



Peer Review of the Report by Analysys

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December 2022

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



Peer review team

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We can do much better

- 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 overall 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 overall market mechanism approach?	No	No	Yes
	... the way the overall market mechanism approach is currently implemented?	Yes	Yes	Yes

The world today is very different than 20 years ago

- Mobile spectrum regulation is now on three separate evolutionary paths: licenced, lightly licenced and unlicensed.
- There are things that can be done in the short term with the market mechanisms for licensed mobile spectrum eg new thinking for mmWave spectrum auctions (as Ofcom are already proposing) and reviewing the (lack of) justification for spectrum pricing
- In the long term there is a case for being far more radical -particularly with lightly licensed spectrum – the most promising growth area for innovation
- What follows are some personal ideas to illustrate the exciting possibilities that take the consensus that what we have is sub-optimal and show it can be considerably improved upon

There are plenty of options to investigate and develop

- Auctions
 - Mixed approaches such as that proposed for 26GHz
 - Equal distribution to incumbents with conditions
 - Auctions to achieve specific objectives such as coverage or innovation
- Trading
 - Automated trading for short time periods or small geographies
 - Using SURs or similar to enable change of use after a trade
 - Using “trading with the regulator” to introduce new bands or access rights
- Sharing
 - Databases with feedback loops that can optimise access rights (over months/years) to maximise band usage
 - “Wait and see” approach to contentious bands to allow the market to decide
 - Linking sharing with auctions to sell stronger rights and/or with trading
- Technology
 - We could use crowd-sourced data to characterise the RF parameters of every building
 - We can determine where every transmitter is in 3 dimensions using emerging positioning technology
 - Cloud-based AI systems can optimise frequency allocation in real time

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, automated trading 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 enhancements to market mechanisms set out in the Analysys report that could contribute to the Government's growth plan



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