

# Future spectrum sharing scenarios

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**UK Spectrum Policy Forum, Cluster 2**

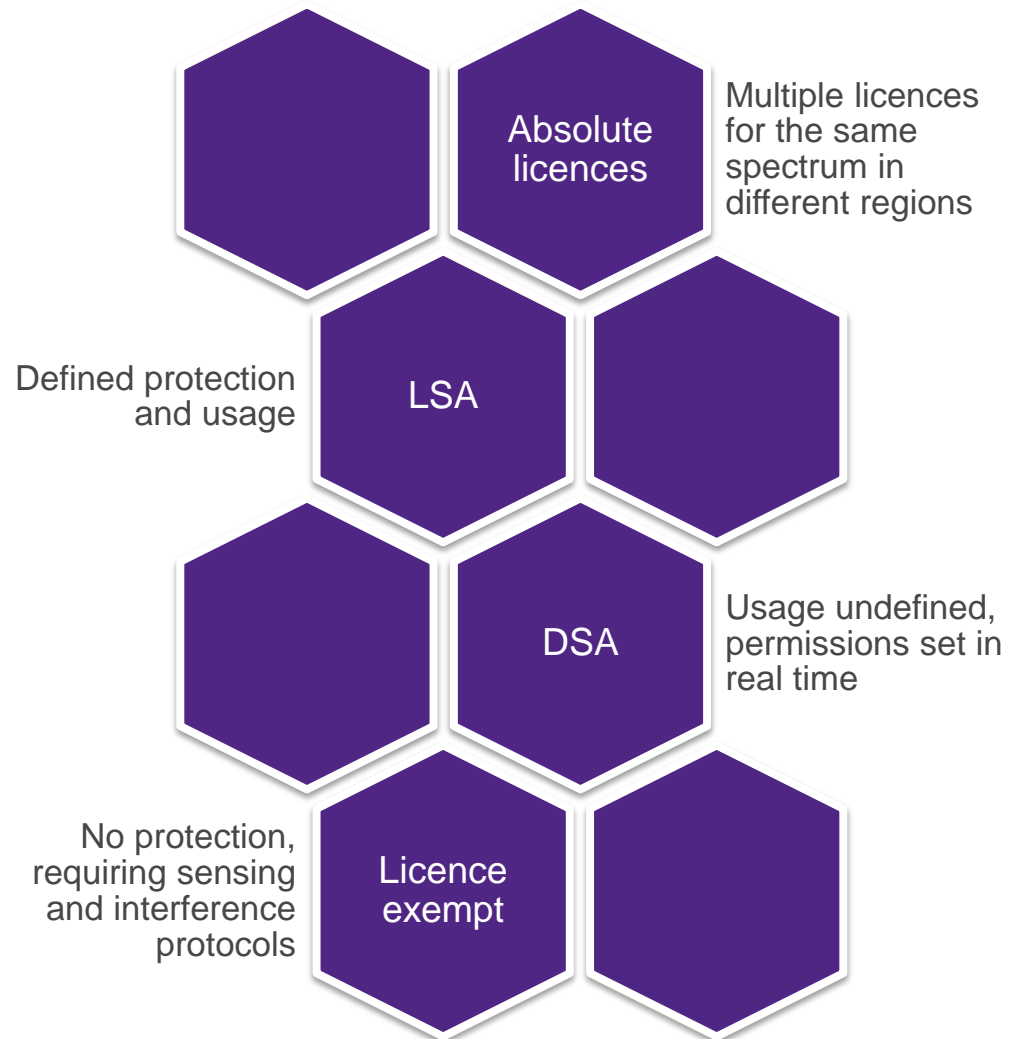
9 July 2015

# Agenda

- Possible sharing
- Plausible sharing
- Public sector sharing
- Projected sharing

# What is sharing?

- More than one party using the same frequency
  - Separated by time or geography
  - Requires coordination between parties

