

# PRODUCTION TECHNOLOGY SEMINAR

AN EBU EVENT

## FROM REAL TO SUSTAINABLE AND VIRTUAL WORLDS

### BIOS

TUESDAY 1<sup>ST</sup> FEBRUARY 2022 (08:55 – 17:20 CET)

09:00 – 09:10 **Welcome**



**Antonio Arcidiacono** is Director of Technology & Innovation at the European Broadcasting Union. He has extensive experience in conceiving, developing and taking new products and services to market. Since joining the EBU in September 2018, Antonio has launched several initiatives designed to leverage the collective expertise and momentum of the EBU Membership for technology innovation, deliver key building blocks for the digital transformation of public service media, and strengthen collaboration between PSM, European policy initiatives, start-ups and academic institutions. Two of Antonio's most recent initiatives are the 5G Media Action Group (5G-MAG) and EuroVOX. 5G-MAG currently counts 40 members from the industry and aims to ensure future 5G standards are fit for purpose in media production and distribution. EuroVOX is a collaborative project of the EBU and several of its Members that aims to break down language boundaries for users and content. It consists of an open framework upon which services can be built, and a set of tools for media creators, such as

speech-to-speech translation. Antonio previously worked as Director of Innovation and a Member of the Management Committee at Eutelsat; the European Space Agency; Telespazio, and Selenia Spazio

**Hans Hoffmann** (PhD) is EBU Senior Manager and head of unit on media fundamentals and production technologies in the EBU Technology and Innovation department. He has been for 9 years with the Institut fuer Rundfunktechnik (IRT) as research staff in new television technologies until moving to the EBU in 2000. In the EBU he has been leading many activities on media integration, production technologies, technology evaluations, and he established the EBU HDTV testing lab, and work with EBU Members on IT based digital workflows and open innovation strategies. More recently he and his team looked at emerging technologies such as immersive media (UHD, NGA), AI-Data, EU 5G projects, IP and cloud-based media. Hans is the current president of the SMPTE for 2021-22 ("the global home for media professionals, technologist and engineers"). He has been author of many EBU Technical documents; IEEE papers and is a standing speaker and contributor to international conferences and recipient of the 2020 Richard Theile Medal.



### KEYNOTE

09:10 – 09:40 **Game changers: Immersive storytelling**

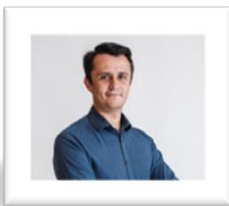
Seeding innovation. You can elevate a brand with emerging tech and innovative storytelling, but how do you sow the seeds and create spaces for such creativity? Francesca Panetta takes us through her adventures of VR, AR, AI at the BBC, Guardian and MIT to show how.



**Francesca Panetta** is an Emmy award-winning immersive director and industry leader in the world of experimental storytelling. She has pioneered new forms of documentary and journalism leading teams in newsrooms and universities harnessing emerging technologies for social impact. She is currently Curator of Sheffield DocFest's Alternate Realities, and was a Creative Director at MIT where she made flagship AI work such as In Event of Moon Disaster. Before that she worked at the Guardian for over a decade pioneering new forms of journalism, including setting up and running the in-house virtual reality studio. Her works have won critical acclaim - receiving awards around the world, and touring the White House, Tribeca, Cannes, Sundance, and more. She was a 2019 Nieman Fellow at Harvard University.

### SESSION 1: WHAT HAS CHANGED AND IS NOT GOING BACK

MODERATED BY CONRAD GOUWS (RTÉ)



**Conrad Gouws** has been working in broadcast technology for 13 years. Conrad joined RTÉ in 2014 as a broadcast systems engineer, and is currently working as RTÉ's Technical Architect. Along with Markus Ostertag from SWR Conrad chairs the EBU Hybrid and Cloud Based Production group

09:40 – 10:05 **Covid Accelerated Remote Production Transformation**

Exploring BT Sport's transformation to remote and decentralised remote production accelerated by the Covid-19 Pandemic

**Andy Beale** (BT Sport) is Chief Engineer for BT Sport, joining the innovative and disruptive British broadcaster at the beginning of its journey in 2012 to oversee the technology and construction of the landmark BT Sport Production Hub in the Queen Elizabeth Olympic Park. He played a pivotal role in the development and launch of Europe's first commercial live sports Ultra HD channel "BT Sport Ultra

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HD", and its HDR successor: BT Sport Ultimate. He led BT Sport's pioneering Dolby Atmos launch and ground breaking advances in live VR 360. Recently he has delivered world firsts in 8K TV, 8K VR and 5G remote production. Previously he was Head of Engineering for Sports Media House, Octagon, and before that delivered projects worldwide for respected system integrator IPK. Andy is co-founder of Rise Up, a broadcaster led STEM schools programme that aims to inspire the next generation of broadcast engineers and on the board of inclusion advocacy group Rise. Andy is a SMPTE Fellow and is the IABM Technology Leader of the Year. Twitter: @speedybeale, <https://www.linkedin.com/in/andy-beale-8155878/>

### 10:05 – 10:30 Collaboration, User Focus, Product Thinking - Digital Transformation & Covid-19

In digital media, it is impossible to separate „editorial“ and „tech“ competencies – innovation needs product-centric collaboration.“



**Sophie von Glinski** (SWR) is a Digital transformation specialist which includes expertise in digital strategy, organizational development, and change management. She started as a radio journalist in the era of tape recorders and has worked her way through digitalisation ever since. She works as a Strategy Consultant in SWR's team „Strategy and Business Development“, which is part of the newly established „Innovation Management and Digital Transformation Department“.

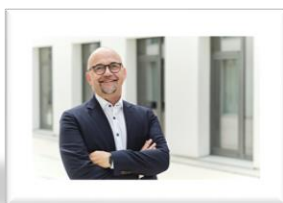
Sophie takes an organizational development perspective to look at the conditions that are necessary for digital transformation to take place.

## SESSION 2: R&D AND INNOVATION STRATEGIES AT PSM

MODERATED BY HANS HOFFMANN (EBU)

### 10:30 – 10:55 The future of R&D&I at Germany's ARD broadcasters

After the relatively recent shutdown of the IRT, the former R&D organization of the public broadcasters in Germany, Austria and Switzerland, Michael presents ARD's plans to compensate for at least some of the activities that IRT was responsible for. The new R&D&I approach of ARD is based on a network of existing, restructured and newly created entities - the so called Competence Centers.



**Michael Eberhard** (SWR)

1986 - Final Orchestra exam at University of Music Karlsruhe.

1990 - Graduate Sound engineer at University Düsseldorf.

1991 - Sound engineer at SWF Baden-Baden / Big entertainment shows, music and sports productions.

1996 - Team Leader audio at SWF.

1998 - Team Leader video at SWF.

2001 - 2005 - Head of studio production and playout at SWR Baden-Baden.

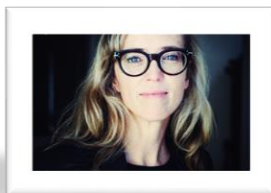
2005 - 2015 - Head of technology and production at SWR Stuttgart. During that time, I was

responsible for planning and realizing a completely new broadcast building at SWR Stuttgart with three TV studios and one radio channel.

From 2015 - Managing director for technology and production at SWR and TLO at the EBU for the ARD.

