DIGITALEUROPE

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Creating Choices in 470-694 MHz

Executive summary

Audio visual (AV) media consumption trends indicate a continuing shift from linear watching to more individual consumption when and where people want. Besides traditional media consumption in homes, there is strongly increasing use of AV content on mobile devices and in mobile usage including in-car and in-train entertainment.

DIGITALEUROPE recognises a large diversity in the use of Digital Terrestrial Television (DTT) in Europe in two dimensions, population and services: some countries have high percentages of population using DTT whereas others have low percentages. Some countries have a wide service offering with many nationwide and/or regional/local programs on DTT where other countries rely on other distribution paths like satellite, cable and increasingly IP-TV.

DIGITALEUROPE believes, due to the varied use of DTT in the region, in some countries there may be scope to utilise the UHF Band 470MHz – 694MHz in a more efficient and flexible manner, subject to avoiding interference with existing services. This could provide new options and increased flexibility for distribution of AV content in terms of linear and non-linear delivery as well as support of mobile broadband which would allow for more efficient use of that valuable spectrum resource.

Such options may consider introducing additional mobile use in the band in order to address the digital divide between urban and rural areas in a cost effective manner and to deliver mobile services to other hard-to-reach places, while ensuring the protection of DTT and PMSE. These options would provide smooth migration paths at individual pace as per member states' individual objectives supported by a large ecosystem.

DIGITALEUROPE supports a co-primary mobile allocation under Agenda Item 1.5 of WRC-23 with the assumption that post WRC-23 CEPT will take the necessary steps to continue protecting existing services and products such as PMSE, DTT receivers and broadcast services, as needed. This provides addional flexibility which will allow Member States to address their national needs regarding DTT, PSME and mobile.

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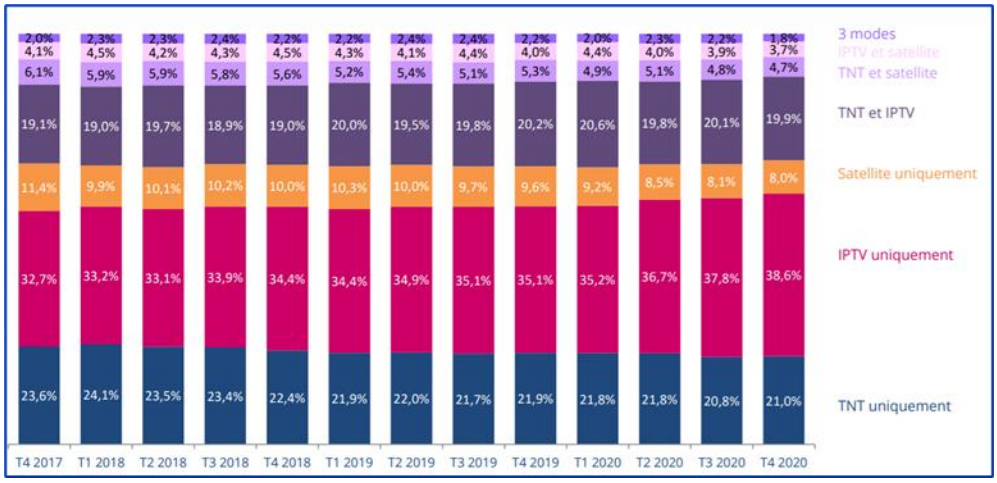
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Changes in AV media consumption and delivery

DIGITALEUROPE recognizes the importance of Public as well as Private Service Broadcast for information and entertainment of the European citizens. DIGITALEUROPE further recognizes the big importance of DTT as a means to distribute broadcast content to large audiences in a number of member states, while in others different distribution paths like satellite and cable are more popular than DTT.

DIGITALEUROPE sees an increasing role of IP-TV over ever improving broadband connectivity to homes, also driven by the EU Gigabit Society targets, being able to not only deliver linear content, but also all sort of on-demand video.

The shares of the delivery paths varies strongly in Europe, with over 90% pop using DTT in some coutries to 0 in others. Notably, an increasing number of households does not exclusively rely on DTT for linear reception as e.g. 2020 data[1] from France indicates 21% having DTT as the only source, whereas another ~26.4% use DTT besides other distribution paths.

