

# CLOUD INTELLIGENCE SEMINAR



## MEDIA PRODUCTION THROUGH CLOUD SERVICES – 2017

MONDAY 20 NOVEMBER

### KEYNOTE SESSION

10:30 – 10:45 **Welcome to CIS 2017**



**Simon Fell**, Director of Technology & Innovation, European Broadcasting Union

Simon Fell leads the team spearheading developments in broadcast, media technologies and innovation at the EBU based in Geneva. Additionally, Simon is the Chairman of the World Broadcasting Union Technical Committee and of the ETSI Joint Technical Committee for Broadcast Standards. He is also a member of the IBC Council.

He has four decades of experience, formerly with ITV as Director of Future Technologies; previously he helped establish Carlton Television where he held several executive positions and helped launch digital broadcasting in the UK.

He has chaired the Technical Council at the UK's Digital Television Group, and was Chairman of the HD Forum.

Additional roles include Director of Engineering for Rushes, Chief Engineer of 625 and establishing Channel Four. His early career included periods in the USA with Rank Cintel and at YTV in Leeds.

10:45 – 11:30 **Cloud growth and usage over the last years**

Ankit Shukla (Frost & Sullivan)

11:30 – 12:00 **The reality of cloud and Artificial Intelligence**

Cloud and AI is often simpler than you might think, but cloud is far more complex than the often quoted "someone else's computer" and AI is necessarily incomprehensibly more complicated than we think. How can we reconcile the complexity with the practicality of these technologies that are becoming ubiquitous in everyday life? This talk aims to demystify the technology and real world applications whilst providing an insight into the future complexities that may pose a challenge to us all practically, intellectually and existentially.



**Richard Welsh** is co-founder and CEO of Sundog Media Toolkit Ltd. Founded in 2013, Sundog has become an industry leading cloud platform used by major broadcasters and Hollywood studios for post production processes leveraging public cloud scale and cutting edge AI applications. Richard has worked in the media industry since 1999. During this time, Richard previously held positions as Director of Digital Cinema at Dolby Laboratories and Head of Digital Cinema Operations at Technicolor. Richard holds a BSc (Hons) in Media Technology and an honorary Doctor of Technology degree from Southampton Solent University. He is also Vice President of Education on the board of the Society of Motion Picture and Television Engineers (SMPTE), and chair of the HPA Tech Retreat UK.

12:00 – 12:30 **Do broadcasters dream of electric sheep?**

What is AI? Is it a friend or a foe to broadcasters? The presentation analyses today's situation and proposes possible implementation of AI to help public broadcasters fulfil their role for society.



**Marcello Lombardo** joined the European Broadcasting Union in 2014 as Project Manager. He works on Spectrum for Digital Terrestrial Television, and Digital Radio. He holds a master degree in Electronics/Robotics Engineering and his master thesis work was published in 2009 with the title "Policy Gradient Learning for a Humanoid Soccer Robot". In 2013 he also became a PMI certified Project Management Professional. Through the years he nurtured transversal experience in various technology fields such as telecommunications (Ericsson), railway automation (Bombardier), aerospace and missile flight (MBDA). At the moment he is keen on ensuring the relevance of Public Service Broadcasting.

### SESSION 1: ADAPTING TO AI

13:30 – 14:00 **AI & Machine Learning 101 – The what, how and why for Media Companies**

Artificial Intelligence is eating the World": AI has rapidly evolved over the past few years and is now considered as the next industrial revolution that will turn society, business, culture and creative work upside down. Smart systems understand images, recognize emotions, read texts, answer emails, trade stocks, write poetry and news articles, understand, recommend and compose music, talk to

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us as chatbots and virtual assistants, decide on probation penalties and creditworthiness, drive cars, and win Space Invader, Go & Poker.

What is Machine Learning? What are neural networks and how does Deep Learning work? What does AI mean for us in editorial, creation, production and newsrooms?

With many examples Patrick Arnecke shows the state of the art and discusses possible applications for media companies.



**Patrick Arnecke** (SRF) Designer, director, advertising photographer. Head of Design & Promotion, evangelizing Digital Strategy & AI/ML technology at SRF.

