

May 5th 2020

5G User Vertical Webinar

IMPLEMENTING 5G SOLUTIONS FOR THE MEDIA INDUSTRY AND BEYOND

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5G MEDIA ACTION GROUP – CHAIRMAN

EBU - DIRECTOR OF TECHNOLOGY AND INNOVATION



MEDIA ACTION GROUP

5G MEDIA ACTION GROUP (5G-MAG)



5G MAG is a cross-industry initiative with a commercial focus

Founded in October 2019, the aim of the 5G Media Action Group (5G-MAG) is to create an operational framework for the harmonious and market-driven implementation of 5G solutions capable of meeting the requirements in the production and distribution of audio-visual media content and services beneficial for global media industry

- Broadcasters want to make available all their content and services, i.e. linear, non-linear, and social media on mobile devices and vehicles in a way compliant with their obligations.
- Broadcasters want to use 5G technologies in production and contribution of content and services to become more agile, flexible and cost-effective.

Membership of 5G-MAG is open to any organisation, in particular the stakeholders across the media, automotive telecoms and public security sectors that wish to support, follow and contribute to the association.

FROM PRODUCTION TO DISTRIBUTION



5G will play an important role in the **distribution of media content and services**

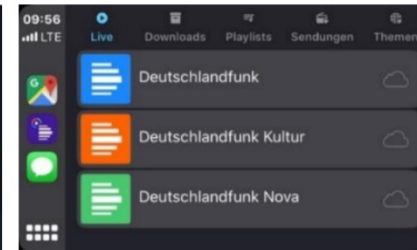
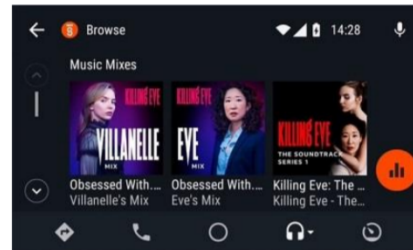
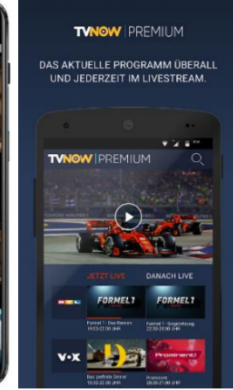
- a cooperative network that **combines satellite, terrestrial and cellular infrastructure in an intelligent way**. The potential savings are huge.
- Popular media content currently delivered via unicast can be shifted to **push multicast delivery**. When combined with the use of storage at the edge of the network or in the device itself, it becomes an even more attractive opportunity.
- For the **distribution of live content** such as sports and news events to mass audiences, **broadcast** will continue to make the most sense.
- **Satellite & Terrestrial** networks can cover 100% of territories & population.

In **content production** mobile technologies are widely used in news gathering.

- **Fast, low latency and reliable wireless connections**, using either public network infrastructure or non-public 5G networks, would be beneficial for in a range of content production and contribution use cases, including live events, remote productions, campus networks and wireless studios.
- The main expected benefits are increased flexibility, better resource optimisation, greater artistic freedom, increased safety, and lower production costs.

5G FOR MEDIA DISTRIBUTION

- Linear Services
- Nonlinear Services
- Enhanced Media Services and Platforms



5G BROADCAST REQUIREMENTS



Public Service Media

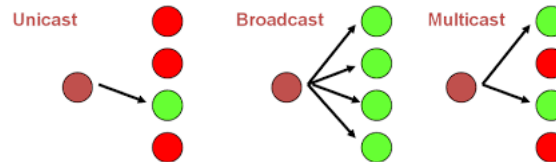
- › **Universal Coverage and Access**
- › **Free-to-air Access**
- › **Defined Quality of Service (QoS)**
- › **Scalability** (millions of users)
- › **Service integrity**
- › **Prominence**
- › **Ease of Use.**
- › **Accessibility**
- › **Public Warning**
- › **No Gatekeeping**
- › **Costs and Sustainability**