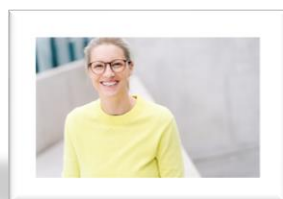
From 2020 - Vice Chair of the Technical Committee at the EBU, representing ARD and ZDF.

### 10:55 – 11:20 Start-up driven innovation in Europe – Opportunities for PSM



**Tanja Deuerling** (Next Media Accelerator) has always been there where media innovation happens. She started her career in different leading roles in the TV business. In 2016 she received her doctorate at the "Filmuniversität Babelsberg" and published her thesis "Innovation Management for New TV". Tanja is consulting media houses in Germany and Europe when it comes to innovation, digital transformation and change management. She brings all her experience to NMA and the EU projects, namely STADIEM, the NMA is involved in. <https://www.linkedin.com/in/dr-tanja-deuerling-11a8b972/>

### 11:20 – 11:45 A look into the engine room: structure and work of the WDR Innovation Hub



**Lisa Zauner** (WDR) <https://www.linkedin.com/in/lisa-marie-zauner-2093b2b1/>

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### SESSION 3: QUALITY IN THE AGE OF MOBILE AND LARGE SCREENS

MODERATED BY ANDY QUESTED (FREELANCE EBU/ITU)

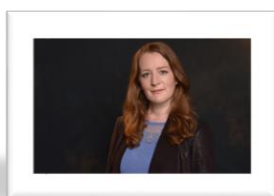


**Andy Quested** started at the BBC in 1978 becoming a video-tape editor in 1985 working on comedy, children's & documentaries. Moving to a new technology department he, worked on introducing non-linear editing, stereo, widescreen, the BBC's first HD programme Planet Earth I and the first UHD programme Planet Earth II Andy was chair of the EBU Production Strategic Programme, has been a Rapporteur for the ITU-R on HDR, 3DTV, the Global Broadcasting Platform and image quality. He is Chair of content production, Working Party 6C and Co-Chair of the joint group on Accessibility. As chair, he initiated new areas of study on Advanced Immersive Sensory Media Systems and Artificial Intelligence in content production and international programme exchange Andy left the BBC at the end of 2020 but is still leading standards work in the ITU and EBU. He is also an active member of SMPTE, becoming a Fellow in 2014. [www.linkedin.com/in/andyquested](http://www.linkedin.com/in/andyquested)

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#### 11:25 – 11:50 Video - Is Hollywood really in my pocket?

Exploring the world of mobile journalism and mobile filmmaking



**Eleanor Mannion** has worked with RTÉ for 15 years. She is an accomplished video and mobile journalist. In 2016 Eleanor filmed and directed a one hour documentary, The Collectors, which broadcast on RTÉ One. This was the first television documentary broadcast in Europe filmed entirely in 4K using an iPhone. Twitter: @eleanormmannion

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#### 11:50 – 12:15 Audio - Why is it so difficult?

Audio is all around our heads, yet still problematic to grab; a few words on significant challenges.

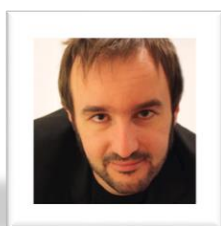


**Eddy B. Brixen** (CESMA) started his career in audio with Danish Broadcasting (DR). Now he primarily works as an independent consultant. He holds positions with the Danish National School of Performing Arts (Associate Professor), CESMA (Professor), DPA Microphones (Audio Specialist). He is the author of several books, of which Audio Metering (Routledge) is one. @EddyBrixen

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#### 12:15 – 12:40 Speak up!

From home-cinema to smartphone, does a "TV mix" could guaranty the speech intelligibility? 500 listeners have participated to a specific study.



**Matthieu Parmentier** started his audio career recording classical music CDs. He joined France Televisions - the French public broadcaster - in 1999 as a sound engineer for live programs and started the management of 3D audio, UHD video and metadata projects eight years later. Matthieu has been leading the Data & Artificial Intelligence Department at France Televisions since its creation in 2019. He co-chairs the Audio Engineering Society Technical Committee for Broadcast and Online Delivery. Matthieu is also the special delegate for Creative and Cultural Industries of Cap Digital, the French cluster. He holds two license degrees in sound recording and video post-production and a master degree in audiovisual research from the Toulouse II University.

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#### 14:35 – 14:45 Panel / Q&A

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### SESSION 4: TECHNOLOGY IS CONTENT (I)

MODERATED BY PAOLA SUNNA (EBU)

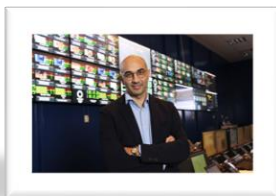


**Paola Sunna** joined the Centre for Research & Technology Innovation of RAI, the Italian public broadcaster, in 1997 after getting her degree in Electronic Engineering at Politecnico of Torino. She has worked on a wide variety of video projects over the years spent at RAI, including: image processing, video coding, next generation video formats, multimodal user-interfaces, hybrid broadcast and broadband middleware, second screens apps, standards (DVB, MPEG, etc) and 3D computer graphics. She got a MBA in 2005.

In March 2017, she moved to the EBU Technology and Innovation Department as Senior Project Manager. At the EBU she was involved in the activities related to VR (Virtual reality) and AR (Augmented Reality). Currently she is focusing on virtual productions, newsroom workflows, 5G for professional media content production and next generation audio services.

#### 14:45 – 15:10 Innovation at the Olympics

In this presentation, Mario will address on how OBS designs and operates network aggregation, network distribution and Services devoted to Broadcasting in scenarios of high availability and high resilience such as the Olympic Games. A wrap-up of the Tokyo 2020 Summer Olympic Games will be shared while an outlook on what has been put in place for the Beijing 2022 Winter Olympic Games starting in 3 days will be discussed. A special focus to key end-user applications such as OBS OTT platform will be shared with the participants.



**Mario Reis** (OBS) Experienced Director Of Telecommunications with a demonstrated history of working in the telecommunications industry. Skilled in 3G, LTE, 5G Mobile Communications, Mobile Devices, and Wireless Technologies. Joined Olympic Broadcast Services in 2010. Since then, has developed services for the Broadcasting Industry with an emphasis on Transport Networks for Video, Distribution of Video over Satellite, Cloud Services and OTT Delivery platforms.

#### 15:10 – 15:35 Large Sports Events Technology - transition from baseband to IP and public internet

ST2110 based Broadcast Contribution networks, SDN control and network demarcation, Feeds delivery @ cloud edge, Web based applications for broadcast



**Christian Gobbel** (HBS) Experienced CTO with a demonstrated history of working in the media production industry. Strong engineering professional skilled in Broadcast Engineering, Sound, Management, Television, and Product Development. Joined HBS in 2004 and was involved in multiple FIFA World Cup™ and UEFA EURO championships in the planning and the design of Commentary, Telcom VandA adaptation and Audio/Video Venue Production Systems.  
<https://www.linkedin.com/in/cgobbel/>

Before joining HBS in 2012, **Johannes Franken** worked for v3 consulting GmbH, specialising in management and IT-consulting and was previously Head of Production Management for Plazamedia. For the 2006 FIFA World Cup Germany™, Johannes worked in the New Media Department of Infront Sports and Media. He was responsible for the development and management of the multimedia services offered by HBS on behalf of FIFA for the 2014 FIFA World Cup Brazil™ and the 2018 FIFA World Cup Russia™. As HBS Director of Digital, Johannes is leading the digital transformation of world-class sporting events.



