

# **UK SPF CLUSTER 2**

## **Workshop on Market Mechanisms Review**

Wednesday 12 October 2022

14:00 – 17:00

# Housekeeping

- This second half of the session is held under Chatham House rules – please do not record this session
- Slides will be shared with speakers' permission
- Unless you are a speaker, please keep yourself on mute and your camera off

# Agenda

Time	Agenda Item
14:00 – 14:25	Welcome and introductions – Prof Stephen Temple CBE, Cluster 2 Chair
14:25 – 15:10	Review of market mechanisms as applied to mobile spectrum in the UK – Mark Colville & Chris Nickerson, Analysys Mason
15:10 – 15:25	Peer review report – William Webb, on behalf of the peer review team
15:25 – 16:00	Discussion and audience Q&A
16:00 – 17:00	Drinks and networking reception

# **Review of *Market Mechanisms* as applied to mobile spectrum**

**Scene setting for those new to the work of the UK Spectrum Policy Forum**

- **The role of SPF Cluster 2 – Looking at the long term future of spectrum policy and regulation**
- **Two significant projects to lay a solid foundation for developing a long term view:**
  - ❖ **Technology – 2021 university led 6G research showcasing workshops**
  - ❖ **Economics – 2022 Independent review of the market mechanisms**

## **Why was this comprehensive independent review initiative undertaken?**

- **The world has changed remarkably since the 2002 Cave Review, and that makes it timely to review how all those changes have affected today's market mechanisms and particularly their effectiveness.**
- **The market approach is a complex mix of philosophical belief and practicality that needs to be untangled dispassionately and hence the value of an “independent” study.**

## **This afternoon:**

- |  |   |
|--|---|
| <b>1. Historical. perspective of the market mechanisms</b>         | <b>Prof Stephen, Temple Chair, SPF Cluster 2</b>    |
| <b>2. <i>Presentation of the draft study Executive Summary</i></b> | <b><i>Mark Colville, Analysys Mason</i></b>         |
| <b>3. Report from the independent peer review team</b>             | <b>William Webb, leader of the Peer Review Team</b> |
| <b>4. Questions, discussion and next steps</b>                     | <b>All</b>  |

## Witnessing five ages of mobile spectrum management:

- I. **Age of restriction** – spectrum only for services of national importance
  - II. **Age of managed liberalisation** (that some termed “command & control”)
  - III. **Age of the market approach**  
The 2002 Cave Report laid the intellectual foundation (the “philosophy”) and proposed three principal tools:
    - Spectrum Trading
    - Spectrum Auctions
    - Administrative Incentive Pricing (AIP)
  - IV. **Age of the three-track approach** (licensed, lightly licensed and unlicensed and where Ofcom has never been busier)
- V. **Age of whatever is coming next** (almost certainly featuring the densification of spectrum sharing and needing to enter the research phase to address the complexity and deliver it at scale)



# Peer Review of the Report by Analysys

William Webb  
October 2022

London | Brussels | Washington | Singapore | Abu Dhabi | Johannesburg | Sydney





# Peer review team

- William Webb (team leader)
- Simon Saunders
- Geoffrey Myers
- Stefan Zehle

# We agree with the summary table

- We agree that trading and auctions still have a role to play, but that the spectrum management benefits of pricing (as applied to cellular) are far less clear.
- We agree that across all of the market tools that the current approaches are not optimal.
- We agree that there are alternative ways to implement the market approach that might lead to better outcomes.
- Hence, in summary, the table sets out a conclusion that while trading and auctions have a role in current and future spectrum management, current approaches are sub-optimal and that there are better alternatives. We agree.

Question		Trading	Auctions	Pricing
Does the basic philosophy articulated in the Cave report still support use of a market mechanism of this form?		Yes	Yes	No
Is the market mechanism approach and current implementation of that approach optimal in terms of both promoting spectrum efficiency and avoiding undue problems/risks?		No	No	No
Are there possible alternative options that might lead to better outcomes, in relation to ...	... the market mechanism approach?	No	No	Yes
	... the way the market mechanism approach is currently implemented?	Yes	Yes	Yes

# The report identified alternatives but more work is needed on which ones will accommodate and deliver growth

One way ahead is to consider plausible scenarios such as:

- Mobile traffic continues to grow at 40%/year but that the new spectrum available in low and mid band is relatively minimal.
  - A substantial increase in small cells will be needed, the majority of which will be indoors.
  - This will require access to shared spectrum to enable neutral-host indoor deployment or for self-deployment alongside Wi-Fi.
  - A very different spectrum access model will be needed, focused on database approval or similar (and not any of the existing tools).
- Merger across multiple operators and the emergence of wholesale network providers.
  - All of the spectrum might move to a single entity so auctions and trading will be of little value and other approaches needed.
  - Or the emergence of new entrant operators but with a different niche operating model and different needs for spectrum.
- Entities such as the MoD open all their spectrum up for shared access, leading to an environment where large amounts of spectrum is sharable and with varying degree of rights that can be bought and traded.
  - Use of artificial intelligence might then lead to an effective spectrum abundance where approaches such as auctions are no longer needed and other ways to apply economic incentives such as spot and futures markets might be more appropriate.

# Other forward-looking approaches

## *Where each tool is useful*

- Set out the situations in which the tool would be useful.
- Likelihood of these situations and hence the likely importance of the tool in the future.
- Assess the viability and usefulness of possible future market-based approaches to provide MNOs and other licensees with incentives to offer their spectrum for use by others.

## *Allocation decisions*

- Consider how emerging and novel market mechanisms might be used to address the balance of use of spectrum where there is a disparity of user types with an interest in the spectrum, including conventional national operators, private and local operators and short-range applications.
- 26GHz is an example but may not be optimal for other bands.

# In summary – change is needed, there are many candidates but more work is needed to prioritise

- The report has clearly demonstrated that current approaches are not optimal and that some need to be enhanced, others replaced
- There are many candidates for the future including database driven approaches, spot markets and other financial tools, mixed auctions, etc
- We now need to determine which is needed by when, and then chart a path to their implementation understanding changes to spectrum management can often take many years
- Meanwhile in the short to medium term there are options to the market mechanisms set out in the Analysys report that could contribute to the Government's growth plan



# Access Partnership



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## What do we want out of today's meeting?

(Note: Chatham House Rules and the recording for the presentations has been switched off)

➤ **Discussion: Your feedback on the conclusions and any suggestions for improving the report**

1. High level conclusions (table in section 1.1)
2. Analysis (suggestions for improvements\*)
3. Suggestions for what follows

*A topic of this complexity is always open to improvement and Analysys Mason will consider all the suggestions and take into their report the ones that, in their view, enhance the final version of their independent report*

**\*Written responses are welcome**

**Deadline for written responses: close of play 21<sup>st</sup> October**

Whilst there is more work to do, particularly on alternative options for the future,

Table  
from  
the  
draft  
report

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*...what are the conclusions we can all agree upon?*