BIOS/SYNOPSIS

TUESDAY 29 JANUARY 2019

KEYNOTE SESSION

09:00–09:10

Welcome to EBU PTS 2019 –

Antonio Arcidiacono is the EBU's Director of Technology & Innovation. He has extensive experience in conceiving, developing and taking new products and services to market.He is an internationally acclaimed expert in digital television, satellite communications, IP-based multimedia services and mobile telecommunications. With strong knowledge of the European market, he has worked closely with the leading players in the fields of Digital TV and Multimedia Services, and with European institutions at a technical, standardization, regulatory and competition level. Antonio was Director of Innovation, and a Member of the Management Committee, at Eutelsat from 2008 -2018 where he was responsible for launching innovative IP based satellite services. He joined Eutelsat in 1990 and took part in key phases of its development from an international organization to privatization in 2001 and to the IPO in 2005. Before working at Eutelsat, Antonio worked for the European Space Agency and started his career working for Telespazio and Selenia Spazio. He has a Doctorate in Electronics & Telecommunications Engineering from the University of Pisa.

& **Dr Hans Hoffmann** 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 production technologies department until moving to the EBU in 2000. In the EBU he has been leading many activities on media integration, production technologies, video codec evaluations, he established the EBU HDTV testing lab, and work with EBU Members on IT based digital workflows and recently UHDTV. He has been author of many EBU Technical documents; IEEE papers and is a standing speaker and contributor to international conferences. Hans is a fellow of the SMPTE and a member of the SID and FKT and IEEE and was the SMPTE Engineering Vice President from 2011-13.

09:10–09:40

Transforming media for the next generation

Judy Parnall is a passionate advocate of all things media and its positive power for audiences. As Head of Standards & Industry in the BBC's Transformation Team, Judy works on the strategy for the BBC's input to standards and industry bodies across production, broadcast and other media spheres Judy has worked in the BBC for a number of years in both R&D and the corporate strategy areas. Her research interests have centred on the interaction of people with technology and services across all media. Judy has chaired the EBU's Technical Committee since June 2018. She is the Technical Liaison Officer for the European Broadcasting Union in the BBC. She is a member of the NEM Steering Board and works on the collaborative MediaRoad project.

09:40–10:10

Immersive Media Experience

Michael Zink - Warner Bros. michael.zink@warnerbros.com As Vice President of Technology at Warner Bros., Michael Zink is responsible for exploring emerging technologies to enhance WB's capabilities for production, post-production, and distribution. This includes assessing new technologies; and assisting with the setup and integration of digital workflows. Michael also participates in a number of standards associations such as BDA, CTA, DCI, SMPTE, among others; and also serves as Chairman for the UHD Alliance. Prior to joining Warner Bros. in 2014, Michael worked at Technicolor for over 10 years, most recently as Vice President of Technology Strategy, where he was responsible for launching the production efforts around various new optical disc formats. Additionally, Michael was responsible for the promotion and adoption of Technicolor technology solutions within industry groups. Earlier in his career, he worked for several media production facilities in Germany.

SESSION 1: TRENDS AND INNOVATIONS

10:50–11:20

How to spot a fake

At BBC Monitoring, it is our job to understand and navigate the media ecosystem to find news, and spot disinformation. And it is changing fast. Proliferation of sources, use of automation and closed communication channels by various actors present new newsgathering and ethical challenges for journalists. To address these challenges, BBC Monitoring relies on its detailed knowledge of media sources and behaviour along with linguistic, regional and cultural expertise. But as the creation of synthetic video and audio is improving all the time, will we soon no longer be able to spot the difference between the real and the fabricated?

Judy King is a digital transformation leader at BBC Monitoring. She is an experienced editor who has used her journalistic skills to communicate a compelling vision for the organisation. In her role as Innovation Director at BBC Monitoring, Judy heads up a small team bridging the gap between editorial and technology. She is now focusing on the challenge of combining automation and algorithms with the expertise and insight of BBC Monitoring's multilingual journalists.