#### 15:35 – 16:20

**ROUND TABLE** – moderated by **Morten Brandstrup** (TV2 Denmark)

**News production in a dynamic news environment**

**Hanna Siren** (YLE)



**Anders Hansen** (SVT) Development Manager Production Platform - I manage three agile software development teams with the mission to empower SVTs journey to become national leaders on (at?) news video online.

Before that I spent 10+ years in the editorial department working with daily news and sports as well as with major events.

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**Eva Feigk** (ZDF) Since summer 2001 responsible for the digitization processes of the ZDF crossmedia newsroom. Product Owner ZDF News-MAM, iNews, Journalistic Planning System (deputy)



16:20 – 16:45 **Contribution links with the Starlink project**

Jonathan De Bolster (VRT)

### SESSION 5: TECHNOLOGY IS CONTENT (II)

MODERATED BY LUCILLE VERBAERE (EBU)



**Lucille Verbaere** joined EBU as Senior Project Manager, coordinating Media Cybersecurity activities. She has 20y-experience in Cybersecurity, Telecommunications, Air Transport and Semiconductor industries: she started as an R&D engineer at ST Microelectronics, doing research on wireless telecom systems (Today's IoT domain). Then Lucille joined SITA as program and product manager for infrastructure and cloud-based data management services to airports and airlines worldwide. In her last position at ID Quantique in Geneva, Lucille was responsible for a portfolio of cybersecurity products, based on quantum physics.

17:00 – 17:25 **New Builders: What keeps you awake at night?**



**Dag Olav Mosevoll** dorked in various positions at NRK since 1998:

- Executive project manager OD and relocation processes - Sep 2018 – Present
- Project manager NRK to Media City Bergen - Apr 2015 - Dec 2017
- Editor-in-Chief - Oct 2007 - Sep 2018
- News editor - Dec 2004 - Oct 2007
- Journalist - Nov 1998 - Dec 2004

**Willem Vermost** recently moved to VRT as Design & Engineering Manager. Prior to this role, he was the subject of the transition to IP-based studios at the European Broadcasting Union (EBU). With 20 years of experience in broadcast, he is an expert and project manager of international strategic, expert groups and events. Willem has a master in electrical engineering and a master in applied computer science. He worked on several projects, including the multi-award-winning VRT Live IP proof of concepts, the JT-NM Tested Program. He acted as a deputy in the JT-NM admin board and the AWMA board of directors. As a faculty member of the EBU Academy, he provides training on the transition to live IP-based media facilities and is passionate about the underlying mechanisms of IP-based media. As a member of SMPTE, he is an active participant in the working groups about IP based production and the drafter of RP 2110-25. Willem started the open-source project EBU Live IP Software Toolkit project (LIST) which has grown into an international project. Recent efforts at VRT focus on new possible workflows with Software-Based Studios and On-Set Virtual Productions.



17:25 – 17:50 **Project Origin: Protecting trusted media**

Work on developing provenance standards to secure media integrity on the internet



**Laura Ellis** is a technologist and journalist. She has led news teams in radio, TV, and online. In 2018 she moved to BBC technology to focus on emerging tech, machine learning/AI, disinformation and data in the media publishing space. twitter: @laura\_ellis linkedin: <https://www.linkedin.com/in/laura-ellis-0533b94/>

17:50 – 18:15 **Open API as Public Service**

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As one of the first Public Broadcasters in the world SRG is offering Content and Data via a Public API as part of the public services. For non-commercial usage it is available free of charge to encourage developers to integrate the content & data into their applications and own eco-systems.



**Robin Ribback** is Head of Innovation Management at SwissTXT AG, a 100% subsidiary of the Swiss public broadcaster SRG-SSR. SwissTXT is a central provider of Digital Media Operations (DMO) services and accessibility services (AS) like captioning, subtitling, audio description and sign language for all channels of the SRG group. He also is Topic Leader for Collaborative Developments & Accessibility at SRG. Robin is a graduated media engineer and has been working in Media & Internet operations for more than 25 years. He is responsible since 2001 for R&D and innovation programs, for media and accessibility companies. He is co-founder and was CIO of VerbaVoice GmbH where he developed access services "Beyond TV" - has a long history in IT and the media services. As a board member of Media Professionals AG he developed complex platforms for the production and transmission of television and radio programs via satellite / cable and the Internet. His career also

includes, Norcom AG, Munich, where he was responsible for the development and integration of newsroom systems as CIO. Profile LinkedIn: <https://www.linkedin.com/in/ribback/> Profile Xing: [https://www.xing.com/profile/Robin\\_Ribback/cv](https://www.xing.com/profile/Robin_Ribback/cv) Twitter: rribback



**Roberto Salomone** (SRG) has been with SRG SSR for more than 10 years, starting as an IT architect and later in the role of enterprise architect and now as a strategist and API manager. API's (Application Programming Interface) are building blocks to drive the digital transformation. Accordingly, you have to manage them like products!

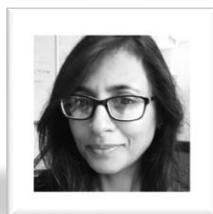
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## SUSTAINABILITY CHECK

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18:15 – 18:25 **The moderators' notes on sustainability aspects today**

### Wrap-up Day 1



**Hemini Mehta** (EBU) Experienced Technical Professional in all things digital (video on demand, live streams, websites, mobiles, TV, STB & games consoles) with an angle on Sustainability. Capable to bridge business with technology. Intrapreneurial/entrepreneurial spirit. Presence in academia, from lecturing, examining to mentoring PhD candidates.

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**WEDNESDAY 2<sup>ND</sup> FEBRUARY 2022 (08:55 – 19:10 CET)**

09:00 – 09:10 **Recap Day 1 and Opening Day 2**

### KEYNOTE

09:10 – 09:40 **AI-based Storytelling**

**Tom Graham** (Metaphysic)

### SESSION 6: 5G IN MEDIA PRODUCTION DEMYSTIFIED

MODERATED BY MORTEN BRANDSTRUP (TV2 DENMARK)

09:40 – 10:05 **The Demystifying 5G for production**

This will look at the why, how and when will 5G be used across all genres of production.



**Ian Wagdin** works for BBC R&D as senior technology transfer manager. He has worked in production since 1997 and has been at the forefront of many changes including the move from SD to HD and from tape based to file based workflows. He joined R&D in 2015 having previously worked in News, Television, Children's and Technology departments. His current areas of focus are the transition to IP and cloud infrastructures as well as general production workflows and 5G. Ian is also chair of the EBU 5G in Content Production (commercial) working group and the 5G MAG working group on content production. He has contributed to several works on 5G use cases for media as well as standards bodies in both the telecoms and broadcasting environments and is active in a number of tests and trails exploring the boundaries of wireless IP production

10:05 – 10:30 **Use cases in the 5G-RECORDS project**

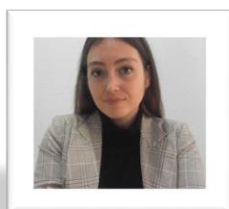
Overview presentation of the 5G-RECORDS project, including the description of the three content production use cases.



