged 16+, United Kingdom, type in % of total viewing

Inner circle: Q1 2014 / Outer circle: Q1 2016

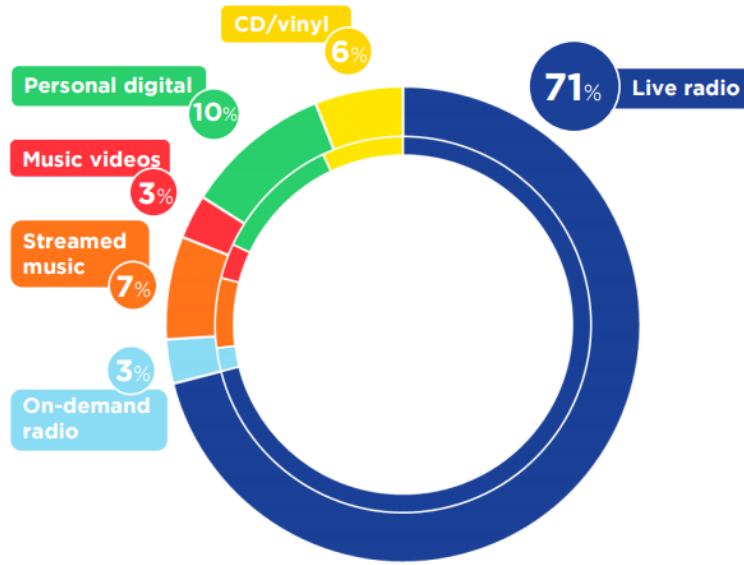


Source: Ofcom Digital Day

Total listening time by type of content

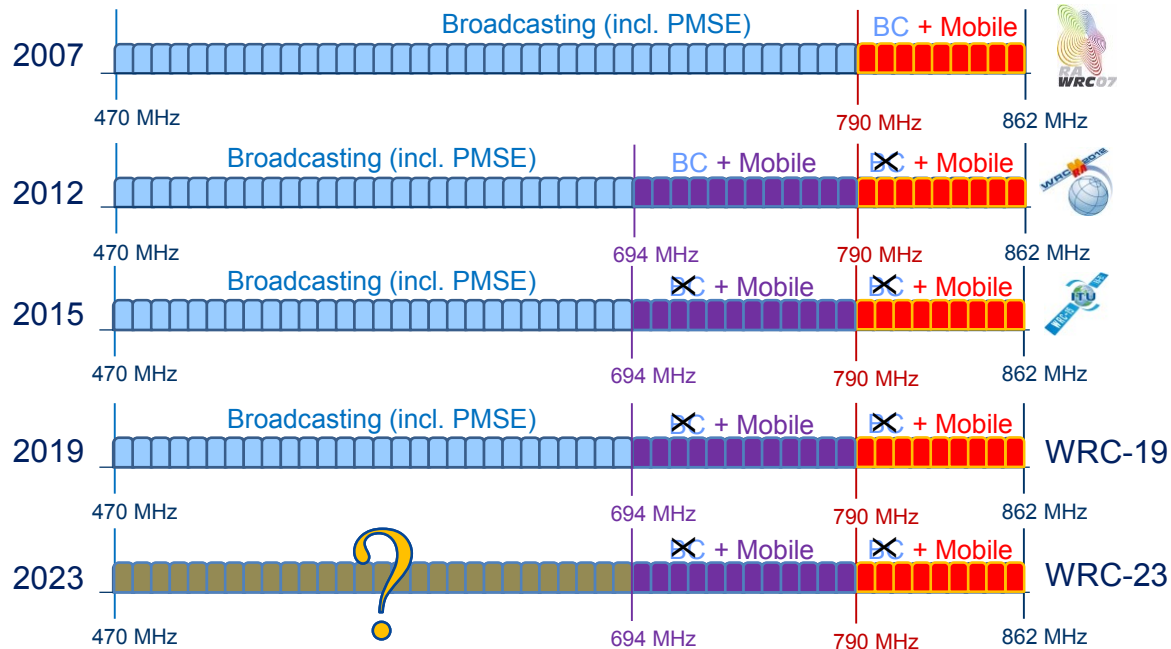
adults aged 16+, United Kingdom, type in % of total listening