11:20–11:50

How IoT and Industry 4.0 will impact the media industry over the next years

IoT and Industry 4.0 will provide significant opportunity and challenge for the media industry over the next years. Industry analysts expect 29 billion connected devices by 2022 with "traditional" connected devices like Laptops, tablets, mobile phones or connected TV sets accounting for less than 40% of those. New devices will come into play and an increasing part of those will be media-capable. The media industry has an opportunity to successfully "play" these devices if they address the opportunity in terms of content, packaging and orchestration of a superior experience. In addition, industry 4.0 developments are driving new capabilities to integrate and automate media supply chains for intelligent and responsive content production. Although many industry 4.0 technologies have not been developed with a media-centric view, we believe they will significantly transform digital media production and enable new platforms and business models. Our presentation will provide an overview of these developments with a focus on media production and discuss implications for the next few years.

Thomas Ross is a leading Partner in the Media Industry practice of IBM Global Business Services (GBS). He has worked nearly 20 years with many of the major players in the TIME industries (Telecoms, IT, Media and Entertainment) across Europe on strategy, business processes and IT enabled innovation. In his current role, Thomas is responsible for IBM Global Business Services business with Media clients in Germany, Austria and Switzerland. Before joining IBM, Thomas worked with A.T.Kearney's European Telecommunications Industry and Strategic IT Practices, and with Deutsche Telekom as VP in their corporate strategy. Thomas holds a Master Degree in Electrical Engineering from University Karlsruhe in Germany where he graduated with a speciality on visual recognition.

11:50–12:20

Real-world blockchain implementation in B2B broadcast

SWISS TXT builds a new edition of the shared content platform for media houses and TV stations. The European Commission is supporting the 3-year project called HELIOS The new content exchange platform is intended to promote high-quality journalism and enable citizen participation with the help of social media connectors. Blockchain as a driving technology The new edition of the share content platform will be based on blockchain technology. This enables decentralized hosting and data transfer. The platform is cloud based and enables participating media companies to keep multimedia content in-house. The blockchain technology also enables digital rights management. The corresponding billing and invoicing will take place via tokens. With this new platform no ICO and no new crypto currency will be launched. SWISS TXT is solely responsible for the technical development of the platform. Media hub as basis The shared content platform is based on the in-house mediahub and is already in use for SRG. mediahub is a platform for content aggregation, mastering, transcoding and distribution of multimedia content. All workflows can be automated and free the user from time-consuming management of the video inventory. Citizen participation with the help of the Reporter app With a reporter, citizens will be able to create and distribute multimedia content themselves via mobile phones. This content will now also be played live. Television and publishers move together The shared content platform already in use at SRG enables more efficient and direct cooperation between public TV broadcasters and private media/publishing houses. Multimedia content can be made available centrally and can be accessed directly by all interested journalists and newsrooms with just a few clicks. The platform is expected to be operational by 2021.

Robin Ribback today is Head of Innovation Management at SWISS TXT AG, a 100% subsidiary of the Swiss public broadcaster SRG-SSR. SWISSTXT is a central provider of OTT services and accessibility services (Access Services) such as closed captioning. subtitling, audio description and sign language for all channels of the group. He is responsible for the development of new service technologies and the implementation of EU innovation projects. 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 a CIO.

12:20–12:50

Media enrichment at scale: building and benchmarking machine learning services - Eyal Lavi (BBC)

SESSION 2: TRANSFORMING BROADCASTERS

14:00–14:30

CBC's cutting-edge broadcast facility – new lessons-learned

Francois Vaillant joined Radio-Canada in 2005 as Maintenance Senior Manager. He was primarily responsible for the maintenance technician groups for French Services. He was promoted to Senior Director in 2007. His responsibilities, at that time, were extended to include Presentation/Playout, management of Capital Plan and Business Continuity Plan for the French Services. In 2012, he has been promoted to Executive Director of Engineering to support French and English media lines and also the IT infrastructure (including LAN/WAN & Transmission) for the business coast to coast. Today, the group has 135 Engineers and is comprising four key priorities: Infrastructures Strategies & Architecture, Long term Capital planning, Capital expenditures (project delivery) and project management office.