**Irene Alepuz** is working at the Institute of Telecommunications and Multimedia Applications (iTEAM) as a R&D Project Manager. She obtained her MSc. in Telecommunication Engineering by Universitat Politècnica de València (UPV), Spain in 2010 by defending her Master Thesis at the Norwegian University of Science and Technology in Trondheim, Norway. In 2011, she received a second MSc. in Telecommunication Technologies, Systems and Networks. In 2012 she joined the Mobile Communication Group (MCG) in the iTEAM from the UPV. At the iTEAM, he has been working in a collaboration project with the company Astellia S.A., where her work was focused on R+D for optimization of mobile networks and location-based algorithms. Later, he joined the project management team of the 5G-XCAST project. Nowadays, she is working on the project management

team of the 5G-RECORDS, FUDGE-5G and iGENIOUS projects. Moreover, at the 5G-RECORDS she is the deputy project manager. [www.linkedin.com/in/irene-alepuz-benaches](http://www.linkedin.com/in/irene-alepuz-benaches)

**Cristina Avellan** is a 5G Research and Development engineer working at Universitat Politècnica de Valencia, Spain. She is member of 5G-RECORDS, a European 5G-PPP project aimed at exploring the opportunities of 5G technology for professional content production. Cristina received her degree in Telecommunications Engineering from the Universitat Politècnica de Valencia, Spain, and has been involved in European H2020 programs. [www.linkedin.com/in/cristina-avellan-carrion](http://www.linkedin.com/in/cristina-avellan-carrion)



**Nerea Cilleruelo** graduated at Polytechnic University of Cartagena (UPCT) on Telecommunication Systems Engineering, carrying out the bachelor's thesis entering the field of 5G during an Erasmus stay in Italy. Afterwards, she worked in reputable companies such as Verizon Wireless in United States. Nerea is currently working as a research engineer in the Mobile Communications Group (MCG) at the Institute of Telecommunications and Multimedia Applications (iTEAM). She is involved in the H2020 European project 5G-RECORDS and Piloto Nacional 5G by RED.es. <https://es.linkedin.com/in/nerea-cilleruelo>, <https://es.linkedin.com/in/5g-records-project-34996a1bb>, <https://www.5g-records.eu/>

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10:30 – 11.30 **ROUND TABLE** – moderated by **Ian Wagdin** (BBC)

### Stand-alone private 5G networks

The Panel will explore the requirements for deploying private 5G networks in a production environment from standards to real world trials



**Thorsten Lohmar** graduated from the Technical University of Aachen (1997), where he also received his PhD (2011) in Electrical Engineering. Thorsten joined Ericsson in Germany in 1998 and was working for many years in different business and Ericsson Research units. He worked on a variety of topics related to mobile communication systems and led research projects specifically in the multimedia technologies area. He is focusing on video delivery (downlink and uplink) and delivery optimizations, including broadcast distribution of media. Lately, he focuses on professional media production and works with different players to integrate 5G network technology into existing media production workflows.

**Mika Skarp** Cumucore Senior Product manager, is an awarded telecom network technologist, entrepreneur and executive. A lead engineer at Nokia both in Finland and Silicon Valley, Mika was the founding president of the WiMAX forum. After over decade developing ground-breaking technology-enabled business models for Nokia including the GSMA award-winning Village Connection program, Mika consolidated his learnings and patents to launch Cloudstreet, the world's first network slicing platform. Skarp is active in the telecom industry as a writer, commentator and mentor focused on digital transformation in support of net neutrality and a common, free and open internet. <https://www.linkedin.com/in/mika-skarp-2902021/>



**Laurent Zwahlen** (Nulink) Born on September 14, 1957 Study in digital electronics. Degree in computer science. R+D Manager at Swiss Timing. MBA. Creation and development of LIVETOOLS TECHNOLOGY SA. Owner of NULINK SA. Consultant at ALFACAM EUROLINX. Consultant at AMPVISUALTV RF FACTORY. Consultant at PARIS 2024 OLYMPICS (Senior Project Manager Mobile & Radio Infrastructures for road events). R+D Management of 5G-PROLIVE Innosuisse Project.

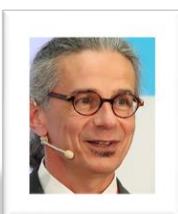
**Purminder Gandhu** currently leads the BBC Edge Group, a pan BBC forum of live contribution and connectivity subject matter experts. The group engages with the wider broadcasting industry and manufacturers; and aims to learn and share through piloting innovation in tech and steering the workflows across the BBC. As part of the 2020 IBC 5G Remote Production accelerator, Purminder was responsible for the user case workflow which informed the successful live proof of concept. As part of the 2021 IBC accelerator- 5G and Innovation in live workflows; Purminder led on research into the potential of LEO satellites and use cases. Purminder Gandhu (linkedln)



**Malcolm Brew** is currently a Senior Knowledge Exchange Fellow on 5G and shared spectrum network design in the StrathSDR research group at University of Strathclyde, and lead technology consultant with Strathclyde spin-out company Neutral Wireless Ltd. He works across several 5G projects, including: 5G enabled NBloT for energy management, shared spectrum 5G broadcast networks, and rural/remote connectivity (5GRuralFirst shared spectrum networks) in the Orkney Islands in the north of Scotland. Much of Malcolm's expertise focuses on designing and implementing private 5G mobile and wireless network solutions in partnership with tier2 RAN providers and other industry partners.

In 2010, Malcolm set up the UK's first TV White Space network on the Isle of Bute in Scotland, and thereafter, until 2016, he worked in Kenya with Microsoft and the 4Afrika project where he was part of the team who set up the Mawingu Networks project: connecting people in rural off-grid villages through wireless/wifi access. Prior to joining University of Strathclyde in 2010, Malcolm worked in Uganda, Rwanda, Kenya and neighbouring countries on 2G rollout.

### 11:45 – 12:10 **The regulatory framework for 5G in Europe**



This presentation will outline different regulatory aspects that may be applicable to 5G when used in professional content production.

**Darko Ratkaj** - At the EBU's Technology & Innovation department I am engaged in collaboration amongst EBU Members and with the industry on strategic issues related to the future distribution of public service media content and services. I am also involved in R&D projects, standardisation, interdisciplinary technical and regulatory studies, and radio spectrum management covering both content production and distribution. My current focus is on wireless transmission systems, including mobile technologies such as 4G/LTE and 5G.



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12:10 – 12:35 **ROUND TABLE**

**Moderated by Jordi J. Giménez** is Head of Technology at the 5G Media Action Group (5G-MAG). 5G-MAG is a platform for collaboration towards 5G solutions for the media industry in the domain of content production and media distribution. Before, Jordi was Project Manager and Research Engineer at the Institut für Rundfunktechnik (IRT), the research and innovation centre of ARD, ZDF, Deutschlandradio, ORF and SRG/SSR, based in Munich. He has been actively contributing to the 3GPP RAN1 working group on LTE and 5G technologies for TV and radio distribution. Jordi obtained a Ph.D. degree in Telecommunications from the Universitat Politècnica de València (UPV) in Spain.