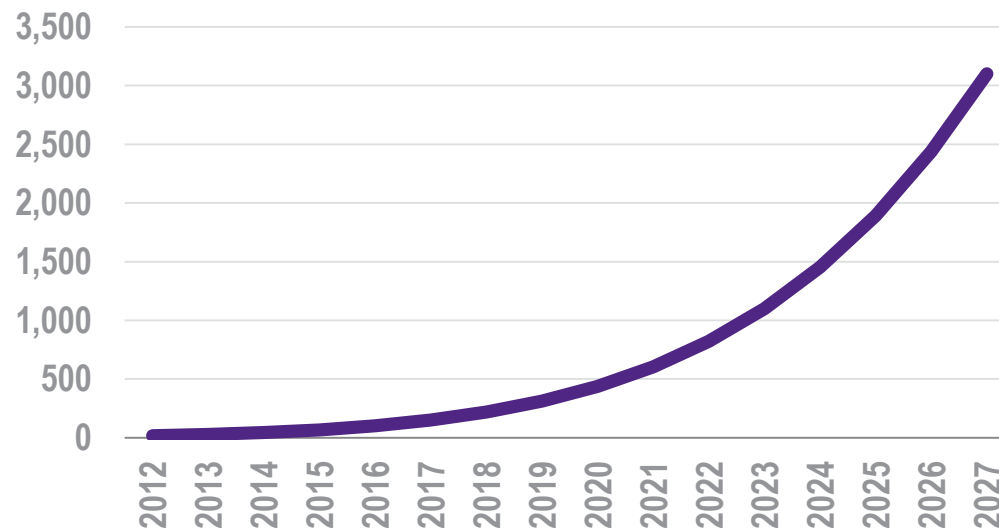


# The need for sharing

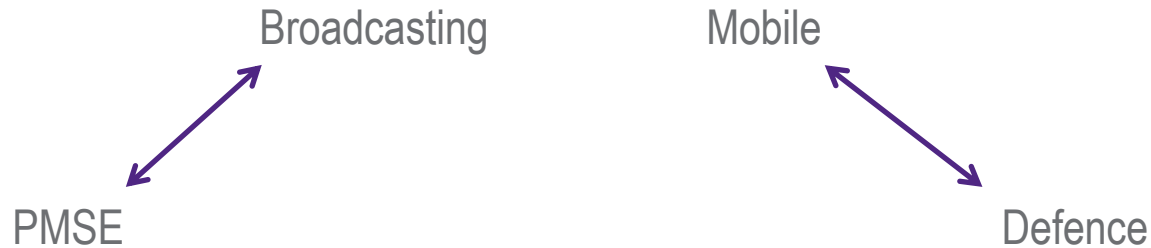
- Spectrum use needs to be more efficient
  - The number of spectrum using applications is growing
  - Many (but not all) spectrum using applications need more spectrum to cope with rising demand (for example mobile, PMSE)
  - There are spectrum sweet spots where demand for spectrum is likely to peak