Inner circle: Q1 2014 / Outer circle: Q1 2016



THE EVOLUTION OF DIGITAL TERRESTRIAL TELEVISION

UHF SPECTRUM DECISIONS IN RECENT AND FUTURE WRC



RESOLUTION 809 (WRC-15)
No agenda item on the use of the UHF spectrum

RESOLUTION 810 (WRC-15)
[..]
2.5 to review the spectrum use and spectrum needs of existing services in the frequency band **470-960 MHz** in Region 1 and consider possible regulatory actions in the frequency band 470-694 MHz in Region 1 on the basis of the review in accordance with Resolution 235 (WRC-15);

EU DECISION ON THE USE OF THE 470-690MHZ BAND IN THE UNION

Europe confirms WRC-15 decision

Article 4: *Member States shall ensure availability at least until 2030 of the 470-694 MHz ('sub-700 MHz') frequency band for the terrestrial provision of broadcasting services [..].*

EU member states are releasing the 700MHz band

Article 1: *By 30 June 2020, Member States shall allow the use of the 694-790 MHz ('700 MHz') frequency band for terrestrial systems capable of providing wireless broadband [..]. Member States may, however, delay allowing the use of the 700 MHz frequency band for up to two years [..].*

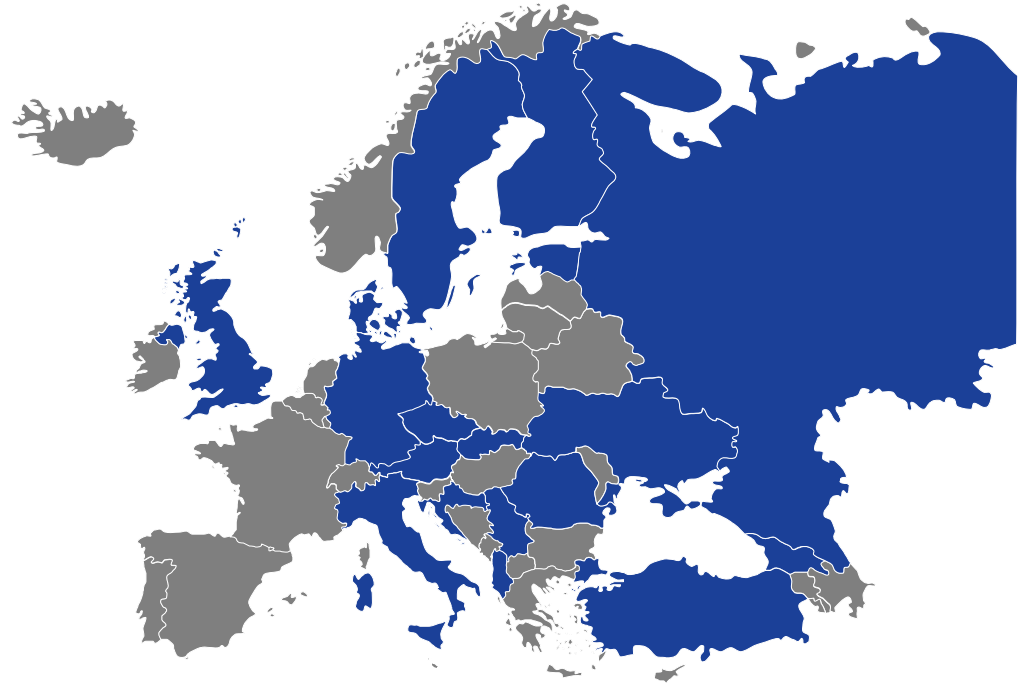
Article 5: *As soon as possible and no later than 30 June 2018, Member States shall adopt and make public their national plan and schedule ('national roadmap') [..].*

Funding and time are needed

Article 6: *Member States may, where appropriate and in accordance with Union law, ensure that adequate compensation for the direct cost, in particular for end-users, of the migration or reallocation of spectrum use is provided promptly and in a transparent manner [..].*

DVB-T2 STATUS IN EUROPE AND ITU REGION 1

- In Europe a large number of countries are moving from **DVB-T** to **DVB-T2**
- In Sub-Saharan Africa, all countries but one are deploying **DVB-T2/Mpeg4**
- In the Arab countries we see a growing interest in **DVB-T2**