## 14:00 – 14:30 AI and Journalism: Threat or Promise?

AI is reaching the state where it is possible to produce news reports without any human intervention. As suggested by the existence of “fake news”, this nascent technology is associated with obvious ethical and societal threats. At the same time, news as it is currently reported is also hampered by shortcomings, as could be predicted from the fact that human rationality is bounded. For example, in the case of science journalism, which will be the focus of this talk, news tends to focus on a single study, often omitting a considerable body of previous research. Similarly, emphasis is given to exciting, surprising and counter-intuitive results, which are likely to be non-replicable. The talk will highlight some of the ways in which AI could actually improve the quality of science journalism.



**Fernand Gobet** earned his Ph.D. in psychology in 1992 at the University of Fribourg, Switzerland. After a six-year stay at Carnegie Mellon in Pittsburgh, he held posts at the University of Nottingham. He moved to Brunel University in 2003 to take up a Chair in Cognitive Psychology. Since 2013, he is Professor of Decision Making and Expertise at the University of Liverpool. His main research interests are (a) the psychology of expertise and talent, (b) the development of computer models of expertise and language development, and (c) the use of genetic programming to automatically generate scientific theories. He is the main architect behind the CHREST project, one of the few cognitive architectures in the world. His latest book is "Understanding expertise: A multi-disciplinary approach".

## 14:30 – 15:00 Cultural transformation is the new strategy

Culture is an essential part of the digital mindset and it’s a global phenomenon. Live the culture that embraces experiments. Have a good situational awareness with data-driven agile development. Get an ability to follow through (ability to deliver and systematic culture of experimentation).



**Mirette Kangas (YLE)** Founder of Lean-Agile Culture Accelerator at YLE. Focusing on growing the scope of the cultural transformation and spread the new approach to leadership across the organization.

## SESSION 2: PROVIDERS SESSION

### 15:30 – 16:00 Enhanced Content Workflows Using Amazon AI

AI services on the AWS cloud bring deep learning technologies like natural language understanding, automatic speech recognition, computer vision, text-to-speech, and machine learning within reach of every developer. In this session, we'll see how they help you build smarter and richer content workflows.



**Julien Simon**, AI Evangelist, EMEA, AWS

As the Artificial Intelligence/Machine Learning Evangelist for EMEA, Julien spends most of his time traveling, meeting developers and enterprises and helping them bring their ideas to life. Prior to joining AWS, Julien spent 12 years in the Telecom industry, before serving for 10 years as CTO/VP Engineering in top-tier web startups where he led large Software and Ops teams in charge of thousands of servers worldwide. In the process, he fought his way through a wide range of technical, business and procurement issues, which helped him gain a deep understanding of physical infrastructure, its limitations and how cloud computing can help.

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## 16:00 – 16:30 Audience Analytics and Media Analytics with the Microsoft Data Platform and Microsoft Cognitive Services

We will look at 2 Cloud Intelligence solutions by Microsoft enabling broadcasters to better understand their audience, and automatically index their content: 1) Using the Microsoft Data Platform, broadcasters can combine data from multiple sources to identify audience preferences and predict viewership of future programs. 2) Microsoft Video Indexer, an integrated SaaS solution, automatically generates metadata for audiovisual content (speech-to-text, face, object and action recognition, and more). We will review case studies and discuss the benefits, futures and limitations of Cloud Intelligence.



**Rainer Kellerhals**, Industry Lead Media & Entertainment EMEA at Microsoft, advises large media companies on how they can leverage the Microsoft platform to drive their digital transformation.



& **Sandro Stark** (Microsoft)

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## 17:00 – 17:30 IBM Watson Media: Video Enrichment using AI to analyze video

Video Enrichment uses Watson's industry leading AI capabilities to analyze textual, audio, and visual data within multi-media content, and to build easily searchable metadata packages for every asset. By understanding content in new ways, media companies can improve content discovery, increase operational efficiency, deliver higher ad revenues, drive viewer engagement and offer entirely new ways to meet the demands of their businesses.



**Jakob Hummes** works since over 17 years in the broadcast and media industry. In the year 2000 he founded a startup to scale the delivery of Web video streams to tens of thousands of viewers. Later he worked with the video server pioneer Omneon and with the leader in video compression technology Harmonic. At IBM, Jakob is leading the sales and business development of Watson Media and Cloud Video in Europe.