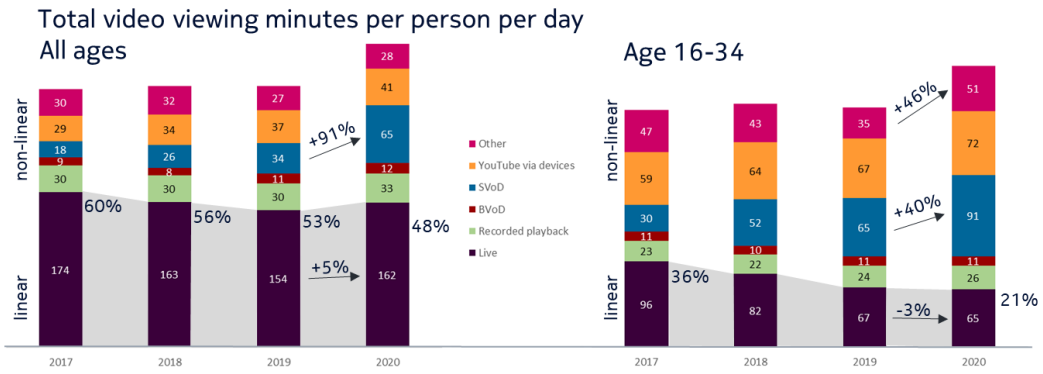


Besides linear viewing, consumers increasingly chose non-linear offers viewing content whenever and wherever they are. While older audiecence are more conservative, younger audiences have progressed far in that process. Data from the UK Media Nations report[2] indicates that in 2020 52% of all video minutes are consumed in a non-linear fashion for all audiences, and even 79% non-linear for

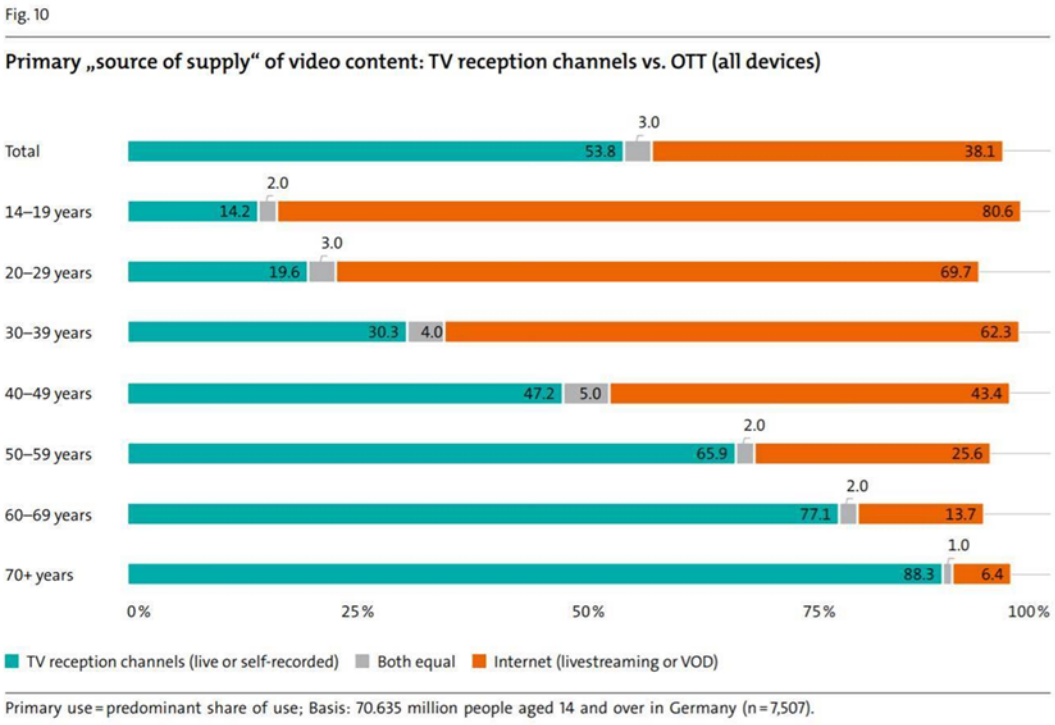
1 https://www.csa.fr/content/download/260395/814221/version/1/file/Observatoire%20de%20l'%C3%A9quipement%20audiovisuel%20des%20foyers%20de%20France%20m%C3%A9tropolitaine%20-%20r%C3%A9sultats%20des%203e%20et%204e%20trimestres%202020%20pour%20la%20t%C3%A9l%C3%A9vision%20et%20de%20l'ann%C3%A9e%202020%20pour%20la%20radio.pdf

2 https://www.ofcom.org.uk/__data/assets/pdf_file/0023/222890/media-nations-report-2021.pdf

audiences between 16 and 34, with the trend even accelerating during the pandemic.



In Germany, according to a report[3] of Die Medianstalten, 54% of all audiences consider linear TV as their primary source for video content, with huge variation over age ranging from 88% over 70 years to 14% for the age group of 14-19.