14:30–15:00

Innovation strategies – reshaping the organisation - Johan van Schellenbeeck (SRG SSR)

15:00–15:30

Decision-making in a volatile broadcasting environment

How can we make objective decisions in a volatile environment that is transparent to our stakeholders? Financial and personnel changes, rapid technical transformations and other changing conditions make it necessary to have a clear decision-making process. It is no longer enough just to consider either technical or financial facts. Instead, we need a holistic approach with multiple perspectives to come to a solid business decision. We present methods for managing the decision-making process and provide suggestions on how these can be put into practice.

Since 2016 **Jessica Becker** has been head of the "Production Economics and Production Coordination" department at Südwestrundfunk. She holds a Master of Arts degree in "Value-oriented Management and Controlling" and has been intensively involved in many projects on the topics of process optimization, value creation chain analysis, cross-media controlling and user-based system design. She is currently involved in a project at Südwestrundfunk in order to objectively and methodically make the right decisions for technical projects

& **Markus Ostertag** is a member of the strategic planning and project coordination team of Südwestrundfunk and has more than 30 years of experience in the broadcasting sector. After his career in broadcasting as a software developer, product marketing and system solution manager, he joined the Südwestrundfunk in 2003 and directed many IT-based projects in production, archive and program distribution. He is currently heading the innovation project "LiveIP Production".

15:30-16:00

Content Dividend: The changing changing role of archives in public media organisations.

The role of archives in today's media organizations has expanded and diversified beyond recognition from the industry of decades past. To the parent organisation the archive is not only a keeper of assets and memory but a major source of reliable data and a creative support in delivering competitive advantage across its services. In the public domain, the confluence of content-hungry audiences fueled by easy access to digital distribution networks and the renewal of rich archive source material into digital assets has resulted in high quality and attractive culturally relevant content served to new audiences. This in turn has led to greater awareness, demand and societal interest in the role and value of archives. While it took many years for the domain of audiovisual archiving to gain professional recognition, the digital era has seen archives expanding into more content- centric roles such as publishers, curators, collection managers & data specialists. The re-branding and espousal of the value, uniqueness and integrity of the public broadcasting archives has helped to raise profile, value and gain support. The age of automation is also bringing many new opportunities and perspectives to the traditional role of the archives. This presentation will look at some of the key trends in this changing world drawing on my role as as President of FIAT/IFTA (International Federation of Television Archives) and as Head of Archives for Ireland's Public Service Media organization, RTÉ.

Bríd Dooley is Head of Archives for RTÉ, Ireland's' Public Service Media Organisation, part of the RTÉ Content Division. She is also President of FIAT/IFTA, the Federation of International Television archives, the global network for the professional media archiving sector and a serving member of the Board of the Europeana Foundation.

SESSION 3: TUTORIALS (16:30–18:00)

Tutorial 1

How to use the EBU Pyramid of Media Nodes

The EBU has published Tech 3371, a specification detailing the minimum user requirements for IP-based production equipment and the standards and protocols it should support in order to allow users to build and manage IP-based facilities in an efficient manner. This tutorial walks the attendees through the floors of the Pyramid-shape diagram to help define their own requirements.

Félix Poulin came back two year ago to the national public broadcaster CBC/Radio-Canada to lead the Engineering Lab team. The Lab is currently evaluating the IP-based equipment for the new headquarters to be on air in 2020. For the six previous years, Felix was topic expert on live IP at the EBU, involved with the Joint Task Force on Networked Media (JT-NM), the annual Network Technology Seminar (NTS) as well as the Strategic Programme on Production Infrastructure (PI) and the multi-award winning VRT Sandbox LiveIP project. Felix completed his diploma in electrical engineering at Montreal's Polytechnique with his final thesis done at MIT. He began working as an audio engineer on Cirque du Soleil and other international productions. Felix is an active member of the EBU, AMWA, SMPTE and VSF.

& **Willem Vermost** joined EBU Technology & Innovation as Network IP Media Technology Architect in 2016. He obtained a Master's degree in electronic engineering and a Master's degree in applied computer science. Before this, Willem gained 16 years of experience at the Belgian public broadcaster VRT in different roles. He has always sought to combine broadcast and IT technology in the best possible ways and in many different projects. Willem is a member of SMPTE and the AES.