**A discussion with Telcos: Deployment of PNI-NPN in the market**



**Rocio Ortiz** (Telefonica) Telecommunication engineer working in telco business for 16 years. Currently working as Product Manager in Connectivity Innovation team in Telefonica R&D, creating disruptive business and solutions based on Edge Computing and new connectivity generations. Involved in H2020 European projects 5GMedia and actually in 5GRecords and "Piloto Nacional 5G Red.es" for Live Video Remote production. <https://www.linkedin.com/in/rocio-ortiz-b3b65210b/>

**Pablo Pérez** is a researcher in the Distributed Reality Solutions department of Nokia Bell Labs in Spain. PhD in Telecommunications Engineering from the Polytechnic University of Madrid, his entire professional career has been linked to the research and development of video technologies. Between 2004 and 2017 he worked in the research, design, development and implementation of real-time video transport systems (IPTV and streaming) at Telefónica I+D, Alcatel-Lucent and Nokia. Since 2017 he is part of the Bell Labs research group in Spain, specialized in the use of immersive technologies for communications. His main research areas are the Quality of Experience (QoE) of multimedia content and technologies, and multimedia and immersive transmission in networks. He is a member of the board of the Video Quality Experts Group, where he coordinates two working groups, and a Nokia representative in ITU-T study group 12. <https://www.linkedin.com/in/pablop/>, <https://twitter.com/zerepolbap>



**Antonio Garcia** (Accelleran) has been working during the last 25 years in wireless and cellular technologies (DECT, Bluetooth, UMTS, LTE, 5G) in different companies across Europe such as Silicon & Software Systems, Alcatel, Sony Ericsson, Nokia Siemens Networks, Philips, ip.access and since 2013 in Accelleran, for which he is a co-founder member and Product Management Director. Antonio holds a MSc in Computer Science from the Universitat Politècnica de Catalunya. <https://www.linkedin.com/in/antonio-garc%C3%ADa-45719/>. <https://www.linkedin.com/company/9197504> ; @accelleran

**Joanna Newman** (Vodafone) is the Global Edge Computing and 5G Principal Manager, working in Vodafone's Network Strategy and Architecture function. She co-leads Vodafone's Edge Computing Technology Strategy, which delivered the first AWS Mobile Edge Computing nodes in Europe, operating in London, Dortmund, Berlin and Munich. She has worked for best of breed technology companies globally and received multiple awards for outstanding technical achievement for her projects in telecoms, broadcasting, security, and cloud transformation. She is currently based near London, and was the Vodafone representative on the IBC 5G Accelerator Programme focusing on 5G Broadcasting use cases.



**Kashif Mahmood** (Telnor)

12:35 – 13:00 **Moderated by Morten Brandstrup** (TV2 Denmark)

**Highlights from 5G production PoCs**



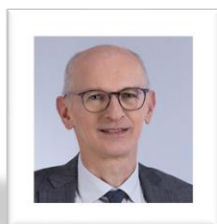
**David Corral** (RTVE) Journalist at RTVE, with more than 20 years of experience in the company in different destinations in the News Department, currently Innovation Manager. <https://es.linkedin.com/in/davidcorralhernandez>

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**Dominique Hoffmann** (M. Sc.) is head of department "Distribution and Development" at Südwestrundfunk in the head office of "Technology and Production". After studying "Media- and Information-Technology" (Dipl.-Ing. (FH)) and "Communication and Mediaengineering" (M. Sc.) at the Offenburg University of Applied Sciences, she joined Südwestrundfunk in 2006. She started her professional career as a systems- and project engineer, worked from 2012-2017 as a personal advisor to the Director Technology and Production and headed the Production Systems department from 2017 to 2020, before taking over the management of the Distribution and Development department in 2020. <https://www.linkedin.com/in/dominique-hoffmann-552b4867/>



**Gino Alberico** joined RAI Research Centre in 1988 where he has been involved in projects ranging from the programme distribution over broadcasting and broadband platforms, to OTT services for connected TVs, accessibility services and personalized services in Digital Hybrid Radio. Since January 2020 he has been appointed Director of RAI R&D. He is member of the EBU Technical Committee since 2012.

**Erik Vold** (NRK) Senior broadcast engineer mainly working on IP-based contribution, production and distribution. Currently active in NorDig as chair in the API-group, responsible for livestreaming & project manager on NRK's innovation projects (5G SNPN in Fudge 5G, WebRTC/RIST/SRT in MCR, low latency distribution with chunked CMAF etc) also a part of the Nordic 5G consortium and 5GCP.



## SESSION 7: THE ROAD TO AI-BASED CONTENT GENERATION

MODERATED BY MATTHIEU PARMENTIER (FRANCE TV)

### 14:00 – 14:25 AI-based sports highlight creation



**Ethan Kovacs** (Sky UK) <https://www.linkedin.com/in/ethankovacs/>

### 14:25 – 14:50 Automatic versioning of branded content

Discover how the Aive company with its creative artificial intelligence unleash creativity through video automation.



**Olivier Reynaud** (AIVE) Creative entrepreneur specialized in technology for over 15 years. 2003, Olivier co-founded "Airtist" considered to be the pioneer of online music platforms financed by video advertising even before Deezer or Spotify. 2010, "Airtist" became "Teads", the global leader in online video advertising, acquired by Altice for \$305M. 2019, Olivier co-founded "Aive" with the mission of becoming the largest video creation studio in the world thanks to its creative artificial intelligence. <https://www.linkedin.com/in/olivierreynaud/>

### 14:50 – 15:15 Creating the 'perfect' Eurovision Song

Examples of creative collaborations with AI, successes and successful failures.



**Karen van Dijk** (VPRO) I have been working for Dutch public broadcaster VPRO since 2012 as a researcher and editor for several online shows and TV programmes. In 2020 I founded and organized the very first AI Song Contest. Currently I am a commissioning editor at VPRO Documentaries.

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### SESSION 8: NEW TECHNOLOGIES AND NEW APPLICATIONS

MODERATED BY PHIL TUDOR (BBC)



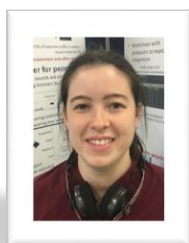
**Phil Tudor** is a Principal Engineer at BBC R&D, leading a team of researchers looking at workflows, platforms and infrastructure for production & archives. He is the chair of the EBU Strategic Programme for Infrastructures & Security and a SMPTE Fellow.

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#### 15:15 – 15:40 Object based media: exploring production workflows

Object-based media boosts flexibility, quality and personalisation for the end-user. But what about production?

This talk will outline what object-based media is and what advantages it has to facilitate creativity and streamline production workflows.



**Lauren Ward** (Univ. York) Dr. Lauren Ward is a Research Fellow in Media Accessibility at the University of York AudioLab, UK. She is part of the XR Stories project, a Creative Industries Cluster for Immersive and Mixed Reality Storytelling, and leads the Screen Industries Growth Network project 'A3I: Accessible Audio for Autistic Individuals'.

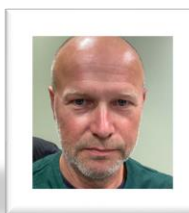
Lauren completed her PhD in Acoustic and Audio Engineering (University of Salford, UK, 2020) whilst working for BBC Research and Development. Her PhD developed novel technology to improve the accessibility of broadcast media for hard of hearing listeners, for which she won an EPSRC Connected Nation Pioneer Award (2018). She also collaborated with BBC Studio's 'Casualty' in a number of high-profile audience trials of this technology, for which they were Runner Up at the European Broadcasting Union's 'Technology and Innovation' Awards (2020).

