



PRESS RELEASE

The future of 5G takes shape at Global Forum in London

London, 23 September 2014 - A future where the Internet of Things (IoT) and people merge with new services from medical applications to smart energy, smart buildings, robots, autonomous driving vehicles and drones emerged from two days of discussions among leading experts from government, industry and academia from Europe, North America and Asia. They were meeting in London on September 22-23 at the "5GHuddle, Towards a Global 5G Vision". The key issues around the development of 5G technologies were The Internet of Things, spectrum management, data security, privacy, regulation and competition and new business operating models. This future will come from the coming together of technologies and applications on a range of infrastructures, from fibre-optics to wireless and satellites.

Ed Vaizey, the UK's digital economy minister, announced a new programme: "The Future Technologies Network", focused on promoting innovation to encourage technology growth. The network will be hosted by **techUK**, the country's technology trade association. Speaking at the reception to mark the first year anniversary of the UK Spectrum Policy Forum at the Conference on Monday, he said, "The private sector is vital, you hold the answers." In addition, he announced £60,000 of funds to add to that provided by wireless companies to aid studies needed to underpin the work of the UK Spectrum Policy Forum.

"The most powerful thing governments can do is to bring people together", added **Simon Towler**, Deputy Head of Telecommunications Policy UK. "We encourage collaboration, the key watchword to enable 5G development," "SMEs can have a big role to play", he said. To underpin the development of 5G the government is to release 500MHz of spectrum between 400MHz and 5GHz from public use by 2020, he announced, with the next major release coming from the armed forces of 2.3GHz and 2.4GHz. "Our spectrum strategy is underlying our commitment – dynamic spectrum access will be underpinning 5G", he said. Other initiatives in the radio sector include joint Anglo-German research between the Universities of Surrey, Kings College London and University of Dresden into 5G as well as work on the crossover between 5G and IoT.

5G will bring increased competition across sectors: mobile operators "certainly have challenges from new entrants," according to **Nigel Jefferies**, Chairman at **Wireless World Research Forum (WWRF)**, co-hosting the London event with techUK. But they also will have the opportunity to move into new business areas such as Internet of Things. Industries, such as the automobile sector, are already busy carving out a business from specialized IoT services, he said.

"There clearly are enormous opportunities" in 5G, beyond the volume and speed of downloading material, MP and former Minister for Universities and Science, **David Willetts** said. "For me it is this wider opportunity of Internet of Things, which really is significant, and that's what's caught our imagination in government. I want the UK to be one of the world leaders in 5G and that's why we're trying to take advantage of being early movers in this space," he said. But he also warned about the risks connected by the internet permeating our life, the biggest being around privacy and security. "Privacy fears must be addressed head-on to ensure development is not stifled", he said.

"We can only begin to imagine what more is coming," said **Hamadoun Touré**, Secretary General, International Telecommunication Union (ITU), speaking by video link. 5G will have to support a

variety of applications and environments, very high system capacity, extremely high data rates, cut costs, make systems more robust, provide a higher level of security and make more efficient use of spectrum. **Touré** expects a framework for future IMT development to be finalised in 2015. IMT (International Mobile Telecommunications) are requirements issued by the ITU-R working group and is the enabler of new trends in communications systems.

Prof. Rahim Tafazolli, Director of Centre for Communication Systems Research, University of Surrey, stressed the importance of a wider range of technological developments underpinning 5G capabilities, a key one being energy efficiency: "5G will be 100 times more efficient than 4G", and to ensure that 5G will work with everything within the IoT: "Everything on the internet is important," he said. Prof. Tafazolli, however, warned against "speed at all costs" but rather underlined as priority "user experience" and "perceived speed". From the user perspective, he noted, there is no real value in "downloading a movie in one second that then you watch in three hours". 5G is more than just cellular, it "will set a new paradigm of thinking," moving us on from mobile systems that were based on 2G. In one sentence, he said, 5G is "always sufficient rate" to give users the perception of "Infinite Capacity."

"My plea to the ITU: don't set 5G at higher speed", said Prof. Tafazolli.

The speeds and capacity of 5G are likely to be so far beyond the needs of consumers. We see a "tectonic shift" in who will be the final service client for 5G, said **Mischa Dohler**, the chair professor in Wireless Communications at King's College London, who foresees that the service opportunities in the future will not be with the consumer but with industry, particularly in sectors such as oil and gas, construction, nuclear energy and transportation.

"What we call 5G should be renamed 5G Era because that is a wide sense of 5G", said **Chih-Lin I**, Chief Scientist of Wireless Technologies of China Mobile, who with close to 800 million subscribers is the largest telecom operators in the world. "In the past we talked about 1G, 2G, 3G and 4G in a quite narrow sense of next-generation mobile standards", she pointed out, and what is envisioned may come from multiple infrastructures, not just a single one. She forecast changes in a number of areas, including antenna, infrastructure and spectrum. Together, she said, they represented "six pearls for 5G".

Speaking on Tuesday, representatives from China, Korea and India emphasized the key role these regions are playing in developing 5G. **Thibaut Kleiner**, Head of Network Technologies Unit at the European Commission dealing directly with 5G matters, said that the EU wants to act as a bridge between regions to develop a global standard. The EU envisages the role of the regulator not to stifle innovation but to ensure the efficiency of the 5G rollout.

NOTE TO EDITORS:

With this initiative, the **WWRF**, the unique international forum where the wireless community can tackle the key research challenges for a smart future, and **techUK**, representing the tech industry in the UK, are taking the lead towards developing a globally shared definition and standards for 5G. From technologies and networks to applications and handsets, markets and business models, the aim is to harness research efforts in industry and academia worldwide in view of the roll out of 5G in Europe from 2020.

CONTACT: Roberta Bonometti, Press Officer, roberta@bonometti.org
+44 7770 211955 skype: roberta.bonometti

TWITTER: @ForumEurope (#5GHuddle)

For a full list of speakers and a detailed agenda of discussion, images and further information please visit www.5GHuddle.ch

The conference was organised by Forum Europe www.forum-europe.com • www.forum-europe.com