Source: EBU
Combination of established services and pilots

DTT IS SUCCESSFUL WITH DIFFERENT BUSINESS MODELS

FTA DTT
FTA satellite

Pay DTT
Pay satellite

FTA DTT
Pay satellite

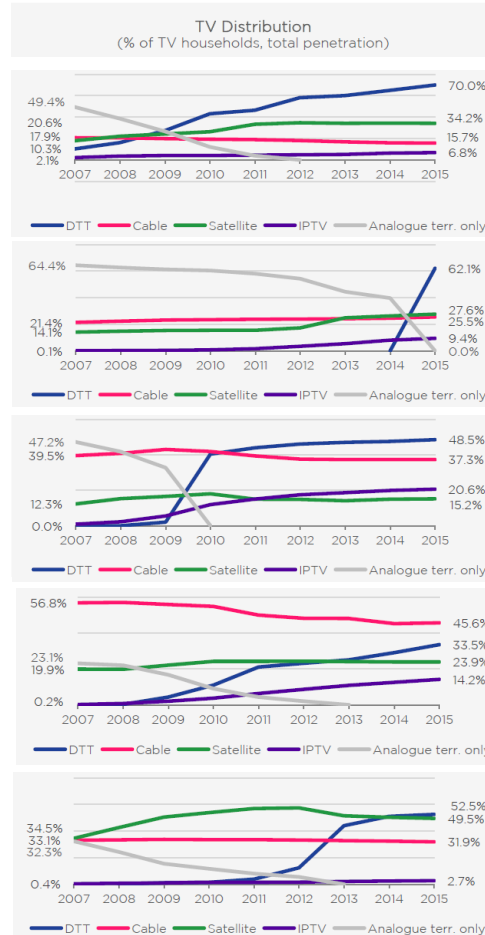
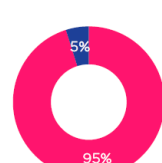
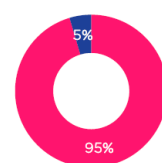
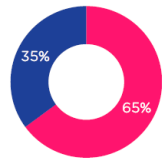
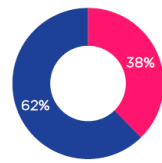
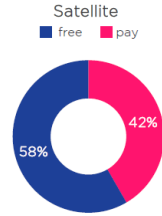
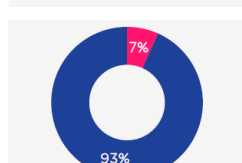
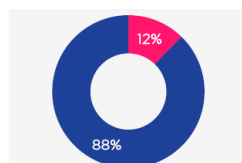
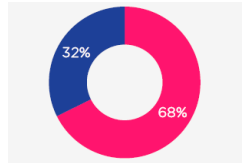
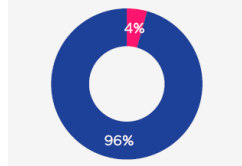
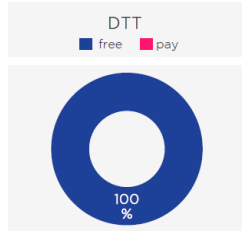
Czech Republic

Georgia

Latvia

Hungary

Poland



- In 2 years DTT reached satellite penetration
- In 4 years DTT overtook terrestrial analogue penetration

- Impressive migration to DTT in just one year

- DTT constantly growing

- DTT has already overtook analogue TV penetration and it is growing eating up satellite

- DTT managed what Analogue TV was not capable of, overtake satellite penetration.

STAKEHOLDERS PLAY A KEY ROLE IN THE SUCCESS OF DTT

- The EBU is working closely with the sister unions in Region 1 to promote DTT.
- Many actions are envisaged to bring people together, in collaboration with BNE, DVB and ITU.

Assistance for DTTB Implementation

Workshop Report



Key topics:

- The business case for DTT
- ITU Handbook on DTTB implementation
- Interoperability
- Network management
- DVB-T to DVB-T2 transition
- Local content production

THE GROWTH OF DIGITAL AUDIO BROADCASTING

EBU RECOMMENDS DAB

[EBU R 138](#)

EBU Rec. on Digital Radio Distribution in Europe

[...]

1. *The needs of all radio services in a country be considered when making plans for the digitisation of radio, including future service expansion, the available spectrum, and the cost effectiveness of different standards for different services;*
2. *Immediate deployment be done using DAB transmission as defined in ETSI EN 300 401 with DAB+ services as defined in ETSI TS 102 563 for digital radio broadcasting in VHF Band III;*

[...]

