

Digital Delivery and Content SIG**'Broadcasting New Media - is 5G a solution or a diversion?'**

13 June 2017

Jointly organised and hosted by Digital Catapult Centre

This SIG is championed by David Crawford, **University of Ravensbourne**, Tim Cook, Russell Inman, **BBC Engineering**, Chris Nokes, **BBC Research & Development** and Sami Susiaho, **BskyB**

The event is jointly organised by Dr Dritan Kaleshi, **Digital Catapult**

Venue: Digital Catapult Centre, 101 Euston Rd, Kings Cross, London NW1 2RA

AGENDA

13:00 Registration and networking with lunch

13:45 Introduction to Digital Delivery and Content SIG from **David Crawford, University of Ravensbourne**

13:50 Welcome from host and co-organiser, **Dr Dritan Kaleshi**, Lead Technologist – Future Networks, 5G Fellow, **Digital Catapult**

Session chaired by SIG Champion, David Crawford, University of Ravensbourne

14:05 **'What could 5G mean for Media & Entertainment'**

Simon Frost, Industry Expert - Internet, Media and Telecoms

The media industry is driving significant change in both the formats of video, and the delivery to the viewer: With Ultra HD now established, VR, AR, 360 video and potentially 8K video all being considered, as well as viewers demanding personalisation of content choice, and immediacy of access, this session will explore what 5G as a platform might enable for capturing and delivering the next phase of Television.

14:25 Q&A

Session chaired by SIG Champion, Chris Nokes, BBC Research & Development

14:30 **'A 5G transformation takes two to tango - technology and regulatory innovation'**

Stephen Temple, Visiting Professor and Technical Secretary of the Strategy Advisory Board, University of Surrey 5GIC

Covering urban areas with dense small cell networks at 3.6 GHz will not just deliver Gb/s connectivity but the most powerful mobile "data translocation engine" the world has ever seen. It has the potential to transform industries including the media industry. But the investment gap to deliver it is huge. Nobody believes that four competing mobile operators will each roll out independently 1m small cells across our cities and towns. We must do things a different way. With the right mix of regulatory innovation as much as 90% of the cost could be taken out of providing urban wide 5G coverage. Regulatory innovation (over licensing) is also going to be needed to develop a strong 5G indoor story. But who is going to lead this regulatory innovation and when do we need to start the debate on the optimal mix of cooperation and competition needed to secure this infrastructure leap forward?

14:50 Q&A

14:55 **'Can 5G work commercially for the media industry?'**

Dr Ian Corden, Director, Plum Consulting London LLP

Amidst the usual 'G' hype in telecoms circles, many wonder whether 5G is a vendor's solution looking for a problem. And yet the UK and European governments see 5G as a key enabler to economic success. To sustain commercial success, it is becoming increasingly evident that 5G cannot be yet another linear development in radio coverage and capacity. Therefore, new business models will be required. This session will recap on the current status of 4.5G and 5G development, summarise some of the commercial challenges, and examine the questions of whether and how 5G may be relevant for media players.

15:15 Q&A

15:20 Refreshments and networking

Session chaired by SIG Champion, Russell Inman, BBC Engineering

15:50 'Thinking Outside the Box'

Will Saunders, Creative Director, Digital, BBC Studios

In a world of plenty the only currency that matter is attention, and attention is what defines media. In a landscape that can be fragmented and difficult to navigate for TV broadcasters how do you win the battle for attention in 2017? Join Will Saunders as we seek digital solutions that will last forever or for five years, whichever comes first.

16:10 Q&A

16:15 Panel session with all speakers chaired by David Crawford, University of Ravensbourne

17:00 Event closes

With the permission of the speakers, presentations will be loaded to the CW website on the day following the event

Profile of organisers

Cambridge Wireless (CW)

CW is the leading international community for companies involved in the research, development and application of wireless and mobile, internet, semiconductor and software technologies. With over 400 members from major network operators and device manufacturers to innovative start-ups and universities, CW stimulates debate and collaboration, harnesses and shares knowledge, and helps to build connections between academia and industry. CW's 19 Special Interest Groups (SIGs) provide its members with a dynamic forum where they can network with their peers, track the latest technology trends and business developments and position their organisations in key market sectors. CW also organises major conferences and start-up competitions along with other high-quality industry networking events and dinners. With headquarters at the heart of Cambridge, UK, CW partners with other international industry clusters and organisations to extend its reach and remain at the forefront of global developments and business opportunities. www.cambridgewireless.co.uk

