



Department for
Science, Innovation
& Technology

Policy elements from a spectrum perspective

JRC ANNUAL CONFERENCE

16 November 2023

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Science, Innovation
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Spectrum Overview

Trends and Themes

Direction of travel on spectrum

- Spectrum Statement

International Spectrum issues

- World Radio Conference 2023



Trends in Spectrum use

We know that demand for spectrum will continue to grow. Across sectors, both private and public, an expanding range of spectrum applications is contributing to changing demand for spectrum, with greater scarcity in some frequency bands and increasing use of higher frequencies.

Trends include:

- Continuing rapid growth of mobile data
- Wi-Fi use with full fibre
- More private mobile networks addressing enterprise applications including utilities
- Evolution of broadcasting
- Non-geostationary satellites
- Changing public sector and defence requirements

More efficient use of spectrum and better coordination across public and private sector use is a priority to ensure that spectrum is not a limiting factor on the UK's economic and societal potential.



Priority actions identified in the Spectrum Statement

- **Keeping the legal framework for spectrum management under review** to ensure it is fit for purpose and Ofcom has the tools it needs to adopt innovative approaches
- Working with Ofcom to **enhance shared use of spectrum**
- **Reviewing the use of market-based mechanisms** (e.g. licence fees) to support a strong investment environment
- Developing a **new framework for public sector spectrum use** and improving sharing between public and private sector spectrum users
- Finding a solution for **future energy network's comms/spectrum requirements**
- Supporting our **space sector ambitions**
- **Maximising influence at the upcoming World Radiocommunications Conference (next 4 weeks !)**