## Mobile data traffic projection

PB per month

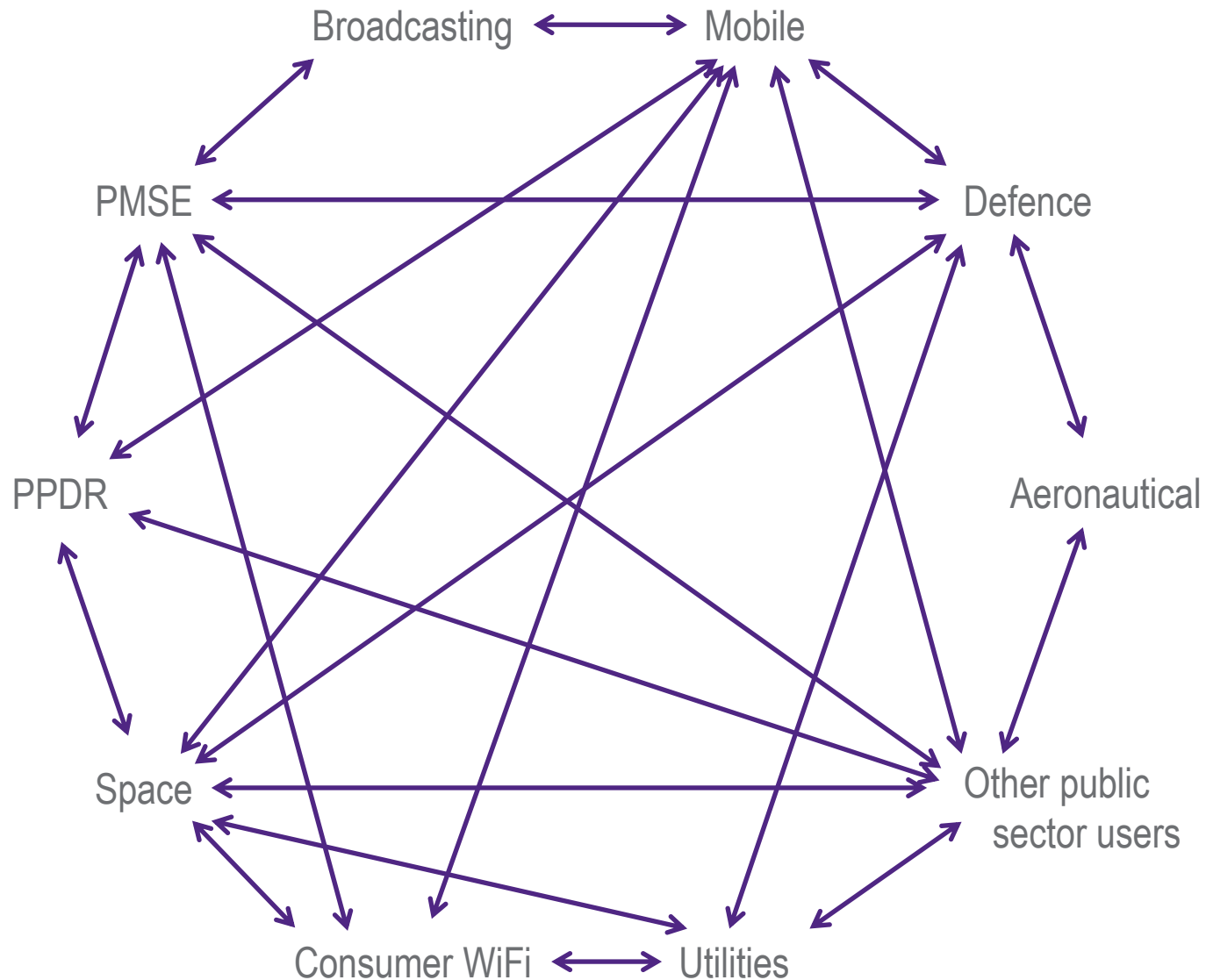


# Existing sharing



- The UK Wireless Telegraphy Act regime is favourable for sharing
  - It does not have the exclusive use issues that occur in some other countries
  - There is an issue on licensing of databases