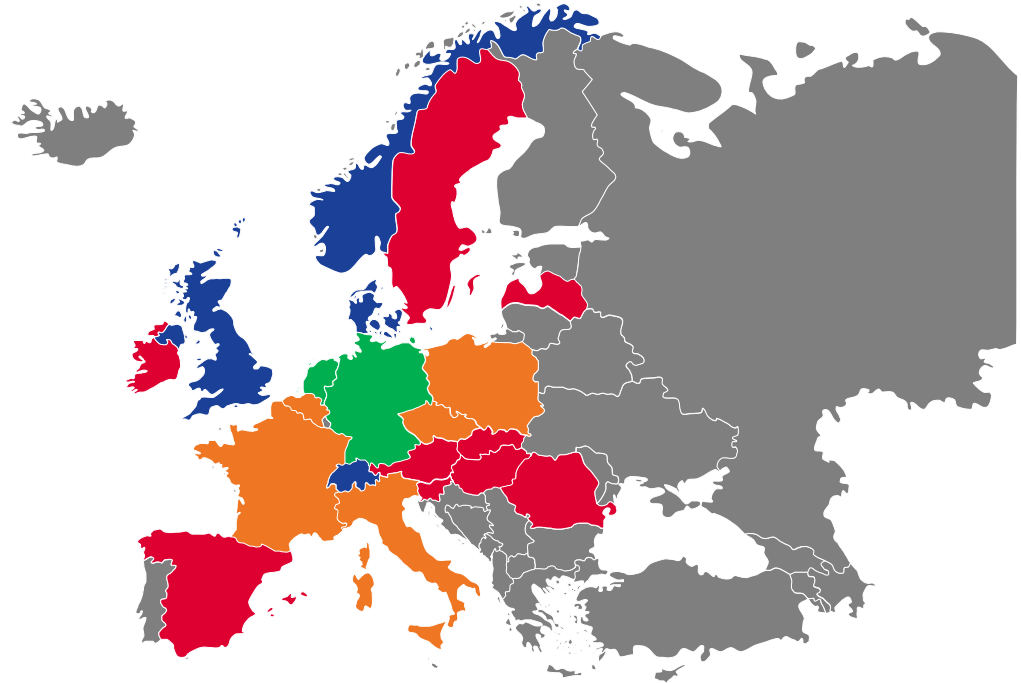
DAB INTEREST IS GROWING IN EUROPE

Digital leaders are those countries that are at the forefront of the implementation of digital radio according to most of the indicators.

Digital embracers include those countries where DAB+ has been launched nationally, with exclusive services (different from analogue broadcasting).

Digital newbies are those countries that have recently launched DAB+ services, with exclusive stations but limited coverage.

Wait-and-see describes the situation of those countries where regular digital radio services or trials are available.



SOME KEY FACTS ON DAB

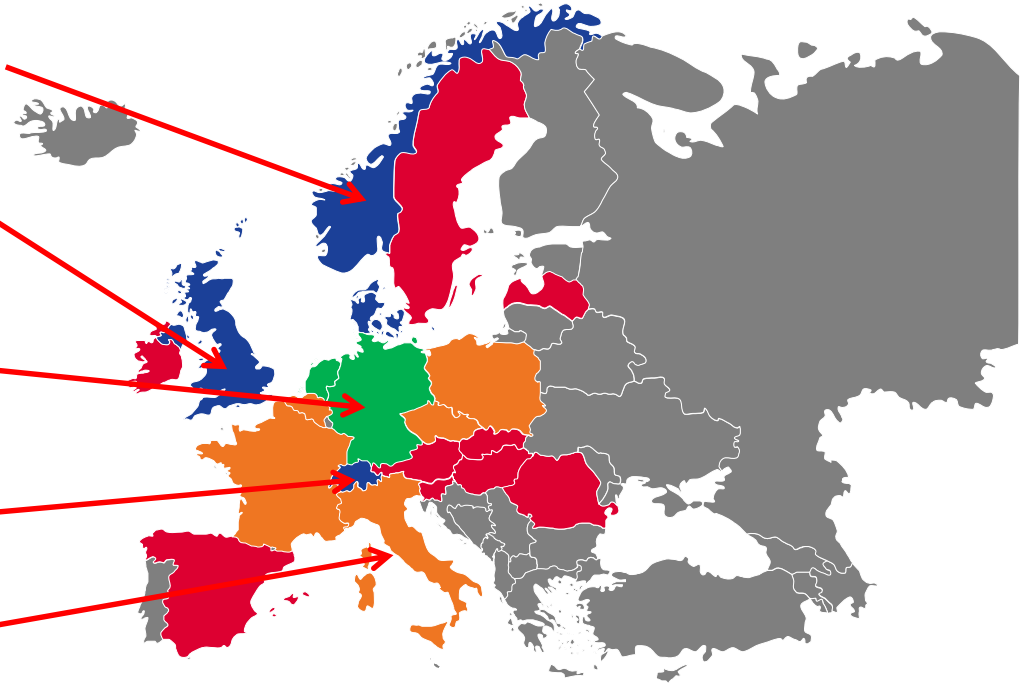
FM switch off started on 11th January and will finish by the end of 2017.