She is a General Sir John Monash Scholar and has a Bachelor of Engineering (Hons) in Electronics and Communications (2014) and a Bachelor of Philosophy (2015), both from University of Tasmania, Australia. Previously Lauren has worked in commercial, public sector and community radio, including for the ABC. Outside of research she can be found kayaking white-water, hiking, crocheting or baking cakes.

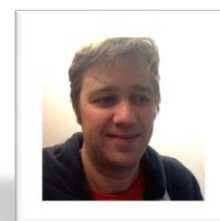
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#### 15:40 – 16:05 How we use fingerprinting to recycle subtitles

Autonomous Closed Caption/Subtitle Service (MVP) for both live and file based subtitling



**Erik Buitinga** (NPO) Business Developer for Access Services Department since 2017. Focus area: automatic metadata extraction, speech technology. <https://www.linkedin.com/in/erikbuitinga/>

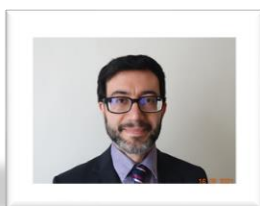


**Marijn Huijbregts** is a speech technology researcher. After obtaining his PhD at University Twente (the Netherlands) on search in audio-visual collections and after working as a postdoc at Radboud University, he founded SpraakLab (2015) and now works on speech technology based products using in house developed speech technology.

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#### 16:05 – 16:30 Codec is irrelevant – compression is the killer

The video codec landscape in 2022



**Roberto Iacoviello** (RAI) is a Lead Research Engineer, graduated from the Politecnico di Torino. Since 2007 he has been working at the Rai R&D where he has developed the following skills: End to end video compression for broadcast, Computer Vision Algorithms, Augmented and Virtual Reality, Multimodal interfaces for TV, Smartphones and Head Mounted Display. His current research focuses on Artificial Intelligence applied to video compression and point clouds, next-generation TV Services, in particular Augmented Reality in broadcast television. He leads the Video Evaluation Group at European Broadcasting Union (EBU) and actively participates in MPEG (Moving Picture Experts Group) and MPAA (Moving Picture, Audio and Data Coding by Artificial Intelligence) meetings. He has established collaborations with national and international research institutions, in research projects and tutorship for students and he counts several publications in

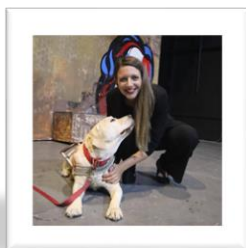
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international journals and conferences. He has been working on several EC funded projects among which 5G-City and, at present, 5G-TOURS and AI4MEDIA. <https://www.linkedin.com/in/roberto-iacoviello-8117913/>

### 16:30 – 16:55 The new access services professional in the era of cloud-based AVT tools



Cloud technology has brought great advancements in the area of Audiovisual Translation (AVT), which are expanded to the field of Accessibility and the way in which professionals develop their skills and prepare the relevant material for purposes of (mainly but not exclusively) sensory access. This presentation aims to bring to the front the profile and the reality of the AVT professional, with focus on the cloud technology available for the purpose of sensory access at the stage of preparation of Subtitles for people with limited or no access to the auditory channel, Audio Description for people with limited or no access to the visual channel, Live Subtitling, Dubbing and more, using examples from the industry and determining the characteristics of professionals in each case, with a rights-based approach to disability in mind.

**Dr Emmanouela Patiniotaki** (ATLAS E.P.) has been involved in the language industry since 2004. She has worked with a substantial number of vendors in translation, localization and audiovisual services. She teaches Specialised Translation and Technology-related modules at the UCL Centre for Translation Studies (CenTraS), where she also developed and runs the first online course in Cloud-based Translation Tools and the Intensive Summer Course in Translation Technology, while she is also an independent provider in Audiovisual and Specialised Translation, and Access Services. She is the CEO of Atlas E.P., she has collaborated with the Movement of Disabled Artists to bring Access Services to the Greek theatre and cinema, and she is a member of the Movement for the Emancipation of Disabled People. As an academic, she has collaborated with a variety of higher-level education institutions in Europe. Her research focuses on the design of holistically accessible environments, with a variety of combinations of fields, including Disability Studies, Audiovisual Translation, Web Accessibility, and Assistive Technology. Other research interests involve Crisis Translation and Language Automation. <https://www.linkedin.com/in/epatiniotaki/>

## SESSION 9: INGREDIENTS FOR IP AND CLOUD-BASED PRODUCTION

MODERATED BY IEVGEN KOSTIUKEVYCH (EBU)



**Ievgen Kostiukevych** is a member of the EBU Technology & Innovation team. He has gained more than a decade of experience in the broadcasting and sound production industry, including experience in change management, solutions architecture and AoIP integration. He is working on topics of IP networks, media over IP, PTP, networks programmability and automation, etc. Ievgen is a member of SMPTE and AES.

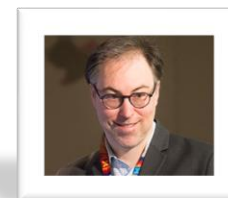
### 17:10 – 18:10 ROUND TABLE

#### What are the experiences with mixed technology workflows, and what would we do differently?



**Brad Gilmer** is President of Gilmer & Associates, Inc, Executive Director of the Video Services Forum (VSF), and Executive Director of the Advanced Media Workflow Association. Brad is a SMPTE Fellow and the first recipient of the SMPTE Workflow Systems Medal. Brad was previously employed at Turner Broadcasting System in Atlanta where he and his staff were responsible for Engineering and Operations for the Entertainment Division Worldwide. He is an author and editor and has written many articles on computers and networking for media industry publications.

**Félix Poulin** is with the national public broadcaster CBC/Radio-Canada where he leads the Media over IP Architecture Lab, busy with finishing the new headquarters in Montreal among many projects. Before that mandate, Felix was lead expert on Live IP at the EBU. Felix completed his diploma in electrical engineering at Montreal's Polytechnique with his final thesis done at Massachusetts Institute of Technology. Felix is an active contributor to EBU, user-chair of the Networked Media Open Specifications (NMOS) Steering board of the Advanced Media Workflow Association (AMWA) and Fellow of the Society of Motion Picture and Television (SMPTE). [linkedin.com/in/felixpou](https://www.linkedin.com/in/felixpou)



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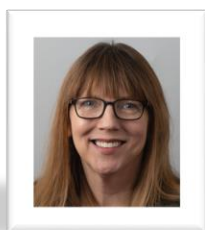
Willem Vermost (VRT)

As Chief Engineer at Channel 4 Television, **Andy Bell** manages the Broadcast Engineering and Operations function. Andy's role at Channel 4 includes delivery of Linear Broadcast and development of All4 Video services. Andy joined Channel 4 in 2005, helping deliver the original 4OD VoD service and has remained focused on growth of Broadcast and OnDemand services.

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### 18:10 – 18:35 **Media in the Cloud: Ontology Navigation Guide**

A discussion of the utilization of semantic technologies in media supply chains.



**Sally Hubbard** has worked on many initiatives that marry together content and knowledge management for organizations such as PBS, HBO, WWE, Viacom, the Getty Research Institute, and the UCLA Film & Television Archive. She is currently a consultant. <https://www.linkedin.com/in/sally-hubbard/>

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### 18:35 – 19:00 **Standards of the future**

Who needs standards when we have Open Source? Some observations from SMPTE, Trade Associations and the Finance Industry.