# More sharing could be done



# Plausible sharing

# Successful sharing requires incentives

**Ability to make  
viable investments**

**Ability to coexist  
on a technical  
basis**

**An adequate  
compensation  
mechanism**

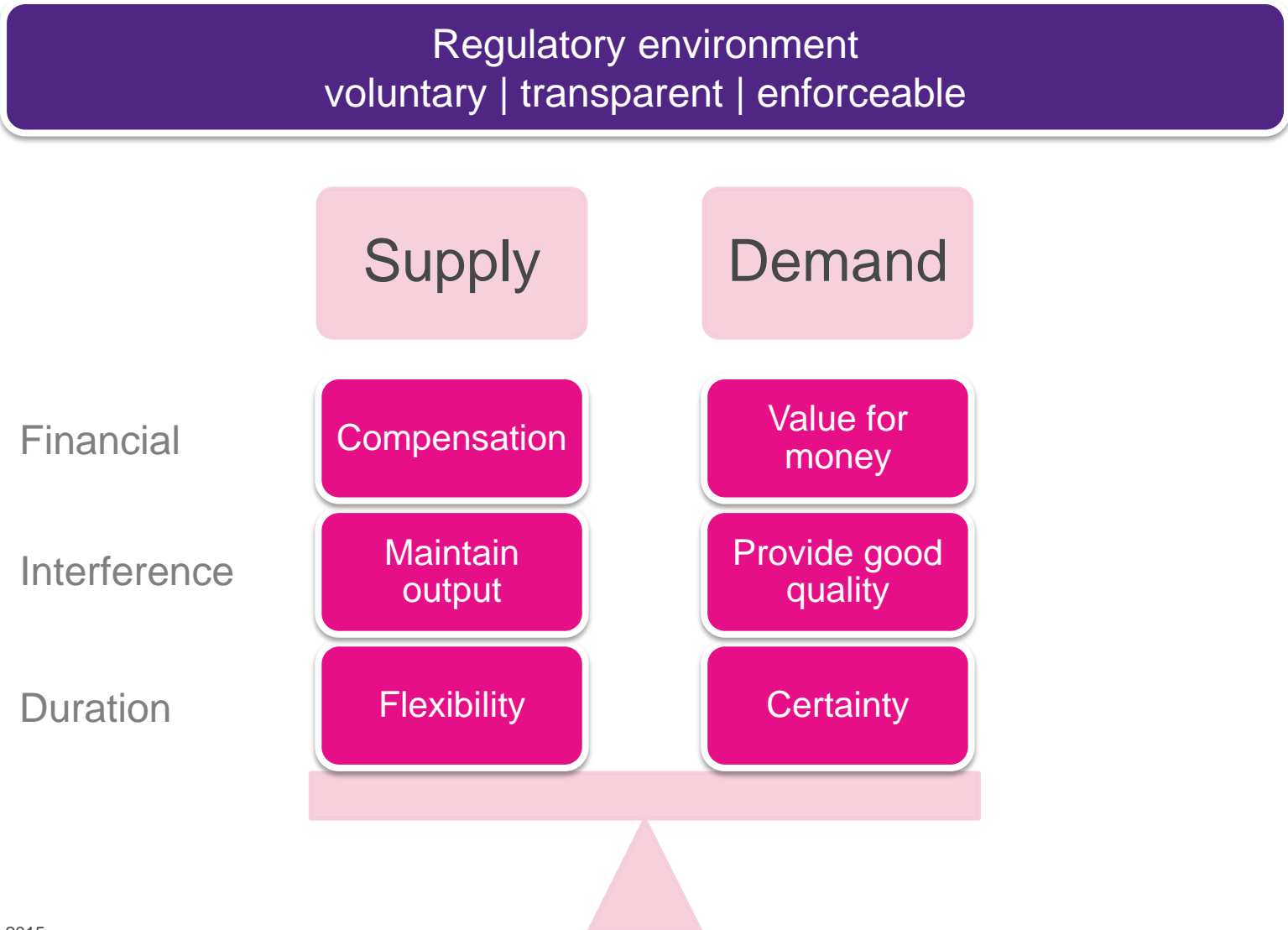
**Favourable  
regulatory  
requirements**

**Political pressure**

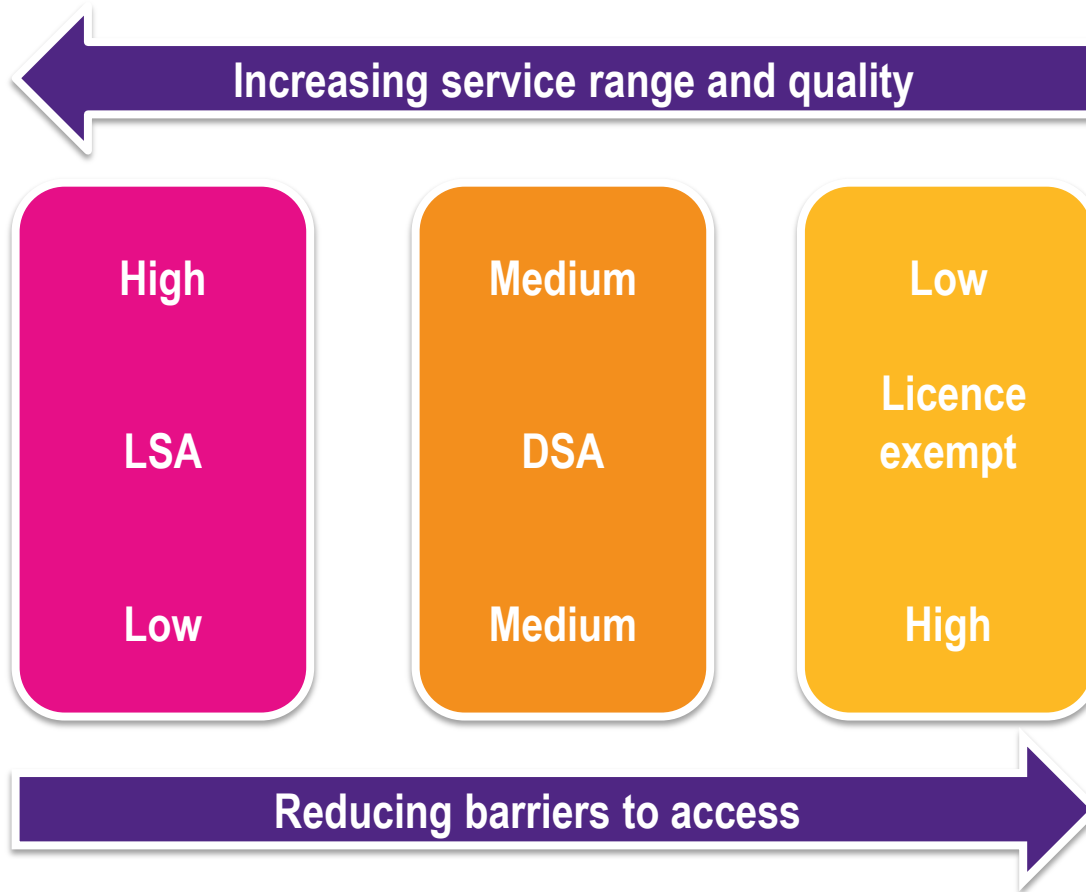
- As far as possible incentives should align across incumbents and sharers
- Market driven is better than imposition
- No or wrong incentives = no effective sharing



