Small Cell SIG
'5G small cells – why not Wi-Fi?'
3rd June 2021

This SIG is championed by Simon Fletcher of **Real Wireless**,
Caroline Gabriel of **Rethink Technology Research**, Neil Piercy of **ip.access** and Simon Saunders of **Ofcom**

As early macro network deployments of 5G start the heavy lifting of serving increasingly common unlimited data packages, the discussion about the optimal approach to meeting capacity and in-building demand comes back into focus. The perennial dilemma emerges; the latest Wi-Fi offering, or a new generation of 5G capable small cells. It doesn't have to be this way… The multitude of deployment models, the multitude of applications for wireless, there's room in this boat for two. By exploring network deployment scenarios, device capabilities and emerging industry sector markets, the small cell SIG aims to convince you that the Wi-Fi vs small cell debate should be dead.

AGENDA

09:30	CW and UK5G welcome by **Simon Fletcher, Small Cell SIG Champion and CTO, Real Wireless**
09:35	Introduction to Small Cell SIG and scene-setting by **Caroline Gabriel, Small Cell SIG Champion and Director, Rethink Technology Research**
09:45	**Session to be chaired by Caroline Gabriel, Small Cell SIG Champion and managed as a panel throughout. We expect the general timings to be along these lines.** **Mark Grayson, Distinguished Consulting Engineer, Cisco** • The strengths of Wi-Fi • Panel discussion **Björn Odenhammar, Head of Network Pre-Sales for Customer Unit UK & Ireland, Ericsson** • The strengths of 5G • Panel discussion **Ben Toner, Founder & CEO, Numerous Networks; Wi-Fi & Converged Networks Expert (Associate), Real Wireless** • The device perspective • Panel discussion
10:50	**Wrap-up by Caroline Gabriel**
11:00	**Event close**

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 sponsor

UK5G

UK5G is the national innovation network dedicated to the promotion of research, collaboration and the commercial application of 5G in the UK. It is a 'network of networks' designed to encourage coordination between all organisations working on 5G activities across the UK. It enhances links between the public sector, academic research, development activities undertaken by organisations across telecoms and vertical sectors, and the UK Government's 5G Testbeds and Trials Programme. UK5G is independent and impartial. Its senior national advisory board advises the Government's 5G Testbeds and Trials Programme, providing expert feedback from industry, identifying priorities and advising on future areas of focus. UK5G is a focal point for international engagement into the UK's 5G ecosystem, encouraging international participation and investment. **www.uk5g.org**

Profile of SIG Champions

Simon Fletcher, Real Wireless

Simon joined Real Wireless in January 2016 as Chief Technology Officer, taking overall technical and technical strategy responsibility across the company. He has chaired various conference committees including the Cambridge Wireless Annual International Conference and is recognised as a regular speaker at industry events. He is a Small Cell SIG Champion. His long-standing association with the UK innovation eco-system through roles such as Director of mVCE and the Innovate-UK ICT-KTN brings a wealth of practical knowledge on open innovation to accelerate product and services delivery. Simon spent the past 20 years working in telecoms infrastructure systems and product development. In NEC Corporation he played a key role in the formation of Joint Ventures for development of 3G and 4G products and established a core team that developed the first-generation of technology for 4G systems culminating in a Steering Board position in the LTE SAE Trials Initiative (LSTI). In recent times he has directed projects on future cities, the application 5G and IoT in industry verticals with an event horizon towards 2030. His long participation in Common Public Radio Interface (CPRI) and then directing Real Wireless engagement in H2020 5G-NORMA, 5G-MoNArch and the 2016 NIC study on Future Comms infrastructure brings great foresight on a range of architectural evolutions underway in 5G architectures. **www.real-wireless.com**

Caroline Gabriel, Rethink Technology Research

Caroline has been engaged in technology analysis, research and consulting for 30 years and since 2002, has been focused entirely on mobile and wireless. As co-founder and research director of Rethink Technology Research, Caroline has developed a significant research base and forecast methodology, based around deep contacts with mobile and converged operators round the world. This addresses critical issues and trends in mobile and wireless infrastructure, and particularly operator deployment intentions for 4G, 5G, small cells, Cloud-RAN and other technologies. She is also a senior contributor to Analysys Mason's Next Generation Wireless research programme. She has led research and consulting projects with a wide range of clients, including mobile infrastructure vendors, large and start-up operators, regulators, trade bodies, government agencies and financial institutions. Her advice and forecasts have helped inform strategic decisions at a wide range of vendors, operators, start-ups and finance houses. Prior to setting up Rethink, Caroline held various executive positions at VNU Business Publishing BV, then Europe's largest producer of technology related B2B reports and publications. She was the European content and research director and was a member of the leadership team for VNU's online business. She holds an MA from the University of Oxford. **www.rethinkresearch.biz**