[3] https://www.die-medienanstalten.de/fileadmin/user_upload/die_medienanstalten/Publikationen/Digibericht_Video/Digibericht_Video_21/Digitalisierungsbericht_Video_2021_Web_en_National.pdf

TV sets in homes increasingly support the integration of linear and non-linear content and typically come as smart TVs supporting home broadband connectivity, native access to the catchup-platforms of broadcasters, and supporting all major providers of subscribed video on demand (SVoD) with Apps, fully integrated into the user interface of the TV set. Older TV sets can be easily upgraded with additional devices connecting to the HDMI port, coming either from IP-TV service providers or SVoD providers, fully integrating linear and non-linear offerings.

Smart phones and tablet computers are provided with multitudes of apps making both linear and non-linear content easily accessible on mobile devices. The field trial 5G Media2Go of SWR in the South-West of Germany integrates the linear side of 5G Broadcast with non-linear content delivery including new ways of presenting broadcast content like offering information and entertainment tailored to the current location of the vehicle.

More in 470-694 MHz

DIGITALEUROPE sees opportunities from additional UHF spectrum in rural areas for delivering AV media e.g. along the transport paths as well as helping reduce the digital divide for home and enterprise broadband, and providing deep indoor coverage. 470-694 MHz has excellent propagation characteristics allowing to cost-efficiently upgrade existing site grids with minimum environmental footprint in terms of energy consumption and visual impact.

At the same time, there is substantial progress in 3GPP on broadcast technologies (including LTE based 5G terrestrial broadcast and NR broadcast) targeting cost-efficient delivery of linear content to mobile devices and in mobile reception scenarios, including in-car and in-train entertainment requiring contiguous high-performance coverage along transport paths.

DIGITALEUROPE recognizes progress in EBU and 3GPP on NR-broadcast (in 5MBS/NR_MBS work items) as well as LTE based 5G terrestrial broadcast. DIGITALEUROPE notes the work item in 3GPP Release 17 for LTE based 5G terrestrial broadcast including a band definition for 470-694/8 MHz and channel bandwidth of 8 MHz relevant for Europe, but also 6 and 7 MHz relevant for other parts of the world.

DIGITALEUROPE thus sees the opportunity for a new global device ecosystem with receivers in mobile devices supporting 470-694/8 MHz and the respective carrier bandwidth driven out of European innovation, and also the opportunity for global devices to support NR broadcast with relatively limited changes to the existing 3GPP specifications to support the required functionalities.

DIGITALEUROPE had actively supported the process towards decisions of the Parliament and Council on 700 MHz with the timelines of converting the band for mobile use, providing the opportunity for a 5G pioneer band for wide area coverage, with protecting the existing broadcast and PMSE services below 700 MHz, a review of the future use of the band around 2025 and last but not least the flexiblity option to allow for additional use of idle TV channels in the band as long as the protected services are not unduely interfered.

In October 2015 DIGITALEUROPE outlined options of how a potential supplemental DL can cost efficiently support the further performance evolution of mobile networks specifically in rural areas and provided thoughts on possible regulatory considerations[4], including a co-primary mobile allocation in the band 470-694 MHz.

For PMSE, it is important to note that irrespective of the technology in use, unimpaired spectrum will be required for Services Ancillary to Broadcast/ Programming (SAB/SAP). The overall trend is one of increasing demand for audio SAB/SAP (PMSE) at the largest events and for an increasing number of those large events, typically limited to locally confined places typically in populated areas.

DIGITALEUROPE recognises, that no global alternative to the 470-694 MHz band has been identified. 5G is still a matter of research and business assessment for the audio PMSE industry and as such is neither technologically nor business ready.

With AI1.5 of WRC-23, Europe now has the opportunity to create choices for the upcoming UHF review by introducing a co-primary mobile allocation in the band 470-694 MHz.

Recommendations

DIGITALEUROPE recommends that Europe prepares for significant changes in AV media consumption. Europe needs to consider how to best deliver linear and non-linear AV content, both in fixed and in mobile scenarios.

We see benefit in Region 1 providing opportunities for flexible use of the 470-694 MHz hband for broadcast, PMSE and mobile, including mobile AV content delivery, allowing member states to address their national needs.

DIGITALEUROPE supports a co-primary mobile allocation under AI1.5 of WRC-23 with the assumption that post WRC-23 CEPT will take the necessary steps to

[4] https://www.digitaleurope.org/wp/wp-content/uploads/2019/01/Regulatory%20framework%20for%20SDL%20in%20UHF%20band.pdf

continue protecting existing services and products such as PMSE, DTT receivers and broadcast services, as needed.

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About DIGITALEUROPE

DIGITALEUROPE represents the digital technology industry in Europe. Our members include some of the world's largest IT, telecoms and consumer electronics companies and national associations from every part of Europe. DIGITALEUROPE wants European businesses and citizens to benefit fully from digital technologies and for Europe to grow, attract and sustain the world's best digital technology companies. DIGITALEUROPE ensures industry participation in the development and implementation of EU policies.

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