# Balancing supply and demand



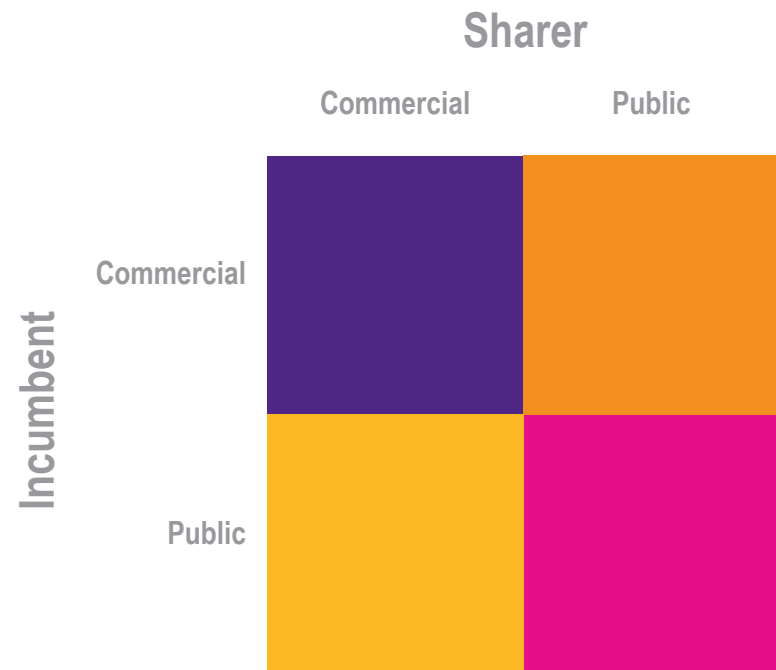
# Different objectives – different solutions



