UK SPF Plenary
Thursday 29 April 2021

Microsoft are investigating an issue with audio and video quality so apologies if you experience these

14:00 – 16:00 BST

uk spectrum policy forum

www.techuk.org/spectrum | @UK_SPF | #UKSPF

Welcome address
David Meyer, Chairman, UK SPF

Agenda

Welcome - David Meyer, **UK SPF Chair**

5.5G and 6G for 2030+ - Rahim Tafazolli, **University of Surrey**

Summary of the recent UK SPF Steering Board - Abhaya Sumanasena, **Real Wireless** and **UK SPF Steering Board Chair**

Cluster updates

-Jo O'Riordan on behalf of Saul Friedner, **Cluster 1** and **LS Telcom**

-Stephen Temple, **Cluster 2** and **University of Surrey 5G IC**

-Tony Lavender, **Cluster 3** and **Plum Consulting**

- Kumar Singarajah, **Cluster 4** and **Euroma Ltd**

Summary and close - David Meyer, **UK SPF Chair**

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5.5G and 6G for 2030+

Rahim Tafazolli, **University of Surrey**

Summary of the recent UK SPF Steering Board
Abhaya Sumanasena, UK SPF and Real Wireless

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Board members

DCMS | MOD | Ofcom | BT | Digital UK | Huawei | Nokia | Plum Consulting | Qualcomm | Real Wireless | Telefonica | Vodafone

Cluster meetings – Q3/Q4 2020 and 2021

Cluster 1 - Future Spectrum Demand
Chair: Saul Friedner

1. Developing plan for new workshop ideas based on inputs and suggestions in 2020
2. Summary report of last two years' workshops almost complete (Feb completion)
3. This year's programme focus on specific areas of demand
   a) Applications using mmWave and above
   b) Smart manufacturing
   c) Drones/EVs and other future usages
   d) 6G cross cluster workshop
   e) New rail spectrum initiative

24 March 21 Joint session with techUK on diversification and connected vehicles

Cluster 3 –
Was: Spectrum Value and Efficiency
Now: Spectrum Value and Efficiency including Sharing
Chair: Tony Lavender

1. If there is a DCMS study in this area respond to it
2. Upfront fees and tax

15 December - Social value event

29 October - Public sector spectrum release – sharing defence spectrum

Q2/Q3 – two sessions

Cluster 4 – International
Chair: Kumar

The main international events effecting spectrum
1. WRC-23/WRC-27/WRC-31
2. Dynamic Spectrum Access and Sharing

Cluster 2 –
Was: Spectrum Access & Sharing
Now: Long-term spectrum strategy
Chair: Prof Stephen Temple

1. Focus on spectrum sharing issues that are DCMS priorities and where they seek our advice
2. Turn these into projects with deliverables

26 May - University of Bristol workshop –

1 July – University of Surrey led workshop

16 September - University of Strathclyde workshop

8 September 20 - WRC 23 AI 1.5 (below 1 GHz)

16 September 20 - WRC 23 A1 1.2/13

8 March 20 – WRC-23 AI 1.15/1.16

31 March 21 – Deadline for survey on WRC-27 and WRC-31 agenda items

18 or 25 March 21 - WRC-2019 AI 1.17 (ISLs at Ka-band)

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Update from Cluster 1

Jo O'Riordan on behalf of Saul Friedner, LS Telcom and UK SPF Cluster 1

Update from Cluster 2
Stephen Temple, UK SPF Cluster 2 and Surrey University 5G IC

Was: Spectrum Access & Sharing
Now: Long-term spectrum strategy

CLUSTER 2 – The place to think really long term about the exploitation of radio spectrum

Chairman - Prof Stephen Temple CBE, FREng C Eng FIET

➢ **Long-term spectrum strategy:**

- Looking for big wins having very long lead times (>2030)

- Looking around the corner for the next big crunch
  eg mobile UHF band congestion >2030

➢ **6G spectrum policy issues:**

- Seeking to align spectrum innovation with 6G technology innovation

- Seeking to align 6G technology innovation with policy priorities eg boosting spectrum efficiency, mobile coverage and energy efficiency

➢ **UK SPF links to University wireless research:**

- Improving early warning of innovations impact on spectrum policy

- Improving the targeting of University spectrum related research through a dialogue with spectrum policy experts from industry, Ofcom and DCMS

