

### PROGRAMME

TUESDAY 16 NOVEMBER 2021 (09:55 - 16:10 CET)

09:55 – 10:00 – Opening –

10:00 – 10:15 **Welcome and Introduction** Antonio Arcidiacono (EBU)  
Peter MacAvock (EBU)

#### KEYNOTE SESSION

10:15 – 10:35 **Can EBU Members win the online battle?** Johan Wahlberg (SVT)

*EBU Members are debating the best way to go forward with their online offerings: whether the future lies in app-based distribution (e.g. SVT Play) for live playout and on-demand, or whether it is crucial for survival to be present on all relevant third-party video-apps and platforms in their national market. Are proprietary apps strong enough to be the exclusive way of PSM online distribution?*

10:35 – 10:55 **Will IP take over from broadcast, and what is a hybrid scenario, exactly?** Simon Parnall (UK Ofcom)

*A migration to IP-based distribution across Europe will be driven by a range of forces, not just economics, and it will be a long process. In the meantime, broadcast networks have a truly important role to play.*

10:55 – 11:15 **PANEL DISCUSSION** Johan Wahlberg (SVT)  
**Is the linear free-to-air TV model worth preserving in a broadband future?** Simon Parnall (UK Ofcom)  
Peter MacAvock (EBU)

11:15 – 11:30 – Break –

#### SESSION 1: GOING BROADBAND

CHAired BY BRAM TULLEMANS (EBU)

11:30 – 11:50 **TV distribution over IP networks – an end-to-end perspective** Simon Jones (BT)

*BT, with BT Sport, produces and delivers live sport over broadcast and IP networks. This presentation considers the needs of broadcaster and end-users, and the requirements these place upon the network to be suitable for live sport content.*

11:50 – 12:10 **Effectively using quality metrics to optimize streaming at scale** Ralf Neudel (Einbliq)  
Sebastian Siepe (Einbliq)

*Achieving a satisfying experience for online viewers that is on par with that of traditional broadcast while minimizing costs remains a key challenge. This presentation discusses the differences between technical service quality (QoS) on the one hand and quality of experience (QoE) as perceived by the end-user on the other. It explains how both can be assessed, how they relate, and how quality data can be made actionable using elaborate client-side streaming analytics.*

12:10 – 12:30 **Trends in Content Delivery Networks** Andre Reitenbach (G-Core Labs)

*An update on Low Latency Streaming, (open) caching possibilities, including extensions to the Access Network and transparent caching, 'alternative technologies' such as the use of CDNs for multicast in 5G, network slicing, and backhauling using satellite.*

12:30 – 13:30 – Lunch Break –

13:25 – 13:30

– Opening –

### SESSION 2: 5G MARKET TRENDS

CHAired BY ROLAND BEUTLER (SWR)

13:30 – 13:50 **Deploying 5G for media broadcast** Lorenzo Casaccia (Qualcomm)

*Work on Release 17 and planning of work items of Release 18 has advanced significantly. What are the opportunities for the media industry in content production and in distribution? What are the timescales, what might be implemented, and when?*

13:50 – 15:00 **PANEL DISCUSSION** Roland Beutler (SWR)

**Enabling the market for the use of 5G in the media sector**

*Our panelists discuss emerging business models, opportunities and blocking issues for the use of 5G in media production and distribution.*

Lorenzo Casaccia (Qualcomm)  
Jordi J. Giménez (5G-MAG)  
Michael Reinartz (Vodafone)  
Aziz Taga (Rohde-Schwarz)

15:00 – 15:30

– Break –

### SESSION 3: SUSTAINABLE AND RELIABLE

CHAired BY HEMINI MEHTA (EBU)

15:30 – 15:50 **How is ITU adopting the UN Sustainable Development Goals?** Gitanjali Sah (ITU)

*The ITU is looking at how ICTs can help to achieve each of the United Nations Sustainable Development Goals. How are different ICT industries contributing to the sustainability goals?*

15:50 – 16:10 **A study on the carbon footprint of TV delivery** Vincent Grivet (The LoCat Project)

*This presentation shows the results of a study commissioned by a number of large European players on the carbon impact of TV delivery across Europe and across the different delivery platforms (DTT, IPTV, OTT).*

16:10 – 16:30 **The reliability of broadcasting networks in emergency situations** Udo Klaus (SWR)  
Susanne Rath (ARD)

*In summer 2021, several natural disasters throughout Europe clearly demonstrated the resilience of broadcasting networks during disaster events, which were key to keeping the population informed. This presentation examines the case during the severe 2021 flood events in Germany.*

16:30

– End of Day 1 –

WEDNESDAY 17 NOVEMBER 2021 (09:55 - 16:15 CET)

09:55 – 10:00

– Opening –

### SESSION 4: THE FUTURE USE OF SUB-700 MHZ

CHAired BY ILHAM GHAZI (ITU)

