Ofcom space activities

Justin Moore, Head of Space and Science, Spectrum Group, Ofcom
June 2019
Enabling space sector innovation

- Look after 300+ satellite filings for 25+ operators
  - Mega-constellations to cubesats
  - Start-ups to the oldest firms in the business

- Active in ITU to modernise international rules for satellite services
  - Earth stations in motion, mega constellations, cubesats etc.

- License earth stations in the UK – ‘off the shelf’ & bespoke

- Proactively engaging with new space players
  - Helps them / helps us
Our strategy for spectrum work in space sector (Jan 2017)

1. Recognise existing benefits whilst enabling new uses
2. Enable satellite broadband growth
3. Enable earth observation growth
4. Monitor other developments in the sector
5. Deliver our ongoing activities efficiently and to high standards
## Satellite broadband work plan

<table>
<thead>
<tr>
<th>Issue</th>
<th>Specific actions / timing identified in strategy (Jan 2017)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth Stations In Motion (ESIM) in Ka band</td>
<td>• WRC-19 Agenda Item 1.5</td>
<td>On track to complete (Nov 19)</td>
</tr>
<tr>
<td>CEPT framework for NGSO fixed and ‘in motion’ terminals in Ku band</td>
<td>• ECC Decision in 2017</td>
<td>Complete</td>
</tr>
<tr>
<td>Collect UK satellite broadband subscriber data</td>
<td>• Publish in Communications Market Report</td>
<td>20k Dec 2017 (7 largest service providers)</td>
</tr>
<tr>
<td>Efficient use of Ka band in UK (17.3-17.7, 17.7-19.7 GHz, 27.5-30 GHz)</td>
<td>• No immediate actions identified in strategy</td>
<td>No update</td>
</tr>
<tr>
<td>Efficient use of Ku band in UK (14.25-14.5 GHz)</td>
<td>• No immediate actions identified in strategy</td>
<td>Talking to airlines about Aero ESIMS CFI planned for other uses</td>
</tr>
<tr>
<td>Consider authorisation of V band feeder links</td>
<td>• Potentially consider after WRC-19</td>
<td>Monitoring planned systems that intend to use V band.</td>
</tr>
</tbody>
</table>
## Earth Observation work plan

<table>
<thead>
<tr>
<th>Issue</th>
<th>Specific actions / timing</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working with public sector bodies re access to spectrum for TT&amp;C (short term)</td>
<td>On-going</td>
<td>Improved turnaround times for licence applications and enquiries re public sector use of spectrum.</td>
</tr>
<tr>
<td>Identify suitable spectrum for small satellites TT&amp;C (longer term solution)</td>
<td>WRC-19 Agenda Item 1.7</td>
<td>On track to complete (Nov 2019)</td>
</tr>
<tr>
<td>Consult on implementation of RSA for Receive Only Earth Stations in 8025-8400 MHz</td>
<td>On hold</td>
<td>Progress once work with MOD reviewing civil access to the band concludes</td>
</tr>
<tr>
<td>New work item on improvements to EESS sensor filtering, potentially leading to ITU-R report/Recommendation</td>
<td>Proposal to ITU Study Group 7 (Apr 17)</td>
<td>Difficulties identified in relation to obtaining sensor info; we are exploring other options</td>
</tr>
<tr>
<td>Take appropriate care before introducing new services</td>
<td>Contribute to CEPT/ITU studies e.g. on 5G</td>
<td>Fully engaged in CEPT/ITU work on 5G sharing studies on protection of EESS/DRS/passive services.</td>
</tr>
</tbody>
</table>
Keeping our strategy up to date

- Work plan nearing completion, incredibly active sector
- Collecting issues and topics

Themes include:

- Broadband
  - Connecting consumers without a decent fixed connect
  - Inflight services

- Earth Observation

- Narrowband Internet of Things
  - E.g. sensing RF in terrestrial bands

- ‘Enabling infrastructure’
  - Intersatellite links
  - Space Launch
  - On orbit servicing
  - Space Situational Awareness
Other Ofcom updates

Recent publications include:

- **Connected Nations report** (December 2018)
- **Supporting the expanding role of wireless innovation in UK industry** (December 2018 – consultation closed)
  - Sharing in 3.8-42 GHz etc; sharing in ‘mobile’ bands
  - Stakeholder event (February 2019)
  - 68 responses, 10 from organisations with satellite interest
- **Statement: Satellite Filing Cost Recovery** (March 2019)
- **Annual Plan 2019/2020** (March 2019)

Upcoming:

- Statement on sharing in 3.8-4.2 GHz, mobile bands (etc.) (Q2 2019) (new licences in 2nd half 2019 - TBC)
- Supporting Innovation in Rural Connectivity Workshop (Cardiff, 2 July 2019)
- Future Spectrum Conference (London, September 2019)
Thank you