Digital listening is now more than 50% of the total, moreover the 85% of **new cars** has DAB by default.

The launch of the **second national MUX** approved. Government has proposed regulation that receivers should have FM and digital capability.

FM switch off around 2020.

AGCOM has called for **government support**



LATEST ACHIEVEMENTS ON DIGITAL RADIO

Launch of the first smartphone with a DAB receiver.



Open Mobile Radio Interface

The goal of this API is to allow:

- custom applications
- standardized access to tuner functionalities
- Categorised SlideShow
- ClickThroughURLs
- hybrid functionality

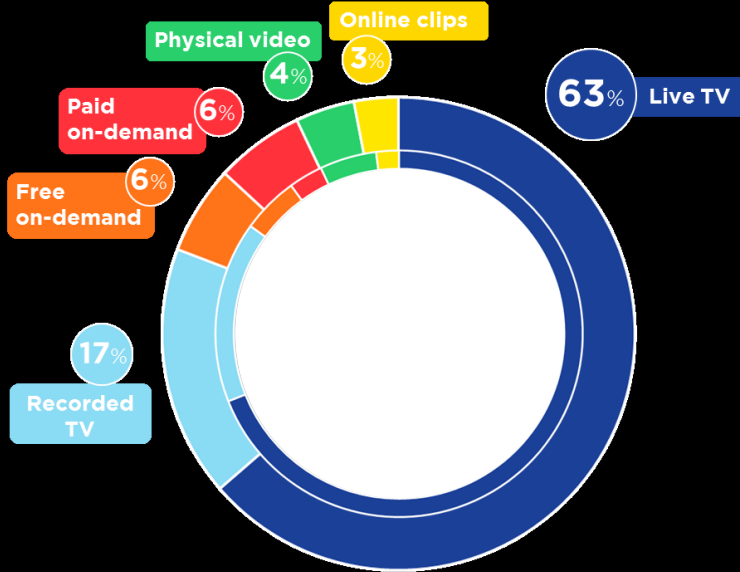
EBU COLLABORATION FOR FUTURE DISTRIBUTION

VIEWING (EITHER LIVE OR ONLINE) IS MOSTLY DONE ON A TV SET

Total viewing time by type of content

adults aged 16+, United Kingdom, type in % of total viewing

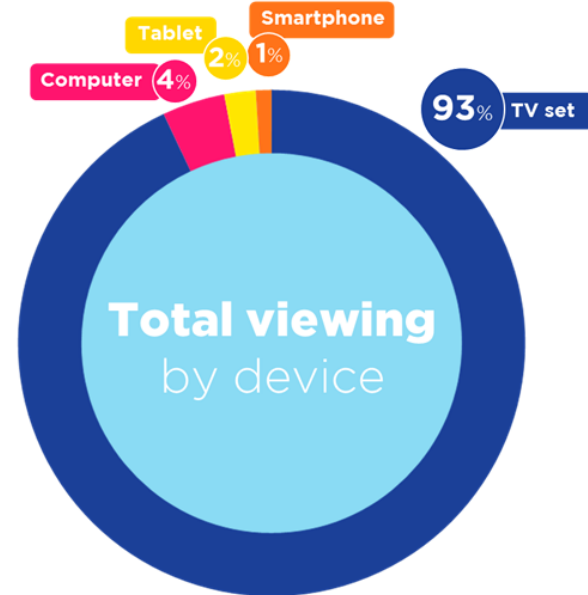
Inner circle: Q1 2014 / Outer circle: Q1 2016