Commercial Providers

- **Monetization / Encryption / Copy Protection:** In linear TV this is done in the first place by airing advertisements and selling subscriptions. In the case of non-linear Catch-up & VoD services typical business models are SVoD, AVoD and TVoD.
- **Targeted Advertising (TA):** Addressable TV functionalities allowing for a personalized TV experience (e.g. regional services, customized UI and content)
- **Enhanced media services,** combining interactive elements providing access to additional linear (e.g. alternative audio tracks, real-time gaming) and nonlinear content (like e.g. time-shifted viewing, video on-demand)

COMBINING BROADCAST/MULTICAST AND UNICAST

- Combining broadcast/multicast using **Towers + Satellite overlay + Unicast Cellular** to
 - The **broadcast of events** interesting large number of users and entire territories
 - The **unicast delivery of one to one personalized contents**
 - The **multicast push delivery** of multimedia contents
 - entertainment contents but also other public service contents (e.g. live traffic/alerts, navigation corrections and emergency information)
 - and in general software and information distribution to large population of users with a zero marginal cost per additional user
 - The same contents delivered to mobiles/vehicles can be received and managed at the very edge of the network (end devices) and at the level of any edge server in general
 - Using a **local storage** to maximize efficiency and economical sustainability.
 - At the exception of some limited cases where the information flow can be purely unidirectional (emergency transmission or free to air broadcast content delivery) , it is always assumed the existence of a bidirectional link resource for the integration and orchestration of the 5G multilayer approach.
 - Broadcast-only would also work in areas where there is no unicast/uplink coverage



5G FOR MEDIA DISTRIBUTION



- › **LTE-based 5G Terrestrial Broadcast “Release 16”**
 - › Evolution of work started in Release 14 to meet PSM requirements
 - › free-to-air, downlink only, 100% broadcast capacity,...
 - › Release 16 integrates new numerologies for better mobility and large-area SFN
- › **5G Multicast/Broadcast “Release 17”**
 - › 5G system architecture and 5G-NR to include for the first time multicast/broadcast
 - › No SFN, no receive-only capabilities, registration with MNO required
 - › Possibility of synergies with automotive industry, public protection,...
- › Both activities relevant to ensure **QoS and scalability of IP distribution**

5G FOR CONTENT PRODUCTION AND CONTRIBUTION



Mirror CORONAVIRUS NEWS POLITICS SPORT FOOTBALL CELEBS TV MORE

EE tests 5G with BT Sport - here's how it'll change the way you watch football

EE and BT Sport are using 5G to change the way we watch football

By Ian Morris 16.26.22 NOV 2018

Deutsche Telekom uses 5G to transmit live TV images at Berlin Marathon

SportsPro Reference Motorsport Forum Sign up

NFL broadcast used by NBC for new 5G tech trial

US network teams up with Verizon and Sony to pilot wireless transmission.

Posted: December 11 2019 | By: Steven Impoy

BBC News Sport Weather Shop Earth Travel Capital More

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BBC and BT in UK's first live 5G production trial



Date: 30.05.2019 Last updated: 31.05.2019 at 15:46
Category: BBC One, News, Online and interactive

The BBC and BT successfully made the UK's first live TV contribution over a public 5G connection, using EE's 5G network.

On BBC Breakfast this morning, viewers will have seen BBC technology correspondent Rory Cellan-Jones cover the launch of the UK's first 5G network from Covent Garden. But they won't have seen that his segment was also beamed back to BBC News Broadcasting House over the very same 5G network to be played out live in the show.

This is the first time a public 5G network has been used for a production team for a live TV programme.

"This is an excellent example of how the BBC experiments with cutting-edge technology to improve how we make programmes."

TECH ADVANCES

RTVE demos "world first" stand alone 5G broadcast

By James Pearce | 21 June 2019

- RTVE carries out Spain's first 5G broadcast
- Public broadcaster claims it is world's first stand-alone 5G demo
- Portugal's RTP also carried out first 5G broadcast this week

RTVE has become the first Spanish broadcaster to carry out a live broadcast over 5G connectivity.

The Spanish state broadcaster carried out the 5G broadcast during the EUCNC 2019 conference in Valencia, where news presenter Ana Blanco spoke to reporter Carlos de la



Verizon works can produced.