**Bruce Devlin** is the former SMPTE Standards Vice President, head of Mr MXF and has held C-Suite positions in the industry. He care about democratisation of knowledge, learning, teaching and rides a bike. <https://www.linkedin.com/in/mrmxf/>, <https://twitter.com/mrmxf>

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## SUSTAINABILITY CHECK

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### 19:00 – 19:10 **The moderators' notes on sustainability aspects today**

#### Wrap-up Day 2

Hemini Mehta (EBU)

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### 19:30 – 21:30 **SPECIAL EVENING EVENT**

#### In event of Moon Disaster 1969

Can you spot a deepfake and could history be so convincingly rewritten we are no longer sure of our own reality?

**Andy Quested** interviews the people behind "In event of Moon Disaster" and invites you to answer a few questions to test your abilities!

#### Panel



**Magnus Bjerg** (TV 2 Denmark) Emmy award winning digital journalist and 2018-2019 Knight Fellow at MIT. [twitter.com/magnusbjerg](https://twitter.com/magnusbjerg) & [linkedin.com/in/magnusbjerg](https://www.linkedin.com/in/magnusbjerg)

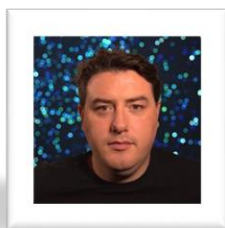
An inside view of how the idea for the Emmy award winning deepfake documentary was conceived and how the technology might affect media.

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**Alex Serdiuk** founded Respeecher with Dmytro Bielievstov and Grant Reaber in 2018. Since then the team has been focused on high-fidelity voice cloning. Their technology was the first synthetic speech adopted by big Hollywood productions, starting from 2019. Alex is in charge of Business Development and Strategy. Their primary focus is improving the voice cloning technology in several directions, including the tech democratization to let sound professionals and creators all over the world have the fine tool in their acquaintance. Respeecher works in Feature films and TV projects, Video Games, Animation studios, Localization, media agencies, and others. <https://www.linkedin.com/in/oleksandrserdiuk/>



**Derek Bowler (Eurovision)** the Head of Social Newsgathering at the European Broadcasting Union (EBU). He is the founder of the Eurovision Social Newswire, a breaking news and verification service which provides public service media members and partners with verified and cleared for use eyewitness media content emerging on social media. He also launched the EBU's Agile Newsroom event, a real-time working and training environment that sees journalists from across the EBU membership come together to create a working newsroom and learn the skills of visual verification. In 2020, the Agile Newsroom was listed among the promising practices from Media and Information Literacy (MIL) training models in the Council of Europe's Supporting Quality Journalism through Media and Information Literacy Study.

**Francesca Panetta**

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### THURSDAY 3<sup>RD</sup> FEBRUARY 2022 (08:55 – 15:45 CET)

09:00 – 09:10 **Recap Day 2 and opening Day 3**

#### KEYNOTE

09:10 – 09:40 **Media and the Metaverse**

As people spend more time immersed in virtual worlds, what does this mean for media?



**Chen MayYee** Chen May Yee is APAC Director of WT Intelligence, the trend forecasting arm for Wunderman Thompson.

She is part of the global team that published “Into the Metaverse,” a new report which maps out how businesses are following consumers into virtual worlds.

She draws on two decades’ experience as a journalist, including at Agence France-Presse, the Wall Street Journal and the Minneapolis Star Tribune.

<https://www.linkedin.com/in/may-yee-chen-5754429/>

#### SESSION 10: ON-SET VIRTUAL PRODUCTION

MODERATED BY STEPHAN HEIMBECHER (SWR)

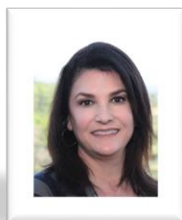


**Stephan Heimbecher** has joined SWR Südwestrundfunk in November 2021 and is currently setting up the new Competence Center Production & Infrastructure. Since June 2021 he also acts as the chairman of the EBU Strategic Programme Production. Before that Stephan was self-employed and has worked for Imagine Communications, Sky/Premiere, Top5 Media Connection and IRT.

<https://www.linkedin.com/in/sheimbecher/>

09:40 – 10:05 **SMPTE RIS OSVP Initiative Update**

Update on current status of the SMPTE Rapid Industry Solutions On Set Virtual Production Initiative.



**Kari Grubin** is a multi-talented executive who has spent the past 20 years leading and managing studio divisions, global post production facilities, corporate departments and groups within trade organizations. Kari currently leverages her expertise through her partnership with companies and professional organizations as a business consultant, specializing in the media and entertainment vertical, and is currently leading SMPTE’s Rapid Industry Solutions On Set Virtual Production Initiative. Kari was recently invited to become a Member at Large by the Academy of Motion Picture Arts and Sciences.

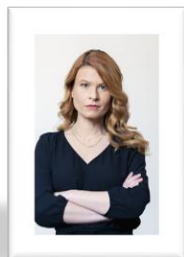
<https://www.linkedin.com/in/karigrubin/>

10:05 – 10:30 **Multicam live production in a virtual environment**

**Willem Vermost** (VRT)

10:30 – 10:55 **ROUND TABLE** – moderated by Stephan Heimbecher (SWR)

**Darkbay, Dock10 & Hyperbowl**



**Christina Caspers** is Managing Director at DARK BAY GmbH, which is Europe’s largest and state-of-the-art virtual production space based on the historic lot at Studio Babelsberg. The stage, one of the world’s largest LED-installations, was created out of the content creators’ perspective. As an industry first it operates a revolving stage and a rain rig. Christina oversees the daily productions at DARK BAY and supports as well as consults productions from the scriptwriting process to the final image in all Virtual Production related topics. With her background in vfx and xr she worked previously as Head of Operations for Trixter on “Shang-Chi and the Legend of the Ten Rings”, “Black Widow”, “The Suicide Squad”, “The Royal Game” and many more. <https://www.linkedin.com/in/christinacaspers/>

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**Hannah Robinson** is currently a Production Development Producer at Dock10 in Media City. She works within the virtual studios team working alongside the Head of Production Innovation and Virtual Studio Developers to create and develop virtual sets for productions such as Match of the Day, Match of the Day 2, Football Focus, Final Score, ESports events, Quiz Shows, BBC Bitesize and much

<https://www.linkedin.com/in/hannah-robinson-05893460/>



**Eno Henze** is a Creative Director and Stage Designer. Since the early 2000s he designs brand spaces and installations that fuse the real and the virtual. With his interdisciplinary design studio NSYNK he pushes Augmented Reality for broadcast, live presentations and mobile applications. This paved the way to pioneer Virtual Production with the HYPERBOWL for film and live broadcast in Europe. In 2021, HYPERBOWL completed more than 40 productions for various industries.

<https://www.linkedin.com/in/eno-henze-15781a91/>

### SESSION 11: THE AUDIENCE EXPERIENCE WITH IMMERSIVE MEDIA

MODERATED BY PAOLA SUNNA (EBU)

#### 11:10 – 11:35 **Media distribution for immersive displays**

Light field and holographic displays will arrive in the near future, but will need new media formats.