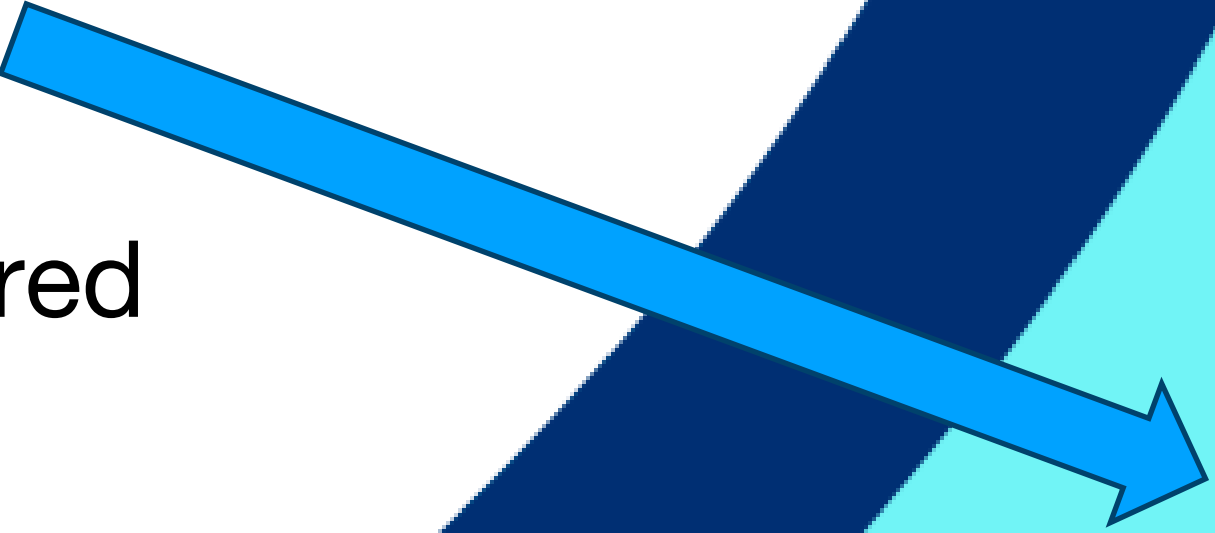


Spectrum for utilities

- Reaching Net Zero requires fundamental changes to the way we generate, transport and consume energy.
- We are moving towards a smarter, more flexible and more integrated energy system which will require significantly enhanced connectivity and digitalization throughout the network.
- This increased connectivity requirement will likely require a variety of telecommunications technologies including fibre, satellites, and public and private mobile networks.
- Certain communications functions may require enhanced power resilience and reliability. If meeting these or other requirements is best served by private wireless networks, the identification of suitable and sufficient spectrum may be necessary.
- The recent NIC Infrastructure Assessment recommended strategies are in place to deliver the telecoms needs for the energy, water, and transport sectors.
- **We are working closely with the Department for Energy Security and Net Zero, Ofcom and Ofgem to assess the energy (and wider utility) sector's communications requirements and ensure that timely decisions are taken on any resulting spectrum needs.**



International Priorities

- Ensuring government priorities inform the UK approach to international spectrum regulations
 - World Radiocommunications Conference 2023, including UK priorities
 - Working with international partners on shared goals for spectrum
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- Future mobile and WiFi spectrum
 - * Upper 6 GHz
 - * 7- 14 GHz
 - Broadcast (UHF) spectrum
 - GSO / NGSO coexistence



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Questions?

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Additional slides – for reference only





Strategic importance of spectrum

Spectrum is of strategic importance to addressing major upcoming policy challenges

- digital connectivity ambitions
- future of broadcasting
- energy transition
- National Space Strategy
- Integrated Review

While Ofcom is independently responsible for spectrum management, Government priorities must be duly considered in its spectrum management decisions.

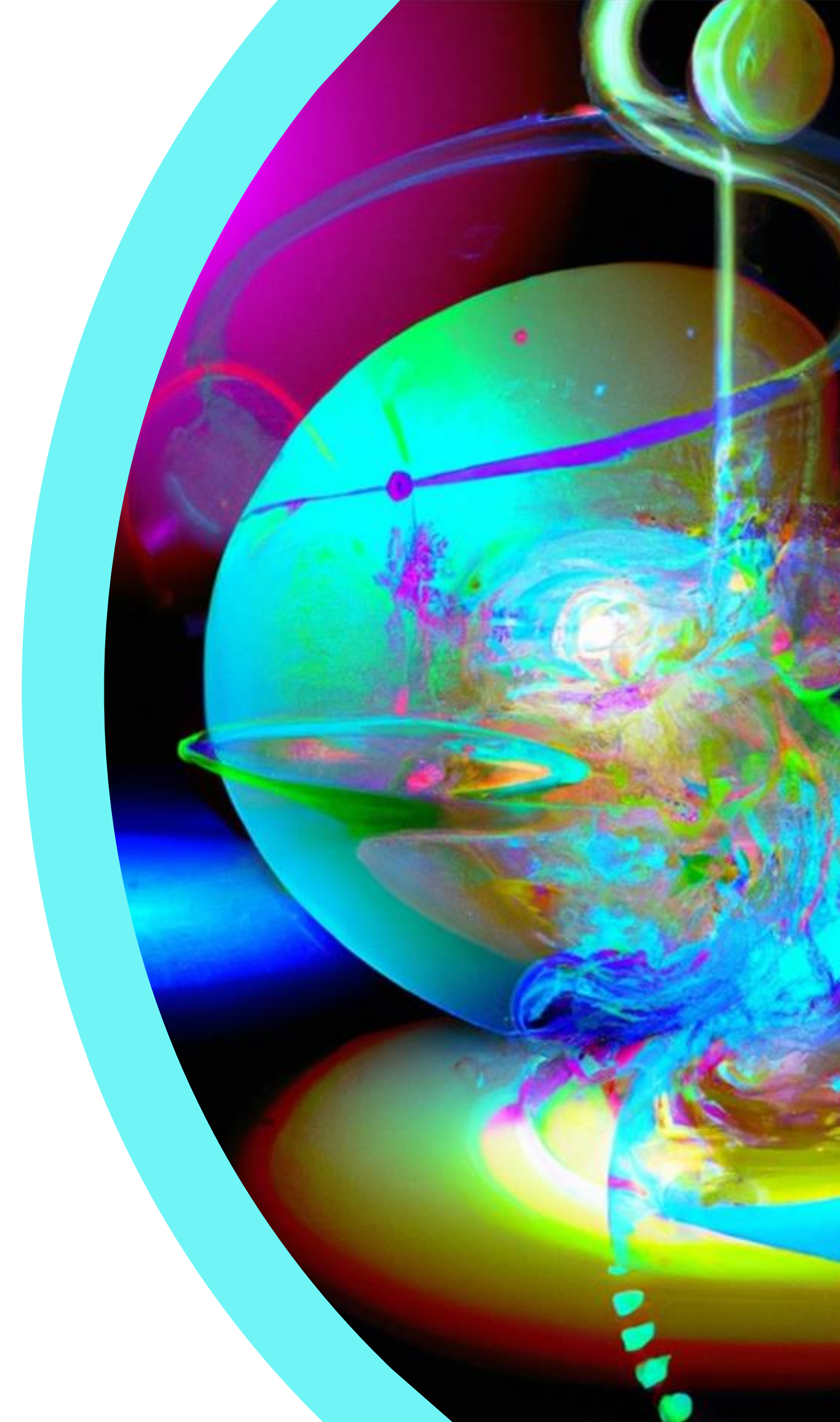
The Spectrum Statement sets out in clear terms the Government's priorities for spectrum policy and supporting governance arrangements, with a focus on innovation in the use and management of spectrum.