5G FOR CONTENT PRODUCTION AND CONTRIBUTION



- › **Technical Requirements on-boarded**
 - › Study on Audio-Visual Service Production (TR 22.827)
 - › Service requirements for video, imaging and audio for professional applications (VIAPA) (TS 22.263)

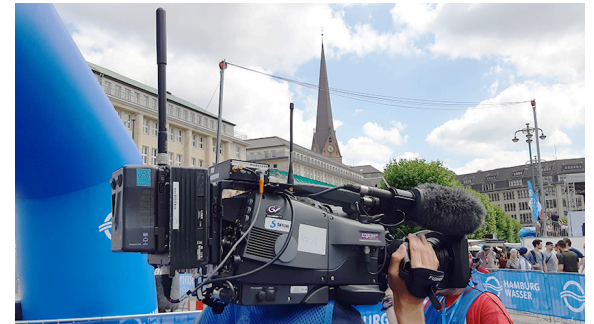
- › **Specification work to start in Release 17**
 - › No specific work item for AV Production but requirements to be met by relevant activities
 - › Similar requirements as industrial automation, health, public protection,...

5G-MAG ACTIVITIES



- **Identify relevant use cases** in the global media industry where 5G can be beneficial
- **Estimate** the volume of chipsets and user devices required by the global **market**, together with a timeframe
- **Catalyse the development of collaborative 5G infrastructure** including mobile, terrestrial broadcast and satellite networks.
- **Collaborate with the Mobile and Automotive** industries to develop and deploy successful services
- Support the development of **pilot networks and terminal prototypes** to accelerate the commercial availability of end user devices

This requires collaboration with relevant stakeholders along the entire media chain, explaining the issues and the relevance of Media requirements, opportunities and benefits



5G-MAG ELECTED BOARD



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Membership April 2020

40 members signed

10 members pending



WWW.5G-MAG.COM

ADVANTAGES FOR THE BROADCAST MEDIA INDUSTRY

Under huge pressure from increased global competition and shifting consumption patterns, broadcasters and other content providers need to adapt their distribution models to meet user expectations. The development of **hybrid services, combining linear and time-shifted elements**, along with personalized on-demand services, **using a combination of broadcast and multicast content delivery, represents a cost effective and sustainable solution.**

A win for the media industry will see broadcasting reinvented to use collaborative infrastructure that combines the reach and efficiencies of terrestrial and satellite, broadcast and multicast, with the high throughput and personalized delivery mechanisms of mobile networks.

ADVANTAGES FOR MOBILE NETWORK OPERATORS

The MNOs are in a strong position, with a well-established business built on direct relationships with end users and strong leverage over device manufacturers. But they need to greatly expand their media content offer which – in their current model - comes *with a heavy investment burden*.

A win for the MNOs will involve enhancing their media offer to both mobile devices and cars via 5G broadcast and multicast modes, as a powerful means of efficiently and cost-effectively using available network resources.

ADVANTAGES FOR THE AUTOMOTIVE INDUSTRY

As our transport infrastructure becomes ever smarter, we will require networks that can meet the need for entertainment, navigation, safety and software updates. Such networks need to cover 100% of the territory and 100% of the population with **guaranteed quality of service at a sustainable cost/user**. Currently, no single infrastructure can achieve this.

A win for the automotive industry will involve equipping connected cars and networks with the intelligence to use broadcast, multicast and unicast in an efficient and reliable configuration that enables the full potential of smarter, safer and – eventually – self-driving cars.

PUBLIC WARNING SERVICES : THE IDEAL SOLUTION

Alerting the public in emergencies, whether natural or man-made, is an essential element of public safety systems. Both broadcasters and telecoms operators have a regulatory obligation to build the necessary infrastructure and put it at the disposal of local, regional or national authorities. This is technically challenging and costly.

A win for the national authorities, broadcasters and telecoms operators, and ultimately the citizens, will be a reliable, cost-effective, advanced network infrastructure with near-universal coverage of the population and territory, that can support public warnings in emergency situation.

THANK YOU FOR YOUR ATTENTION

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