Profile of host

Digital Catapult

Digital Catapult works with SMEs to help them grow and scale faster. It helps larger corporates in their digital transformation. It does this through programmes of collaboration and open innovation, by bringing academic leading-edge expertise into the mix combined with the organisation's own business and technological expertise. www.digitalcatapult.org.uk

Profile of joint organiser

Dr Dritan Kaleshi, Digital Catapult

Dritan is a leading technologist and researcher in communication networks, distributed systems, their performance evaluation and interoperability. In Digital Catapult, he leads the 5G Future Networks program, focusing on national coordination of 5G testbeds and how to best link infrastructure advances with digital economy innovation. Before joining the Digital Catapult as a Lead Technologist in Future Networks he was with University of Bristol, where he led a 15-strong research team in delivering a wide range of fundamental contributions and practical implementations to networking, interoperability, smart energy, cities and healthcare. This included large demonstrator platform projects like SPHERE and Bristol Is Open, strategically combining fundamental research with strong industrial collaboration. Dritan has published over 70 peer-review papers, holds 3 patents, has edited 2 international standards on interoperability and served on/chaired technical committees for several international conferences. He was a member of the Future Communications Challenges Group (2016) and has also represented the UK in various international standardisation bodies (ISO/IEC, CEN/CENELEC). He is a Visiting Research Fellow at University of Bristol and a 5G Fellow with the 5G Innovation Centre at University of Surrey. Dritan received his PhD from University of Bristol and holds a First Class MEng degree in Electronic Engineering (with Excellence) from Polytechnic University of Tirana. www.digitalcatapult.org.uk

Profile of SIG Champions

David Crawford, University of Ravensbourne

David Crawford is a Professor at the University of Essex and Ravensbourne in the UK, with interests in next generation networks and 'beyond HD' multimedia services. He is well known in the engineering and business fraternities, having worked for over 40 years in the telecoms and broadcast industries and academia. David lectures on 'ICT', 'Networks' and 'Broadcast Technology', and is Director of a small high tech start-up in France. He also runs his own technical consultancy company, and chairs and presents regularly at technical and business conferences. David is a Member of the Royal Television Society, a Board and Council Member of the Institute of Engineering & Technology (IET), and is Executive Producer for the annual IBC Multimedia Conference in Amsterdam. www.ravensbourne.ac.uk

Tim Cook, Independent Consultant

With over 30 years in the Telecoms, Media & Technology sector, Tim has held a number of senior roles where he has operated at CXX level on a Global basis. During his time with BT, he was the Director of a joint venture with France Telecom which pioneered inflight telephony. His international experience involved managing a Telco. integration and heading up a Global Customer Service Team of over 400 people. After 9 years he has recently left Arqiva where he was Head of Strategic Business Development for the Terrestrial Broadcast Division. Currently he is working on roadcast/media consultancy engagements.

Russell Inman, BBC Engineering

Russell holds the post of Executive Product Manager, Media Networks at the BBC, responsible for the development, delivery and strategy of the BBC's broadcast connectivity. He has also worked as a Senior Network Architect in the BBC's 'Strategy & Architecture' division. Prior to joining the BBC, Russell launched a consultancy practice in 2011 and was a technology consultant operating in the broadcast and wireless sectors. Prior to that, Russell was with Arqiva - a communications and media services company providing infrastructure for the broadcast, mobile communications and satellite markets - where he held the post of Technology Director. Before joining Arqiva, he worked for the BBC, Crown Castle International and National Grid Wireless. He has led, and been a key member of, teams which have developed new products and platforms in sectors such as digital TV, mobile TV, 3G and Smart Metering. At Crown Castle, he was a member of the Freeview launch team working directly with Crown Castle's launch - partner companies; BBC and BSkyB. He served as Vice - President, Engineering at Modeo which pioneered a mobile TV service in New York. Russell is a Chartered Engineer and holds an Upper Second Class Honours Degree in Electronic Engineering. He is a Fellow Member of the Institution of Engineering and Technology. www.bbc.co.uk