**Dr. Arianne Hinds** is a Principal Researcher at Tencent North America's Media Lab in Palo Alto, CA, and is responsible for strategy, research and development of immersive media standards for light fields and immersive media distribution. She currently holds the position of Vice Chairman for the INCITS L3 Technical Committee, which serves as the committee overseeing all work in the United States for both MPEG and JPEG. She received her M.Sc. and Ph.D. degrees in Computer Science at the University of Colorado, Boulder in 2000 and 2007 respectively. <https://www.linkedin.com/in/arianne-hinds/>

#### 11:35 – 12:00 **Accessibility: Design principles for turning spatial data from live sport into sound**

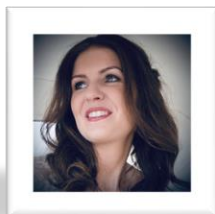


**Dr. Machar Reid** is one of the sport's leaders in science and technology. He has also held several key positions with Tennis Australia including High Performance Manager and more recently as Head of Innovation and General Partner of its Venture Investment division.

#### 12:00 – 12:25 **ROUND TABLE** – moderated by **Muki Kulhan** (IBC Accelerators)

##### **Real-Time 3D Immersive Content Creation**

Immersive XR software and real-time 3D workflows for multi-platform distribution



**Grace Dinan** (RTÉ) Specialist in VizRT software, XR design and development, immersive and real-time workflows. With more than 14 years experience in the broadcast, media and entertainment industry. Focusing on innovation, workflow efficiencies and multi-platform distribution. @Gracedinan, <https://www.linkedin.com/in/grace-dinan-54746513/>

**Marc Goodchild** is Senior Digital Media Executive and Product Specialist who focusses on helping broadcasters, producers, brands and IP owners transform their portfolio for the multi-platform age.

Having already established a reputation as an award-winning TV Producer at the BBC, he went on to establish the BBC's first Factual interactive TV unit, repositioned the BBC kids Channels (Cbeebies and CBBC) as true cross-platform brands and has most recently been leading WarnerMedia's Kids digital expansion in 20 territories across EMEA with portfolio that combines TV, games, apps and shortform.



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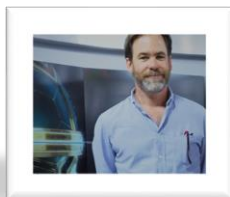
He has always worked at the intersection of where story-telling and technology meet and has a huge breadth of hands-on production experience across Web, Apps, YouTube, OTT service and games platforms like Roblox.

In 2020 he joined the IBC XR accelerator as an Industry Champion and is now supporting a range of independent producers and broadcasters as they explore the benefits of games engines in XR production, real-time animation, and pervasive AR experiences.

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### SESSION 12: GAME ENGINES IN BROADCAST WORKFLOWS

MODERATED BY MICHAEL NUGENT (ERT)



**Mike Nugent** has been engaged for over 25 years in engineering and management positions in the public and private media sector, promoting emerging technologies in content production and delivery. He currently serves as the Deputy Director of Technology at the Hellenic Broadcasting Corporation (ERT) in Greece, overseeing the upgrade of the television and radio production facilities and transmission network.

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#### 14:00 – 14:25 AI avatars: The multimodal AI behind intelligent, real-time 3D avatars

We will present an introduction to the AI and rendering technologies required to drive the most advanced 3D avatars.

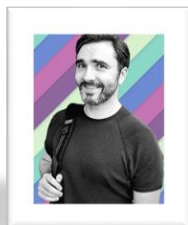


**Jamie Allan** spent his formative years as a photographer and director, collaborating with many multimedia artists and music producers before shifting into technical consultancy roles for the media industries. After a decade of designing and implementing solutions for post-production, broadcast and visual effects facilities, he moved to NVIDIA where he now leads efforts to accelerate and innovate within the media, broadcast and entertainment sectors across the EMEA Region. He works with world-leading organisations to help bring their visions to life. Jamie remains an avid photographer and is highly passionate about working at the intersection of graphics, accelerated computing and AI.  
<https://www.linkedin.com/in/jamieallanuk/>

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#### 14:25 – 14:50 A SMART CG animation pipeline – from the IBC Accelerator Programme

Smart Remote Production For Real-time Animation is an affordable virtual production pipeline tailored for broadcasters so that they can create animated content more easily.



**Ultan Courtney** (RTÉ) graduated from the National College of Art & Design in Dublin with a passion for graphic design and film. A career in motion graphics afforded the opportunity to draw inspiration from both fields simultaneously. After a short time in post-production, he joined RTÉ as a broadcast designer. There he had the opportunity to work on a wide variety of projects from packaging TV shows to 360 marketing campaigns and also a channel rebrand. He continued to sharpen his skills outside of work, exhibiting alternative movie posters with the Brainbelt Collective and upskilling with a variety of creative courses and masterclasses from photography to visual effects. This collection of experiences formed the basis of his video entry that won a Full Scholarship Competition and a bursary to study at the Vancouver Film School.

Moving to study in Canada was a life-altering experience and served as a platform to redirect his motion design skills towards the types of problem solving required by the visual effects industry. In 2018 he returned to Vancouver, working on the Oscar-winning Spider-Man: Into the Spider-Verse. In less than a year he serviced seven lighting teams to contribute to over 80 shots in Sony Pictures Imageworks as the show's dedicated in-house motion graphics artist. He then returned to Ireland to continue his work with the RTÉ Marketing department whilst undergoing specialist professional training in animation, cinematography and more advanced tools for 3D design, before spotting a unique opportunity for all these experiences in the 2021 IBC Accelerator program. Ultan was given priority enrolment with Epic Games' Unreal Fellowship Program and in collaboration with the EBU, he co-led the Accelerator team: Smart Remote Production for Real-time Animation.

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#### 14:50 – 15:15 Future Media Hubs presents "Virtual Humans"

Future Media Hubs presents "Virtual Humans" \*Introduction to Future Media Hubs \*Insights in how to become a virtual human?!

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# PRODUCTION TECHNOLOGY SEMINAR

AN EBU EVENT

## FROM REAL TO SUSTAINABLE AND VIRTUAL WORLDS



For the past 15 years, **Sarah Geeroms** has built up extensive experience in the private sector and non-profit. In the private sector, she has experience with business development, negotiating and networking. While working for an NGO, Sarah has coordinated sizable events and projects, initiated partnerships, and recruited and coached volunteers. Since May 2017, Sarah started working for VRT Innovation. These last years she has founded the Future Media Hubs, an international network of media organisations that focus on innovation through collaboration and knowledge sharing. The main goal of the Future Media Hubs is to foster innovation and accelerate the development of the media industry and their local ecosystems by facilitating partnerships between public as well as commercial media organisations. In addition, Sarah also works on other strategic partnerships and is closely involved in other projects of

VRT Innovation, which means she consistently works together with European and Flemish partners, among which startups, universities and media companies. In other words, Sarah devotes herself daily to putting the VRT on the map as an innovator. <https://www.linkedin.com/in/sarahgeeroms/>

**Wesa Aapro** is a Creative Technologist at Yle Innovations with 20 years of experience in looking at the possibilities and ignoring the impossibilities of future media technologies. He aims to maintain a holistic picture at the on-going convergence of three medias: Online, Games and Broadcast. Currently he spends quite a bit of time using the words metaverse and web3 in professional settings, sometimes actually believing in what he says.



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### SUSTAINABILITY CHECK

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15:15 – 15:25 **The moderators' notes on sustainability aspects today**

**Hemini Mehta** (EBU)

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15:25 – 15:45 **Wrap-up Day 3 and PTS 2022**

**Hans Hoffmann** (EBU)

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