# Public sector sharing

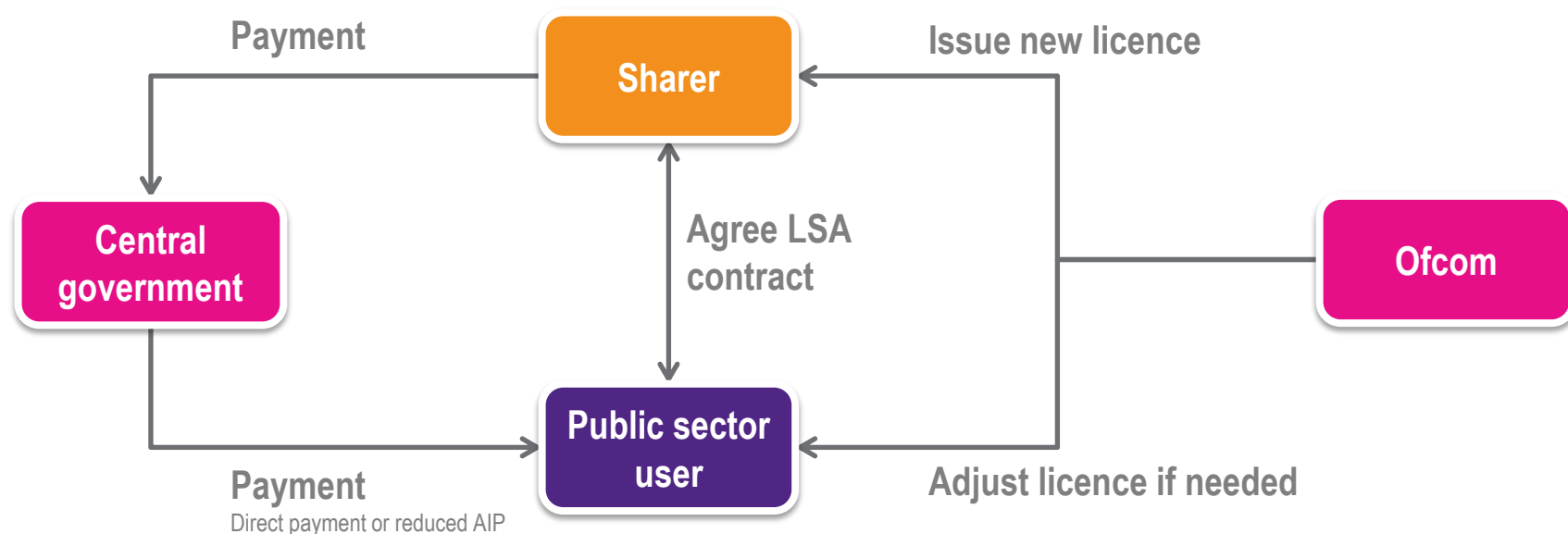
# Public sector sharing

- In theory sharing could occur between any combination of incumbent and user
  - In reality some scenarios will be more likely than others
  - There is public sector spectrum that could be shared
- But public sector spectrum users need to be:
  - Incentivised to share
  - Legally able to share



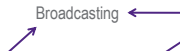
# Public sector issues

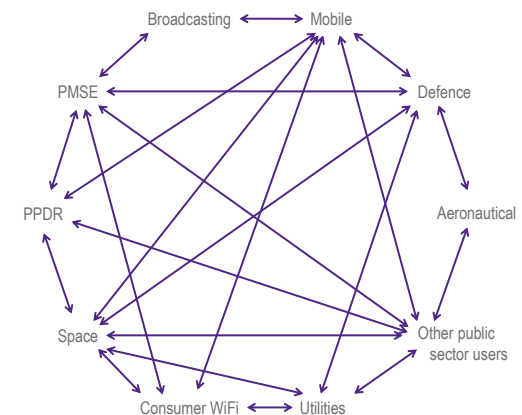
- Is the Crown RSA process fit for purpose as a means to enable sharing of spectrum?
  - Can it cope with change of use on a short or long term basis?
- Can public sector players who share spectrum be adequately compensated?
  - Most see this as an issue at the moment



# Projected sharing

## Sharing in the long term

- The easy pickings have mostly gone
    - Spectrum clearance will become more costly
  - As the demand for spectrum increases, so will the value of spectrum
    - The willingness to pay for shared spectrum will increase
  - Long term economic trends drive towards more spectrum sharing
    - There will be a role for both LSA and DSA
    - Technology improvements may make sharing easier
  - The demand for shared spectrum will not just come from mobile
    - Other users will want access to shared spectrum
- 
- ```
graph LR; Broadcasting --> Shared_Spectrum[Shared Spectrum]; Shared_Spectrum --> Broadcasting;
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# Issues to address



Need to clarify the regulatory framework around sharing

- Ofcom should clarify what sharing can currently be done (LSA?)

Need to ensure the public sector can share spectrum

- Government should deal with the regulatory and financial issues



Need to encourage the market through transparency of supply and demand

- Policy makers should make it easier for supply and demand to match



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