We want to maximise the overall value of spectrum use to the UK while supporting wider policy objectives and protecting critical services like defence and climate science.



Principles for spectrum policy

- Spectrum is a strategic asset and an important enabler for a range of government policy objectives.
- Spectrum management should promote innovation and investment alongside consumer-focused outcomes.
- Spectrum management should ensure efficient and optimum use and be linked to actual usage with users empowered to make decisions where appropriate.
- Spectrum management should itself take best advantage of innovation as well as supporting innovation in the services which use spectrum.





Annual Licence Fee (ALF) Review

- **MNOs currently pay around £300m per year in spectrum fees collectively, with the costs to all 4 MNOs between 2022 and 2030 is projected to be around £3 billion.** MNOs have argued that these fees hinder investment and do not create additional incentives to use spectrum efficiently above and beyond the ability to trade spectrum.
- **We want to ensure that the approach to spectrum fees continues to be fit for purpose in promoting the efficient use of spectrum.** We also want to ensure that Ofcom has the tools it needs to adopt innovative spectrum management techniques, where appropriate.
- **In the Wireless Infrastructure Strategy and Spectrum Statement, we asked Ofcom to review and set out for ministers a clear and forward looking rationale for its approach to setting mobile spectrum fees before the end of 2023.**
- We have been engaging with Ofcom and the MNOs as this work develops. Ofcom is due to submit its report before on time.