*Other Clusters may contribute jointly on specific items to be defined

A joint DCMS-SPF initiative will kick-off this new phase with an invitation to visit the frontiers of our UK mobile wireless research that may be relevant to 6G:

Three Universities have been selected as hosts to showcase top flight wireless research from across <u>all</u> UK Universities having <u>the best potential </u>to address 6G wireless research priorities

University of Bristol

Technology Enablers for Spectrum & Energy Efficient Wireless Access - **(focus on physical layer hardware technologies and architectures as well as new materials to enhance both spectrum and energy efficient for 6G) - May 26th**

University of Surrey 5GIC>>6GIC

Radio Access Network Techniques for 6G – (focus on energy efficiency, spectrum efficiency and coverage) - **July 1st**

University of Strathclyde

Software Defined Radio and RF Sampling - (focus on software defined radio architectures and algorithms and physical layer implementation) – **Sept 16th**

We have agreed with DCMS a defined end point for this initiative - *this is to be a White Paper for the SPF to present to government that:*

1. *validates the research projects as relevant to UK 6G research priorities,*
2. *identifies gaps,*
3. *suggests opportunities for collaboration,*
4. *looks at the adequacy of research funding streams and*
5. *flag potential implications for 6G spectrum policy.*

If you have thoughts about the long term exploitation of radio spectrum then I am happy to hear your views and meanwhile welcome you to join the Cluster 2 events.

Stephen Temple
26th April 2021

Update from Cluster 3

Tony Lavender, UK SPF Cluster 3 and Plum Consulting

Was: Spectrum Value and Efficiency
Now: Spectrum Value and Efficiency including Sharing

Changes to Cluster 3

- Cluster 3 origins were around the expert panel established under the 2014 spectrum strategy that considered incorporation of social value in spectrum allocation decisions
- The cluster has continued with the spectrum value question and also considered separately issues related to the radio receiver and transmitter parameters and the Radio Equipment Directive (RED)
- Cluster 3 scope has now been changed to include spectrum sharing (previously with Cluster 2)
- Held two meetings with DCMS to discuss the scope of work for spectrum sharing

Plan of work for 2021/2

- Continue the value of spectrum and contribution to the economy work later in 2021 following discussion with DCMS on the question(s) to address

- Come back to receiver/transmitter parameters and RED discussion later this year – there is also a strand of activity on this more widely in techUK and the context post Brexit to consider

- The priority item for the remainder of this year will be on spectrum sharing

Spectrum sharing

- DCMS and Ofcom have taken various steps in relation to policy and implementation of spectrum sharing in the UK
- The SPF (Cluster 2) has also worked on sharing in 2019/20 (DSA)
- Following discussion with DCMS key questions for Cluster 3 to address include:
    - The spectrum needs of 5G services and different business models
    - The way in which currently identified spectrum access mechanisms meet these requirements and potential gaps
    - The future of spectrum sharing in the UK, including DSA, and lessons learned from international experiences
- Key questions are whether and where there is a need for policy guidance on sharing, and alignment with the 2018 FTIR and 2019 Statement of Strategic Priorities – also to consider relevant international developments
- Cluster 3 chair to publish a plan of work shortly and expect 3+ cluster 3 workshops over the next 6 months addressing the issues above supplemented with some research activity

Update from Cluster 4

Kumar Singarajah, UK SPF Cluster 4 and Euroma

- Workshop held on March 17 on WRC-23 AI 1.15 & 1.16 (Re Use Of Ku & Ka bands for GEO ESIMs & Non-GEO ESIMs respectively)
- Workshop planned late May / early June on WRC-23 AI 1.17 (Re Use of satellite-to-satellite links at Ka / Ku band).
- Workshop targeted in mid / late June on WRC-23 AI 1.8 (Re Use of CNPC links for UAS in FSS allocations)
- Workshop targeted in early / mid July on WRC-23 AI 10 (Re Proposed Items for Agenda for WRC-27 and Prelim Agenda for WRC-31). Agenda will take into account responses received from SPF stakeholders on Questionnaire for WRC-27 / WRC-31.

Summary and close

David Meyer, UK SPF

Thank you

Jo.oriordan@techUK.org