Tutorial 2

HDR – from theory to practical implementation

The tutorial will provide a short overview of the PQ and HLG technologies standardised for high dynamic range (HDR) television production and, through the use of practical examples, illustrate how to deploy those technologies in live HDR production. Particular attention will be payed to HDR/SDR format conversion, and how to choose the right type of conversion for matching HDR and SDR cameras, graphics and graded content.

Andrew Cotton is a Principal Technologist within BBC R&D's Broadcast & Connected Systems Section. He has a background in video compression and image processing. Andrew and his team work across the entire television acquisition, production, delivery and IP distribution chains, ensuring the technical integrity of BBC systems. Most recently their work has focused on high dynamic range TV, as Andrew is one of the developers of the Hybrid Log-Gamma HDR system. Andrew joined BBC Research in 1987 after graduating from the University of Oxford with a BA in Engineering Science. After seven years he left the BBC to work in industry for

a leading broadcast equipment manufacturer, but returned to the BBC in 2002.

Tutorial 3

Producing competetive Quality by ibtegrating social media Content in Mainstream production

we already have all production Tools for Videos, we just have to adapt them for online videos

Frank Neckel started as production Manager in SWR Baden-Baden, then worked for FUNK in Mainz as the head of the Department. Now work as Multimedia Manager for SWR in Baden-Baden.

& Holger Höbermann (SWR) Started as an editor in the postproduction department in SWR, then developed into an innovative consultant. Today i am part of the Multimedia Management in the technical department of SWR.

Tutorial 4

Deploying AI and exploiting metadata in workflows

18 months after its inception, the MCMA project now provides a common framework for the integration of cloud-based artificial intelligence microservices into media workflows, making a significant contribution the development of service-based architectures, and enabling one-click deployments of fully functional multi-cloud and AI-driven metadata-extraction workflows. The MCMA framework now also addresses security and authentication. Come and learn about best practices to jump start your media cloud infrastructure.

Loic Barbou is the chief architect for Bloomberg Media. He is a renown pioneer in the media world and has led to the creation of new industry standards and concepts. His activities include designing new media technologies to optimize media production and distribution, or to create media platforms expanding market type and reach. Prior as the founder and leader of the Triskel organization, he has assembled a consulting group composed of the best experts in the field of media technology services. A technologist at heart, he has mentored and made best of breed system implementation accessible to teams across many organizations. His background spans several area including AI, system architecture, software design and implementation.

WEDNESDAY 30 JANUARY 2019

09:00–09:30

What are the challenges and solutions in the content supply chain for OTT and linear broadcast

The web has taken over. Streaming, OnDemand and video platforms are disrupting classic broadcasting, decoupling production and distribution. This shift holds challenges for broadcasters, whilst generating opportunities for video itself. Exploring the new version of ARD Mediathek, the biggest public video player in Germany, we will cover an approach of guiding classic broadcasting into the web era.

Malte Blumberg is CTO of ARD Online, responsible for digital products such as ARD Mediathek. He is focusing on transforming ARD into a digital network with a unique product portfolio. Prior, as Head of Technology, he has build up the infrastructure of funk, the first online-only content network of ARD and ZDF. He holds degrees in media computer science and musicology of Dresden University of Technology and Kent State University, OH, USA.

SESSION 4: CLOUD-BASED PRODUCTION

09:30–10:00

Beyond The Roadmap

The JT-NM has produced a roadmap showing different stages in the transition to IP. Specifically, the "Green Zone" has referred to the move to "Cloud-fit" production environments. Attendees of this session will get a brief introduction to the roadmap and the green zone. We will talk candidly about the challenges of traditional facilities and we will explore the proposed benefits of moving to cloud-based production. The current reality of cloud-based production will be discussed. This session will close with a call for user input.

Brad Gilmer is President of Gilmer & Associates, Inc, he is a founding member of the Joint Task Force on Networked Media, Executive Director of the Video Services Forum (VSF), and Executive Director of the Advanced Media Workflow Association. Brad is also the Executive Director of the IP Showcase events held at NAB and IBC.

10:00–10:30

A virtualised control room. Proof of concept.

At the end of 2018, we did a trial of a virtualized broadcast control room in France Televisions. We'll explain why we did this test, what we did exactly and what problems we had to face during this Proof Of Concept.