Neil Piercy, ip.access

Neil has been developing base stations for various communications systems for over 25 years, during which time he has performed roles throughout the whole development lifecycle as well as management roles. He joined ip.access as a small cell System Architect when the company was in its infancy in 2000, and has since designed GSM, UMTS and LTE small cell RAN equipment and systems. His specialist areas include security and networking, as well as a focus on all aspects of protocol design and implementation, and on system performance and simulation. Now as VP Engineering he is responsible for the development and delivery of ip.access products, now part of the Mavenir group. **www.ipaccess.com**

Simon Saunders, Ofcom

Simon is a specialist in the technology of wireless communications, with a technical and commercial background derived from senior appointments in both industry (including Philips and Motorola) and academia (University of

Surrey). He is an adjunct professor at Trinity College Dublin and was Access Technology Principal at Google. As co-founder and Director of Technology for independent wireless strategy advisory firm Real Wireless, he was responsible for overall technical capability and direction, providing independent wireless expertise and advice to operators, regulators, technology and law firms and wireless users. Customers included Ofcom, Cisco, European Commission, Virgin Media, TalkTalk, Inmarsat and many others. He is an author of over 150 articles, books and book chapters. He has acted as a consultant to companies including BAA, BBC, O2, Ofcom, BT, ntl, Mitsubishi and British Land and was CTO of Red-M and CEO of Cellular Design Services Ltd and has acted as an expert witness in legal proceedings in England and the US. Simon speaks and chairs a wide range of international conferences and training courses and has invented over 15 patented wireless technologies. Particular expertise includes in-building wireless systems, radiowave propagation prediction, smart antenna design and mobile system analysis. He has served on technical advisory boards of several companies, was Visiting Professor to the University of Surrey, member of the industrial advisory board at University College London, founding chairman of Small Cell Forum (formerly Femto Forum), which he chaired from 2007-12 and a member of the Ofcom Spectrum Advisory Board from 2007-14. **www.ofcom.org.uk**

Profile of speakers

Mark Grayson, Cisco
Mark Grayson is a Distinguished Engineer in Cisco's Emerging Technology and Incubation Group, where he currently has broad responsibility for supporting Cisco's 5G strategy, including defining the role of Wi-Fi based access in 5G environments, chairing the WBA's OpenRoaming program, leading Cisco's multi-vendor RAN virtualization efforts, being co-chair of the O-RAN Alliance's Fronthaul Working Group, as well as supporting Cisco's enterprise team defining systems for supporting 5G enterprise use cases. He has over 25 years of experience in the wireless industry, ranging from the development of military HF systems, cellular handset RF/DSP design, the definition of mobile satellite communication architectures, architecting service provider Wi-Fi solutions, the evolution of traditional cellular systems through to the creation of the latest virtualized RAN solutions. He holds a first class Honors degree in Electronics and Communications Engineering from the University of Birmingham (England) together with a PhD in Radio Communications. Mark has been granted over 120 patents in the area of mobile communications and is the co-author of IP Design for Mobile Networks (2009) and Building the Mobile Internet (2011), both published by Cisco Press. **www.cisco.com**

Björn Odenhammar, Ericsson
Björn Odenhammar has extensive experience from the Telecom industry. He works for Ericsson and has had multiple leading positions covering both Strategic Product Management and Sales roles. His main focus is to find new technologies that can create great business for the operators. The ongoing introduction of 5G is so exciting since it enables brand new applications for both Consumer and especially Enterprise customers in the networks. Even more important, it holds the promise to help the evolution towards a more sustainable society. **www.ericsson.com**

Ben Toner, Numerous Networks and Real Wireless
Ben has been providing consultancy and innovation into the wireless market for over 20 years. The last 10 have been devoted to obtaining the best user experience amongst multiple wireless connectivity options, where his research, innovations and on-device connection management solutions have helped many global mobile operators improve the integration of Wi-Fi into their cellular networks. He is an expert in converged networks, advising on the broad market technologies, solutions, approaches and challenges to combining Wi-Fi and mobile networks to deliver an optimal user experience. He has previously implemented 3GGP standards in ANDSF and has been granted various patents in multi-network policy management and optimisation. In 2019, Ben started Numerous Networks to specifically address the challenges faced in understanding and optimising the native connectivity experiences of mobile and IoT devices. His first product, nOversight, captures and presents the mobile and Wi-Fi connectivity decisions directly from mobile devices; allowing network providers, equipment vendors and end user solution providers to truly understand how devices will perform in multi-network environments. Ben is also part of the Real Wireless team, providing specialist Wi-Fi and convergence expertise. Prior to starting Numerous Networks, Ben worked for Roke Manor Research where he developed various new technologies and techniques for the optimisation, linearisation and long-range broadcast of OFDM waveforms. He holds a Masters degree in Electronics and Telecommunications from the University of Bath. He is a Chartered Engineer and a member of the IET.
www.numerousnetworks.co.uk **www.real-wireless.com**