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## 17:30 – 18:00 How to take advantage of AI to optimize your production workflow

During this presentation, you'll get first-hand insights and illustration of how intelligent software is used to optimise and accelerate ingest, logging, archiving and subtitling processes.



**Maarten Verwaest** is founder and CEO of Limecraft, dedicated to giving media professionals the best possible solution to manage their digital workflows. Prior to this, in his capacity as a programme manager for the R&D department of VRT (VRT-medialab), he was responsible for several innovative technologies to enable computer assisted manufacturing and automatic indexing of audiovisual media. These experiences eventually led to the incorporation of Limecraft and its unique selling proposition. Relying on his critical appreciation of current and future trends, and capitalising on his extensive experience as a systems architect, he strives to move media technology beyond the state of the art.

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## SESSION 3: IDEATION

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09:00 – 10:30 **Ideathon**

Brainstorming possible use case for AI cloud services



**Ezra Eeman (EBU)**

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## SESSION 4: USE CASES

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11:00 – 11:30 **Peach: the innersource approach to personalization**

The PEACH (Personalisation for EACH) project is a joint international initiative of European Public Broadcasters. The goal is to co-develop white label software solutions empowering broadcasters and editorial teams to deliver personalized media services and experiences. The presentation will walk you through the details of the collaborative approach from product development to operations as well as the product features.



**Michael Barroco (EBU)** is currently heading the software engineering team in EBU Media Technology and Innovation. He holds a Master's degree in Computer Science from EPFL (Lausanne, Switzerland). Previously, he used to work at Livestream in New York and BBC Research & Development working on Realtime analytics and User Authentication protocols. During his career, Michael coordinated several EBU working groups around Personalization. His current focus is to implement Innersource and Opensource within the EBU community.

11:30 – 12:00 **Yle - The Future AI media?**

**Anssi Komulainen (YLE)**

13:30 – 14:00 **Automated language technologies for multilingual news content**

We will present two cloud-based multilingual platforms, i.e., speech.media/news.bridge and SUMMA, for an automated workflow for transcribing, translating and summarising news content.



**Peggy van der Kreeft** is an Innovation Manager at the Research and Collaboration Projects Department of the German world broadcaster Deutsche Welle. She has been involved in a wide range of projects, focusing on new developments in the area of human language technologies applied to broadcast content.

14:00 – 14:30 **FIMS Using Multicloud services**

**Joost Rovers (Glookast)**

14:30 – 15:00 **Filter UGC or personalized radio**

**Rik Bauwens (VRT)**

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15:30 – 16:00 **AI on a shoestring – Making use of AI tools with almost no resources**

**Machine Learning tools already have become a commodity** that everybody with a computer and an internet connection can use today. There are many frameworks and APIs that can easily be applied for evaluation, hacking and actual production.

Patrick Arnecke will show a handful of prototypes and projects that can be build with few resources and in addition will discuss how to make access for everyone in the company as frictionless as possible.

**Patrick Arnecke (SRF) (same as above)**

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16:00 – 16:30 **AI to open up the archive**

We'll present several use cases on the implementation of AI solutions by the Data and Archives Department of the Swiss Radio Television (RTS) to improve the quality of the data of the audiovisual archives of the RTS and facilitate their access.



**Pietro Rezzonico**, product owner, Data and Archives department, **Swiss Radio Television (RTS)**



**& Antoine Mercier** is a data scientist at Cross systems. He is working for a year at RTS, in a project to bring artificial intelligence to analyse archives.

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16:30 – 17:00 **ML in the domain of news**



**Dr. Alberto Messina (PhD, 1971, M)** is R&D Area Coordinator at RAI-CRIT, in the area concerning technologies for automatic extraction of information from media analysis. He is co-author of more than 80 technical and scientific publications and collaborates with international research institutions worldwide. He is chair of the EBU Strategic Programme on Media Information Management. He worked in many financed projects including VISION Cloud, winner of IBC 2013 Special Award. His research activities have been awarded in 2010 with the award of Confindustria ICMT, delivered to RAI by Giorgio Napolitano, former President of Italian Republic.

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17:00 – 17:15 **Wrap-Up**



**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.

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