

**Joint Event between the Digital Communications Knowledge Transfer Network
And Cambridge Wireless Future Wide Area Wireless SIG**

‘Networks and the New Economy’

9th November 2010

**Championed by Stirling Essex of CRFS, Graham Maile of Plextek
and Geoff Varrall of RTT Programmes**

Venue: Moller Centre, Storey’s Way, Cambridge, CB3 0DE

AGENDA

Networks and the New Economy - the third of a series of three meetings

This is the third of a series of three meetings being organised by the Cambridge Wireless Future Wide Area Wireless (Spectrum and Standards) special interest group.

The first meeting held on the 24th September 2009, ‘**Spectrum and the New Economy**’ studied the role that radio spectrum and can play in national economic recovery, how techniques that deliver improved spectral economic efficiency could or should influence future spectral policy and/or deliver long term **market** advantage to the UK.

The second meeting on the 25th March 2010, ‘**Standards and the New Economy**’ analysed the impact that standards have on the economics of wireless broadband delivery when considered side by side with the technology advances being made in other areas including fibre, cable and copper. These technology advances suggest that bandwidth delivery cost may be falling faster in fibre, cable and copper than in wireless. If true, this has profound implications for the wireless delivery industry. One solution is to delivery more closely integrated standards across all delivery platforms, another is to learn lessons from other industries. Presentations from both events can be downloaded from the [RESOURCES](#) section of the Cambridge Wireless web site.

This third meeting ‘**Networks and the New Economy**’ on the 9th November 2010 analyses the convergence that is taking place between wireless and wireline **networks** at technology level both at the edge and the core, the implications this has for network bandwidth delivery cost and efficiency, the impact this is having on industry business models and how network convergence can deliver long term **competitive** advantage to the UK.

09:30 **Registration and Refreshments**

10:00 **Update on Cambridge Wireless Activities and Introduction to FAWW/Spectrum and Standards SIG, Stirling Essex, CRFS**

10:10 **Welcome message and Keynote Address by Stuart Revell, DCKTN**

There is an underlying assumption that wireless networks can deliver broadband connectivity and broadband value more cost efficiently than other delivery options. This is obviously true for full mobility applications, less obviously true for portable applications and probably not generally true on a per bit basis for fixed access connectivity. However the application of new technology in wireless networks creates opportunities to develop a broader range of services that can deliver economic and environmental value, **a broader definition of the notion of network efficiency**.

10:30 **Networks in the Sky (1) – reinventing the low earth orbit satellite proposition**

Mr Dan Mercer, Vice President & General Manager, Europe, Middle East, Africa & Russia, Iridium

Commercial low earth orbit satellite networks were first launched in the 1990’s. Two networks, [Globalstar](#) and [Iridium](#) have provided global connectivity to users and devices around the world for over ten years, both constellations have exceeded their anticipated in orbit operational life.

‘Networks in the Sky’ – traces the transition from the existing Big Switch in the Sky to [the ‘Next’ generation of constellations now planned for launch into operational service](#). These will support in orbit environmental sensing and monitoring closely coupled with ground based device to device and person to person narrow band and broadband connectivity.