Merienne-Santoni works for the Innovation&Developments department in France Televisions since 2010, where she is studying and experimenting new technologies for television production, including IP migration of broadcast infrastructures, immersive and next generation audio.

& Edmond Debar (France TV)

10:30–11:00

Cloud-based Distributed Content Production

In this session, we will show how broadcasters can use the Microsoft Azure cloud for encoding, storage, indexing, and streaming, and partner solutions for connectivity, master control, media asset management, and editing, to support distributed content production workflows end-to-end in the cloud. We will show the overall solution architecture, provide application examples, and discuss the benefits of the solution to broadcasters.

Rainer Kellerhals, Industry Lead Media & Entertainment EMEA at Microsoft, advises large media and entertainment companies on leveraging the Microsoft platform to drive their digital transformation. With 25 years of experience in solution design and sales in media, he contributes to setting Microsoft's strategy for this industry, working with Microsoft's sales, engineering, partner, and marketing organizations. He joined Microsoft in 2006 and holds an M.D. (Diplom) in business administration and mechanical engineering from the University of Kaiserslautern in Germany.

& **Onur Ozdemir** (Microsoft)

SESSION 5: INFRASTRUCTURE AND WORKFLOWS

11:30–12:00

5G in Production

A look at how the changing landscape of wireless technologies will impact on programme makers.

Ian Wagdin has worked for the BBC for over 20 years in various capacities and across most genre. His current role is within BBC Research and Development who are exploring how technologies can be applied to the production, distribution and consumption of media content. Live broadcast production offers a number of challenges to today's broadcasters who have traditionally worked with bespoke technologies tuned to the latency and bandwidth requirements of high quality TV and radio signals. Ian is also the chair of the EBU working group on use of 5G in content production.

12:00–12:30

Live IP Studio update incl. subtitle in SMPTE 2110 - Willem Vermost (EBU T&I)

12:30-13:00

ST-2110 OB truck – first experiences with real productions

Since 4 month our UHD 1 OB-Van is in operational production. It is fully ST 2110 based and 1080i/25, 1080p/50 and 2160p/50 capable either in SDR or HDR. The presentation will focus on the reason building such a truck and first experiences in real operation.

Andreas Lattmann is CTO (Chief Technology Officer) and Head of Planning & Projects at tpc Switzerland AG, a subsidiary of SRG SSR. He has been with SRF / tpc in various roles for almost 20 years. After studying electrical engineering at a university of applied sciences and a postgraduate course in economics with a specialisation in project management, he returned to tpc in 2003. In his role as project manager he implemented several large regional and national projects. Since 1 January 2012, he has been responsible for tpc's technical strategy in the role of CTO in the multimedia, radio and TV production sector as well as in the enterprise environment. Since 1 April 2017, he has also headed the "Planning & Projects" business unit, which comprises a total of around 25 project managers.

13:00–13:30

Radio production: so many flavours of Audio over IP - Ievgen Kostiukevych (EBU T&I)

6: VIDEO AND AUDIO CODECS UPDATE

14:30–15:00

The changing landscape of video codecs: AVC, HEVC, AV1 and JEM under review

In the last few years, the small world of video coding has been quite rich in twists and turns. After a long period of stability where the choice of AVC has been a no-brainer for the video industry, the vicissitudes of HEVC licensing have led several major companies to work together to create their own consortium ("AOM" for "Alliance for Open Media") with the stated purpose of developing a new open-source and royalty-free codec ("AV1"). In addition, the Joint Video Exploration Team (JVET), a collaborative initiative between MPEG and ITU-T, is making progress with the development of the next generation of MPEG compression, the Versatile Video Codec ("VVC") which aims at capacities beyond HEVC. To check the feasibility of a substantial gain over its predecessor, a first reference model, the Joint Exploration Model ("JEM"), has been developed in the context of the "Call for Evidence". The presentation will provide an overview of the compression performances obtained with AVC, HEVC, AV1 and JEM on the basis of two objective criteria: PSNR and VMAF. A review of other similar studies from different sources will be done, and some clues will be given to understand why their conclusions may appear so contradictory at first sight. Latest information about the development of VVC will also be supplied as well as a brief presentation of the Media Coding Industry Forum (MCIF), an initiative of several industry players joining their effort to avoid the HEVC patent mess from being reiterated on VVC.