10:00 – 10:05	<p><b>The UHF band, one of the hottest topics at WRC-23</b></p> <p><i>WRC-23 agenda item 1.5 will review the use of the 470-960 MHz band. What is the scope of the studies to be done? What are the current and future services usages?</i></p>	Ilham Ghazi (ITU)
10:05 – 10:15	<p><b>Spectrum use and needs in the UHF band across Region 1</b></p> <p><i>Region 1 covers the whole of Europe, Middle East and Africa. Different services, different spectrum requirements, and different timescales in different parts of the Region will need to be reconciled.</i></p>	Darko Ratkaj (EBU)
10:15 – 10:25	<p><b>Sharing Studies – is ‘flexibility’ real?</b></p> <p><i>Certain regulators want a co-primary allocation to mobile services below 694 MHz in order to maintain future flexibility for decisions around the use of the band. But sharing possibilities between DTT and IMT are so limited that a harmonized use is required. Where is the flexibility?</i></p>	Thierry Schott (TDF)
10:25 – 10:35	<p><b>How public service media think DTT and 5G Broadcast will evolve</b></p> <p><i>Public service media that are organized in the EBU have varying spectrum needs. What are their expectations for the future and how was the common EBU position defined?</i></p>	Per Björkman (SVT)
10:35 – 10:45	<p><b>The future of audio PMSE</b></p> <p><i>Wireless audio production devices are important uses of sub-700 MHz frequencies. How is this part of the industry innovating? What are the future spectrum needs?</i></p>	Lindsay Cornell (BBC)
10:45 – 10:55	<p><b>The need for more mobile broadband – coverage vs capacity</b></p> <p><i>International Mobile Telecommunication (IMT) services are looking to expand their spectrum allocations below 700 MHz. Existing allocations can already provide coverage and capacity for rural areas. Is there a need for more spectrum?</i></p>	Ross Bateson (GSMA)
10:55 – 11:30	<p><b>PANEL DISCUSSION</b></p> <p><b>Is there a ‘win-win’ solution for sub-700 MHz?</b></p> <p><i>Our panelists discuss if the various claims on the sub-700 MHz spectrum can be reconciled and what some win-win scenarios might look like.</i></p>	Ilham Ghazi (ITU) Darko Ratkaj (EBU) Thierry Schott (TDF) Per Björkman (SVT) Lindsay Cornell (BBC) Ross Bateson (GSMA)
11:30 – 12:00	– Break –	

### SESSION 5: THE FUTURE USE OF THE C-BAND

CHAired BY CATH WESTCOTT (BBC)

12:00 – 12:05	<p><b>Why the use of the C-Band is important for broadcasters</b></p> <p><i>The C-Band is extensively used for EBU Members’ international services as well as Eurovision Services, focused in certain parts of the world. Other Members are looking to other future uses. But the band is challenged for additional IMT (international mobile telecommunications) usage.</i></p>	Cath Westcott (BBC)
12:05 – 12:15	<p><b>C-Band – current challenges for the satellite industry</b></p> <p><i>The C-Band provides a resilience to rain attenuation which is essential in certain parts of the world and beneficial not only to the media but other industries as well. Is there an alternative to replace it?</i></p>	Hazem Moakkit (ESOA Global Spectrum & Regulatory Policy)
12:15 – 12:25	<p><b>C-Band as a spectrum option for 5G Campus networks</b></p>	Khishig Dushchuluun (BR/ARD)

*5G non-public networks are being considered by broadcasters for certain local applications such as production, as well as by other industries with low latency and high QoS requirements. C-Band is one of the bands for such applications.*

12:25 – 12:35	<b>The Mid-Band needs of different services</b> <i>Regulators have to manage various spectrum requirements in the C-Band. What could be the solution, notably in terms of sharing?</i>	Eric Fournier (ANFR)
12:35 – 13:00	<b>PANEL DISCUSSION</b>  <b>Can competing uses share the C-Band spectrum?</b> <i>Our panelists discuss if the different emerging and competing services could share the C-Band, and how.</i>	Cath Westcott (BBC) Khishig Dushchuluun (BR/ARD) Eric Fournier (ANFR) Hazem Moakkit (ESOA Global Spectrum & Regulatory Policy)
13:00 – 14:00	– Lunch Break –	
13:55 – 14:00	– Opening –	

### SESSION 6: SPECIALISED TECHNOLOGY TALKS

CHAIRIED BY DAVID HEMINGWAY (BBC)

14:00 – 14:20	<b>If broadband is king, is DVB also going broadband?</b> <i>Broadband technologies are disrupting broadcasting organisations. DVB has a number of initiatives related to broadband: DVB-DASH, DVB-I, Native IP solutions, and more. How does all this fit together?</i>	Emily Dubs (DVB)
14:20 – 14:40	<b>5G-RECORDS: enabling media content production</b> <i>The main objective of this European project is to integrate 5G components into three use-cases and evaluate their performance in the context of professional content production environments.</i>	David Gómez Barquero (UPV)
14:40 – 15:15	– Break –	
15:15 – 15:35	<b>The disruptive future of Radio</b> <i>Radio has long demonstrated that it can adapt quickly with change. With more challenges to Radio listening than ever, what will Radio look like in the future and what are broadcasters doing now to make that a reality?</i>	James Cridland (Podnews)
15:35 – 15:55	<b>Are we compliant with regulation to protect health from electromagnetic radiation?</b> <i>Broadcasters should be aware of the regulation limiting the effects on health from electromagnetic radiation and why. This presentation also looks at the EMF aspects of bonded cellular devices.</i>	Karina Beeke (Cellnex Telecom) Robert Webber (BBC)

### WRAP-UP

15:55 – 16:15	<b>A summary of FORECAST 2021</b>	Elena Puigrefagut (EBU)
16:15	– End of Forecast 2021 –	