11.00	<p>Networks on the Ground (1) Fibre/wireless network convergence Mr Andrew Bell - Huawei</p> <p>Fibre network architectures are evolving to meet rapidly changing end user expectations of broadband connectivity – what do these changes mean for other network architectures including wireless networks, is technology and engineering convergence a pre cursor of market and business convergence and what will be the impact on the vendor and operator community.</p>
11:30	Refreshment Break
12:00	<p>Networks on the Ground (2) – the server economy – information networks in an information age Paul Wallace, Oracle</p> <p>We take servers for granted. They store yotabytes of data and provide apparently unlimited low cost access to global information and application software resource. Servers are at the heart of an emerging second generation cloud computing user proposition but will the result be energy and cost and environmentally efficient? What will be the optimum balance between distributed and centralized storage? What will be the balance between memory bandwidth added value and delivery bandwidth added value? How will information and application management deliver future user value?</p>
12:30	Panel Discussion / Q&A Chaired by Graham Maile, Plextek
13:00	Lunch break
14.15	<p>Networks on the Ground (3) – energy networks and environmental networks Mr Paul Green, Arkessa</p> <p>We are entering the Age of the Digital Entanglement where the traditional boundaries between public and private, corporate and utility, business and consumers become blurred and intertwined.</p> <p>Paul Green explores how this applies to energy and environmental networks where the interconnections between remotely connected devices encompass a scale range from global challenges to the use of the kettle in my kitchen. This is the environment of machine to machine communications (M2M) at one end and the Internet of Things (IOT) at the other.</p>
14:45	<p>Networks Over Ground – railway and transport communications Olivier Andre, Alcatel Lucent UK – transport communications</p> <p>Train to track communications and cab radios are needing to become substantially more functional in order to deliver safety and cost/energy and environmental efficiency gains – the channel tunnel is one example of the need for complex integration to achieve these objectives – the UK presently has some ambitious mainline upgrade projects in which radio systems closely coupled with other forms of broadband connectivity will play a critical role. This presentation looks at the Alcatel Lucent Live Train project and related LTE deployment opportunities.</p>
15.15	<p>Networks under ground – the underground economy Mr Franck Chevalier, Analysys Mason</p> <p>What will be the future mix of fibre, cable and copper underground, does wireless have a role to play (the reinvention of long wave radio?), and what impact will fibre on utility poles have on the underground economy?</p> <p>This session draws on a detailed report produced by Analysys Mason for Ofcom on the technology and engineering economics of fibre for long distance and local access connectivity.</p>
15.45	Refreshment Break
16.15	<p>Networks under ground (3) – the notion of the super utility Mr Morten Singleton, Collins Stewart</p> <p>Telecommunications is only one of several two way utilities, the others being water and increasingly now electricity. Mixing water and electricity together has traditionally been regarded as bad practice but it may be time to reinvent and integrate all two way delivery technologies in order to realise presently under exploited engineering, market and business common interest opportunity.</p>
16: 45	<p>Networks under the sea - Oil on troubled waters? 2010 will be remembered as the year in which the impact of deep sea oil drilling on the environment became daily headline news. What role does telecoms, telemetry, telecommand and remote and localised monitoring have to play in a world newly sensitised to the environmental cost of exploiting undersea resources.</p>

Panel Discussion / Q&A - Chaired by Geoff Varrall, RTT Programmes

17.00	Closing Remarks from DCKTN
17:15	Fill in Evaluation Form
17.20	Networking Drinks Reception.
18:30	Event Closes

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

Joint Organisers

Digital Communications KTN (DCKTN)

The Digital Communications Knowledge Transfer Network has been established by an industry-led group of leading players, with funding from the Technology Strategy Board. We seek to bring competitive advantage to the UK by promoting collaboration and knowledge sharing between the users and providers of Digital Communications, and helping to drive innovation in the sector. For more information visit: www.dcktn.org.uk

Cambridge Wireless

Cambridge Wireless is one of the world's leading wireless communities with a rapidly expanding network of companies interested in the application of wireless technologies. In addition to VIP Networking events, our activities are based around a number of Special Interest Groups (SIGs), each focussed on a specific technology and/or market area. SIG meetings provide opportunities for member organisations to meet, discuss developments in technologies and markets, showcase their capabilities, and explore opportunities for new business. For more information visit: <http://www.cambridgewireless.co.uk>

Profiles of our SIG Champions

Stirling Essex of CRFS

CRFS develops and supplies spectral analysis tools for planning, monitoring, and licensing of wireless spectrum, based on innovative, low-cost distributed networks of broadband, real-time RFeye® spectrum monitoring nodes.

Stirling has been involved in wireless systems since the early days of GSM, and was subsequently involved in the development of test systems for CDMA (IS-95), and for 3G (W-CDMA), including responsibility for the development and marketing of 3G Test Mobiles at Ubinetics. He founded Espansivo, a wireless technology consultancy in 2005, and joined CRFS in June 2008. He is a co-champion of the Cambridge Wireless Future Wide Area Wireless SIG and is a member of the Cambridge Wireless Board. For more information visit www.crf.com.