Muriel Deschanel joined the Hypermedia division at b<>com in October 2016 as Business development director in charge of expanding b<>com's leadership into existing and new markets with a focus on advanced media formats and codecs, virtual and augmented reality and digital trust and identity technologies. She currently holds the chair of the ETSI Industry Specification Group "ARF" set up in December 2017 to develop an interoperability framework for Augmented Reality applications and services.She also holds the chair of the DVB technical working group "Internet Protocol Infrastructure" (DVB TM-IPI) developing specifications for the

delivery of A/V services over fixed IP networks.

Before joining b<>com, Muriel was responsible for Microsoft standards activity in Europe around Smart TVs and multi-screens usage. She delivered strategic support and thought leadership to the engineering groups regarding policy, regulatory and standards issues and outlook affecting Microsoft media and entertainment products and services in Europe.

Prior to joining Microsoft, Muriel worked for TandbergTV (now part of Ericsson) and NDS (now part of Cisco) where she was involved in various stages of product development for Digital TV solutions ranging from design engineering to program management and group leadership.

Muriel holds an MSc from ENSERG Grenoble's National Institute of Electronics and Radio-Electricity. She combined her Engineering degree with an advanced research degree in data processing.

15:00–15:30

Cloud-Based Encoding is Boosting Video Streaming Quality

New codecs like AV1 will enable broadcasters and service providers to deliver higher resolutions, including 4K and 8K VR, but with added complexity. Adaptive streaming requires that multi-resolution synchronized encoding is performed, making the delivery of next-generation video even more challenging. For live applications, the amount of complexity is simply not manageable with current CPU or GPU on-premises technologies. This paper will examine the limitations of on-premises server-based encoding and how cloud computing (whether private or public) can solve these issues, allowing broadcasters and service providers to take advantage of new applications like event-based encoding to successfully address the demand for superior-quality video on every screen.

As Vice President of Video Strategy at Harmonic, **Thierry Fautier** is in charge of defining and driving the execution of the long term strategy of Harmonic's video business. He is the current President of the Ultra HD Forum, the global organization responsible for promoting market adoption of UHD by defining industry best practices for the phased introduction of the wide set of technologies that will facilitate the next-generation viewing experience. Fautier is also co-chair of the MPEG Roadmap committee that is tasked to present the 2020 MPEG roadmap to the industry.

15:30–16:00

Object-based production & Smart Speakers

Matthieu Parmentier (France TV) started his audio career recording classical music CDs. He joined France Televisions in 1999 as a sound engineer for live programs, then in charge of sound recording, video editing and outdoor satellite transmissions for the news department. Since 2008, he has been working as manager for 3D audio and UHD video development projects, also organizing conferences and professional workshops. Matthieu chairs the audio strategic programme of the European Broadcasting Union, the French section of the Audio Engineering Society and chairs or participates in several collaborative R&D projects. He holds two license degrees in sound recording and video post-production and a master degree in audiovisual research from the Toulouse II University.

09:00–09:30

The potential of AI in media production

Artificial Intelligence is the word that is on everyone's lips and causes lots of buzz among businesses and academic world. Media industry is not an exception and there is versatile ongoing discussion on how AI can benefit media industry. The presentation from Yle and Valossa Labs Inc. will start by giving an overview on how AI is being used today in media industry among use cases like understanding audience behavior, content compliance, content distribution and archiving. However, our main focus will be around content production related use cases. We'll explain what kind of technology has the potential to improve different media production use cases like handling footage, transcription, rough-cut, and editing - without forgetting live production. We'll also explain how some of these use cases could be improved in practice. Some remarks on potential challenges including vast amounts of data to be processed and metadata shall be made too. Since AI is not being developed for media industry only, we'll explain how development of AI for media industry is linked to general development of AI. As AI will not only benefit media industry but will also change it, we will give our forecast on what use cases will be the actual game changers as well as how and when the change will happen.