Chris Nokes, BBC Research & Development

Chris is Head of Distribution Core Technologies Section at BBC Research & Development. With over twenty -five years' experience in Broadcasting R&D, Chris has been involved in the development of digital television since 1994, including as a key contributor to the DVB - T2 technical study group, and editor of the DVB - T2 specification. He is also Chair of the RF Group of the UK Digital Television Group (DTG). The work of Distribution Core Technologies Section includes projects investigating broadcasting to mobile devices, the next generation of wireless cameras, TV White Space devices, IP Stagebox and High Efficiency Video Compression. www.bbc.co.uk

Sami Susiaho, BskyB

Sami Susiaho has worked for European blue chip MNOs and ISPs for the last 15 years. During the last few years, at BskyB as the Head of Edge Technologies of the Cloud business unit, focusing on WiFi R&D and helping the business to build one of the most advanced WiFi hotspot networks in the world. He researches technologies used on the edge of the network; last mile connections, wireless and wired technologies. Sami runs the Wi-Fi test lab, sits on various industry workgroups and contributes in numerous efforts towards the best possible user experience on WiFi. www.skywifi.cloud

Profile of speakers

Dr Ian Corden, Plum Consulting London LLP @iancorden

Ian is a Director with Plum Consulting, with over twenty years of experience in strategy and technology consulting in the telecoms and digital sectors. Formerly with PwC Strategy Consulting (TMT) London, Coopers & Lybrand MCS (Telecoms) London, and with extensive industry / international experience, he has advised telcos, vendors, governments and investment focused clients across numerous areas including: 'hands-on' CTO / NGN delivery

director roles, M&A / transactions support, commercial / operational / technical due diligence, business and technology strategy development / alignment, strategic sourcing / vendor management, investment appraisal, cost management, financial and operational modelling / benchmarking, business performance improvement, programme, and expert witness. Ian holds PhD and BSc (1st Class Hons) degrees in Engineering and a Postgraduate Diploma in Management. He is a UK Chartered Engineer and a Fellow of the UK based IET. plumconsulting.co.uk

Simon Frost, Industry expert - internet, media and telecoms @m5sime

Simon Frost was until recently the global Head of Media Marketing and Communications at Ericsson, playing a fundamental role in driving the company's vision of Media in the Networked Society and the emergence of the internet era of TV, television's greatest ever period of change. Frost has more than 20 years' experience in the broadcast, Pay TV, internet and telecommunications sectors and was leading Ericsson's global marketing and communications strategy related to TV and Media, reinforcing the company's unique position at the convergence of the telecoms, internet and media industries. Frost has both authored thought leadership articles on the future of TV, the company's vision for media in 2020 as well as driven a truly value-centric culture and outlook in turning vision into commercial performance through solution and product marketing teams. Prior to his Ericsson, Frost has held several senior positions, including Vice President, IPTV Compression Solutions and Business Development Director (Mobile & Terrestrial TV) at TANDBERG Television. He has previously worked for Harmonic and Philips Digital Networks architecting customer video solutions.

Will Saunders, BBC Studios @willpsaunders

Will is a Creative Leader, Executive Producer & Digital Strategist working for the BBC, DCMS & himself. Working alongside BBC R&D he has editorially led the BBC's home for new ideas www.bbc.co.uk/taster, a sort of editorial kick starter for digital born content. Since launch Taster has published over two hundred pilots, had over fourteen million page views and is leading the way for data driven decision making at the BBC. Will has led Digital Development & grown BBC Studios Digital Business managing and recruiting teams who have created a pipeline of award winning projects for BBC Three, BBC Worldwide, and others. He is currently working with The Department of Culture, Media & Sport on their #cultureisdigital project creating a narrative and policy recommendations that will report later this year. He also sits on the funding and investment group for Immerse UK a cross sector network for businesses & research organisations using AR/VR/MR to drive productivity, social and economic growth. On TV & Radio Will has made shows with amongst others, Graham Norton, Flight of The Conchords, Lee Mack & Tim Minchin.

Stephen Temple, University of Surrey 5GIC

Stephen Temple is visiting Professor at the Surrey University 5G IC and Technical Secretary of their Strategy Advisory Board. At an earlier period in his career at the DTI he was one of the creators of the GSM mobile revolution that propelled Europe to the forefront of mobile technology. His time at the DTI also included a stint on industrial policy. In the private sector, he pioneered NTL's (now Virgin) broadband Internet and become MD of their networks division. He was later director of special projects in Vodafone's HQ Corporate Strategy. www.surrey.ac.uk/5gic