Geoff Varrall of RTT Programmes

Since 1986, RTT has been specialising in providing an international client base with technology assessment and technology related design support programmes. The company's knowledge and experience is principally in mobile terrestrial communications. RTT works closely with members of the Mobile Experts Groups within ETSI (European Telecommunications Standards Institute), and the international academic, scientific and industrial research community.

RTT's research focuses on 3G design and implementation, user equipment design, air interface and network design - areas of particular expertise include RF and IF processing (3G DSP), noise and gain budgets (OFDMA bandwidth gain), device options (RF, IF and baseband), design analysis, protocols and 3G network performance optimisation.

Over the past two years, RTT's research has extended to include the impact of technology convergence across six industries - computers, consumer electronics, IT, wireless, wireline, TV. For more information please visit www.rtonline.com

Graham Maile of Plextek

Plextek is one of Europe's largest independent providers of electronic product design, supply and consultancy. Its specialist business areas include telecommunications, security, automotive, defence, medical and optoelectronics. With a team of around 100 and skills in MMIC, radio, DSP, digital design, embedded software, design for manufacture, industrial design and production test equipment, the company is able to tackle any wireless project.

Graham Maile, Plextek's director of Strategic Consulting, has 30 years' experience in R&D, management and business start-up roles within the electronics and telecommunications industry. He co-champions the Cambridge

Wireless Future Wide Area Wireless SIG and is a director of the Digital Communications KTN and an associate of Corbett Keeling Corporate Finance. For more information please visit www.plextek.com

Speaker Profiles

Olivier Andre, Director of the Mainline Rail Market, Alcatel Lucent

Olivier is Director of the Mainline Rail market for Alcatel-lucent, charged with leading and developing Alcatel-Lucent's solutions for Rail Customers worldwide. He brings a wide range of knowledge within the Rail sector having more than 15 years experience of the industry. Born in Belgium, Olivier studied Electro-Mechanical engineering at the Université de Liege. He joined Alcatel-Lucent Strategic Industries in 2008. His Railway experience is diverse and ranges from Rolling Stock to most of the infrastructure based mission critical systems. Olivier spent the early part of his career working for Alstom Transport in Belgium, then in the UK as Project Manager for equipment for High Speed Rail Projects, such as the Korean High Speed Train and the Eurostar. He then worked as Projects Director and Engineering Director delivering Traction equipment for Metro projects worldwide, from Brazil to Moscow, Singapore and Shanghai. Olivier then gained experience as International Business development Manager and Consultant for a leading UK based Transport consultancy. Prior to joining Alcatel-Lucent, Olivier was managing the UK business of Thales Transportation Systems, a business that originated from British Rail Telecoms and was delivering mission critical systems and fare collection solutions to the UK market. For more information please visit: www.alcatel-lucent.com

Paul Green, Director of Technology and Marketing, Arkessa

Paul originated Arkessa in 2006 – the business that provides remote internet services to multitudes of machines. He is currently creating the services Arkessa will offer in five year's time. His professional life combined engineering and science has taken him through a variety of roles, including design and production engineering, business planning, marketing and corporate sales, mainly in the telecommunications sector. Interestingly, the first product he introduced to manufacture is now in the Science Museum in London.

Arkessa provides a range of connectivity and data management services designed specifically to enable the remote internet for equipment, machines, devices ... in fact, almost anything.

Arkessa enables remote management, control and monitoring of equipment and processes through a range of communications facilities which also include data hosting and web dashboards. Delivering the optimum in simple to use two-way connectivity, Arkessa provides services throughout Europe, including fixed address, security, multiple 2G and 3G network coverage and customised tariffs. Similar services are offered worldwide through a global partner network. Arkessa has ten-years of experience in building international M2M applications. Its data and network operations centre, called the Ark, is central to a secure, industrial-strength infrastructure with global reach. For further information please visit: www.arkessa.com

Andy Bell, Solutions Director, Huawei

Andy Bell is a Solutions Director working in the Huawei EU CTO office where he is responsible for tracking telecoms industry trends and development of business solutions. Prior to Huawei he worked for Juniper Networks for seven years in IP service development and solutions marketing. Prior to Juniper he worked for BT Global Services where he was responsible for BT's UK IP services portfolio development.

For further information please visit: www.huawei.com