Source: Ofcom Digital Day

Total viewing by device

adults aged 16+, United Kingdom, time spent in % by device, Q1 2016

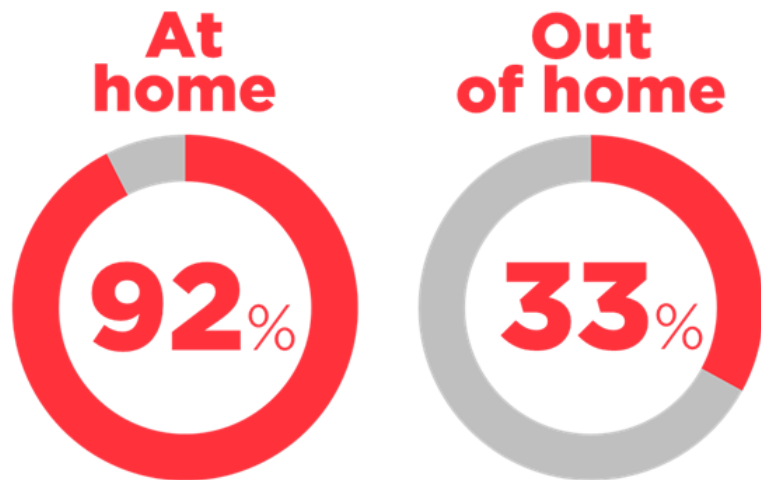


Source: Ofcom Digital Day

ONLINE VIEWING MAINLY HAPPENS AT HOME, VIA WIFI

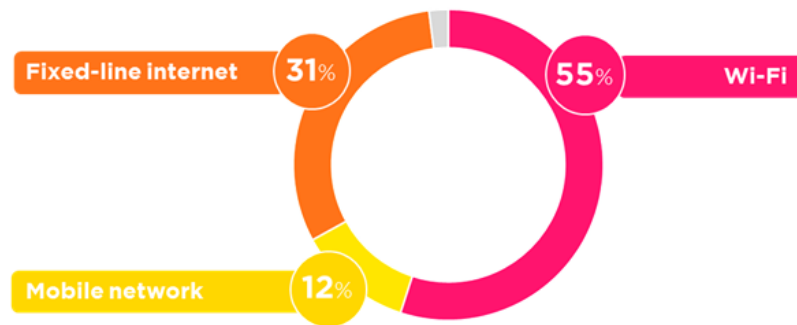
Watching location for online video

reach in % of online video users 16+, based on past week



Connection used to watch online video

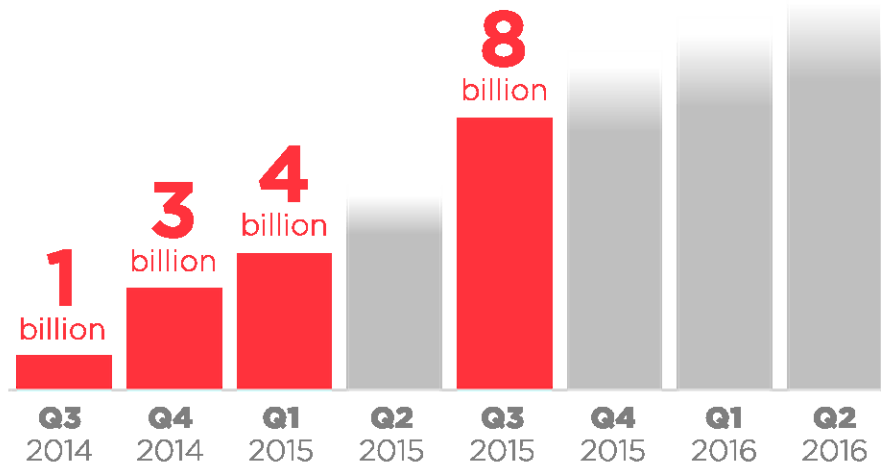
in % of online video users 16+, based on last video watched



Source: The Consumer Barometer 2014/2015, 31 European countries, TNS Infratest on behalf of Google

**Facebook
video: huge
amount of
“views”, little
time spent**

Video views on Facebook per day



Characteristics of videos on Facebook:

- **Autoplay** (start playing automatically)
- Audio is **muted** by default
- Counted as a view after **3 seconds**

BROADCASTERS REQUIREMENTS FOR DISTRIBUTION



Wireless broadband is currently not a real alternative to terrestrial broadcasting but a complement

COLLABORATION FOR FUTURE DISTRIBUTION

The EBU work continues on

- **Standardization** in 3GPP
To ensure that all linear and nonlinear TV content on smartphones and tablets will satisfy broadcasters' requirements
- **Research & Development** with the 5GXCAST project (Broadcast and Multicast Communication Enablers for the Fifth-Generation of Wireless Systems)
To develop broadcast and multicast point to multipoint (PTM) capabilities for 5G, and evaluate 5G spectrum allocation options for 5G Broadcast network deployments.
- **Regulatory and Commercial Framework** with the ETSI ISG MBC (Industry Specification Group Mobile Broadcast Convergence)
To explore the deployment and business models of converged networks from the perspectives of all interested parties. The group will study the means to support delivery of media including linear and non-linear elements over converged networks, taking into account the potential benefits and challenges from a commercial and technical perspective

**THANK YOU FOR YOUR
ATTENTION**