Jouni Frilander studied computer science at the Commercial Institute of Helsinki and graduated on 1994. He has developed broadcast related IT systems since early 1990's. His experience includes metadata management, information retrieval, digital archiving, computer aided radio, workflow automation and video production. He has worked in various roles including System Analyst, Systems Manager, and Development Manager. Currently he works as Development Manager at Finnish Broadcasting Company's Operations Division and helps Yle to improve media production processes and make use of AI. Jouni also leads Yle Sandbox.

& Valossa CEO and Founder **Mika Rautiainen,** Ph.D., is the founder and CEO of Valossa Labs, video recognition and content intelligence software company. Mika was a senior research fellow at the University of Oulu, Finland, well known for machine vision research. Mika's team expertise in computer vision and artificial intelligence (AI) for media content recognition is now part of Valossa products. Valossa AI video platform recognizes people, inappropriate content, visual objects, speech topics, video categories and more, from scenes to higher level video understanding. Valossa Insight Tools lets users inspect, profile, discover and train video AI for business use cases. Mika has also worked as a researcher at the University of Maryland and at NEC's C&C Central Research Labs, in Japan.

09:30–10:00

Berlin Athletics 2018 and the transition to UHD-HDR-HFR-NGA

Dagmar Driesnack graduated in Media Technology at the University of Applied Sciences in Mittweida. In her diploma thesis at IRT in 2006, she joined IRT as a research engineer and is now working in the department "AV Technologies" looking to topics like picture quality aspects in production, contribution and distribution for HDTV and beyond HD. She is also chairing these projects at IRT. She was leading the EU funded project DIOMEDES at IRT. She chaired the former EBU D/HDrec-group and now co-chair of the EBU's Video Systems group. She is also a member of the DVB project, SMPTE and the FKT.

10:00–10:30

Real-time immersive storytelling powered by game engines

Mike Grieve &

Marcus Brodersen (The Future Group) is in charge of managing and driving innovation for The Future Group's technical solutions. Before joining TFG in the fall of 2016, Marcus worked for two decades in the film industry and was instrumental in bringing modern 3D animation and VFX tools and workflows to the Norwegian film industry

10:30-11:00

Adventures in Dolby Atmos at Sky UK

Overview of Sky's implementation of Dolby Atmos immersive audio to accompany UHD TV services. This includes every match of the 2018-19 English Premier League season as well as the Royal Wedding, the Isle of Wight Music festival, other Sport and Entertainment broadcasts and UHD movies through VOD.

Martin Black has over 40 years experience in live broadcasting, initially at ITV's Thames Television and then at Sky for the past 25 years Until recently he worked as a Sound Supervisor on live Outside Broadcast events, including three Ryder Cup Golf tournaments and the first ever live NFL match in the UK, from Wembley Stadium. Then in 2006 he lead the introduction of 5.1 Surround Sound to accompany Sky Sports' 'new' HD service, launched that year. More recently he has spearheading the introduction of R 128 Loudness measurement into Sky and all the UK Television broadcasters, through his work with the DPP. Current work includes advancing the development of NGA for European Broadcasting through his role as co-chair of the EBU-sponsored FAME Audio group.

Vlad Korotkov leads an Emerging Technologies Design team in TV Engineering at Sky UK. He specialises in advanced media technologies, signal compression, audio and video quality and broadcast and OTT architecture and design. Prior to Sky Vlad was working with Kudelski and Liberty Global as a Systems Integration engineer building and deploying IPTV solutions throughout Europe.

11:00-11:15

HFR considerations - strobing artefacts at standard frame rates

Ikuo discusses the potential issue of motion judder, strobing artefact, displayed at legacy UHDTV with only non-HFR decoding capability particularly without MCFI when HFR service starts in compliant to DVB UHD1 Phase2 Backward Compatible Temporal Scalable mode. Mitigating the strobing artefact by various blending ratios at different shutter angles is presented as well as how impacting the HFR displaying quality.

Ikuo Tsukagoshi's major background is based on video compression technology. In the recent decade, he has been a representative in UHDTV and 3DTV broadcasting standardization covering DVB, ATSC3.0, and ARIB. After developing subtitle format for DVD, in the late 1990s he joined software codec project operated in Silicon Valley and lead the team of developing video audio software codec on the cutting-edge media processor for broadcasting and streaming. Ikuo Tsukagoshi received his Master of Engineering in Electronics and Telecom at Waseda University in 1985, then joined Sony Corporation. In Sony Studying Abroad Program 1987, he was enrolled in University of Washington image processing lab as a visiting scholar which initiated his careers in video codec related projects.