Spectrum Sharing in the Spectrum Statement and WIS

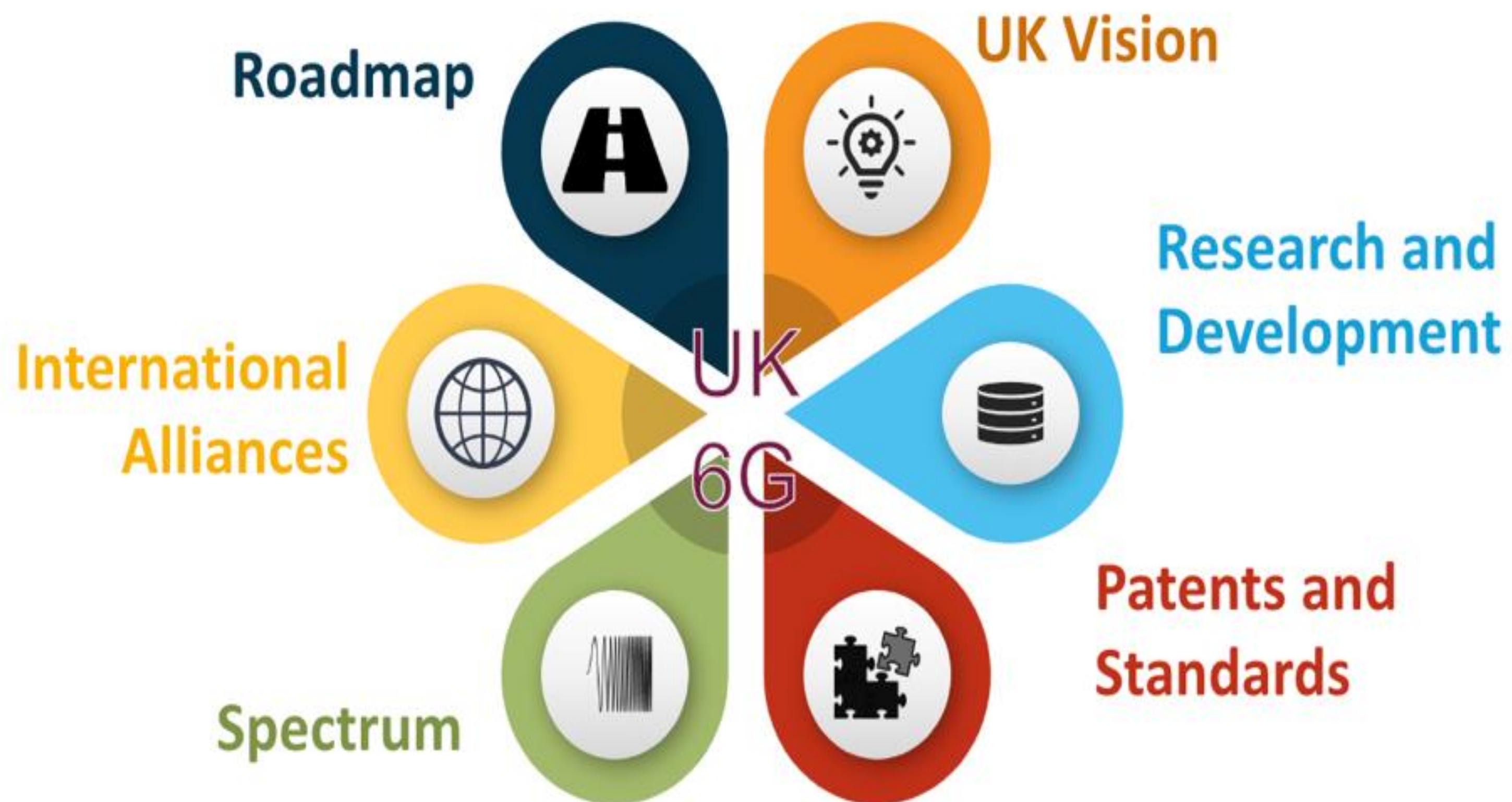
In the Spectrum Statement and Wireless Infrastructure Strategy, we highlighted Ofcom's spectrum sandboxes, and planned introduction of automation of spectrum licences. We also noted a number of actions for Ofcom and government to consider.

- We asked Ofcom to explore options to **accelerate the planned introduction of licensing automation in the SAL bands specifically.**
- We highlighted that **government remains committed to the timely introduction of DSA** where appropriate.
- **We asked Ofcom to prioritise giving consideration to the introduction of DSA in SAL bands.**
- We committed to continuing to engage with Ofcom **to develop a definition of DSA for the UK that is suited to industry's needs and the government's strategic aims for wireless infrastructure.**
- We agreed with Ofcom that it would be **valuable for SPF to establish a regular industry forum** to consider aspects of the sharing framework and whether they are working as intended.



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The UK's 6G Strategy





Space

- Delivering the national space strategy
- Space regulatory review
- Up to date international and domestic licensing environment





Pillar 1: 6G Vision

- **A range of spectrum access mechanisms** should be considered to help realise the varied deployment models likely to characterise 6G
- To provide flexibility and efficient use of spectrum, **automated means for supporting sharing** which varies by time, location, and frequency, driven by databases setting acceptable sharing configurations should also be core to 6G's development.