11:15-11:30

Can we use Machine Learning to replicate results of traditional Video Quality Test?

During PTS 2019, the EBU Video Systems group will be running a test of a Machine Learning algorithm designed to replicate the Subjective Test practices used for Video Quality Assesment.

Simon Thompson has worked at BBC R&D for 15 years researching RF spectrum management, grid computing, advanced RF transmission design, additional services for DVB broadcasts (including drafting the Network retune and messaging services currently used by Freeview, Freesat and Youview), OJEC procurements for cameras and the New Broadcasting House newsroom and video workflow optimisation.

Simon is currently a member of the European Broadcasting Union Video Systems group. Simon holds a Master of Engineering degree in Electronic Engineering from the University of Southampton and is a Chartered Engineer.

11:30–12:30

Panel discussion: How to migrate from HD to UHD

Moderator: **Andy Quested** started as a BBC Technical Assistant in 1978 becoming a video tape editor in 1985 where he worked on many comedy, children's and documentary series, editing all episodes of "Keeping Up Appearances"! In 1998 Andy moved to BBC technology where he led the technology for the BBC's first HD programmes including the iconic "Planet Earth I". He is the technical lead for the DPP's AS-11 format, chairs the ITU production technology group (Working Party 6C) and co-chairs the EBU Video Systems Strategic Group. Andy is an active member of SMPTE, especially the UK Region and became a Fellow in 2014.

Derya Ademir (SRG-SSR) Derya Aydemir joined the SRG SSR in 2015. She works as Business Analyst at the Technology, Innovation and Project department. She is focusing on new formats and is analysing new production codecs and distribution formats. The development of the UHD strategy and related concepts of SRG SSR are also part of Derya's tasks. In 2017 Derya worked with her colleagues at RTS in Geneva for few months successfully taking the lead to develop and implement the project "UHD HDR Test Shooting" at the Montreux Jazz Festival. Derya received her Dipl.-Ing. degree in Media Technology at the University of Applied Sciences in Hamburg. She worked in media production and operations for several sport-federations and content aggregators before moving to SRG SSR.,

Frank Heineberg (Cologne Broadcasting Center) Senior manager program distribution at CBC / Mediengruppe RTL in Germany Working on new technologies Member of DVB Steering Board Has been working at Mediengruppe RTL for 28 years,

Matthieu Parmentier (FranceTV), **Lothair Burg** (ARTE), **Andrew Cotton** (BBC),

SESSION 9: AI IN CONTENT PRODUCTION – REAL APPLICATIONS

13:30-14:00

A reality check on AI and media - the RAI experience

This presentation will discuss several applications of AI in the media domain, trying to enlight their related opportunities and limitations. RAI's long experience with AI tools starts in early 2000s with the adoption of one of the first ASR engines for the Italian Language. Since then, RAI R&D have constantly experimented with new tools and approaches and now have a prominent role in promoting this area in EBU.

Alberto Messina (MSc, PhD) started as a research engineer with RAI in 1996. Since then, he has been involved several internal and international research projects in digital archiving, automated documentation, and automated production. R&D coordinator since 2005, he leads research on Automated Information Extraction Management/Information and Knowledge Engineering, where he is author of more than 80 publications. He has been active member several EBU Technical projects and led the EBU Strategic Programme on MIM-AI until Fall 2018. He worked in many European funded projects including IBC Award - winning VISION Cloud. He actively participates in International Standardisation bodies, mainly in EBU and MPEG, where he contributed to MPEG-A, MPEG-7 and MPEG 21 extensions.

14:00–14:30

How to build a successful AI team

Leonard Bouchet (RTS)

14:30–15:00

AI

Dieter Van Rijsselbergen (Limecraft)

15:00-15:30

AI space speech

Titus Zaharia (Institut Mines-Telecom)

16:00-16:10

Wrap-up

Hans Hoffmann (EBU T&I)