Space spectrum

Space Spectrum: Strategy and process forward look

Stakeholder briefing
6 February 2017

Agenda

- Introduction
- Space Spectrum statement
- On-going activities forward look

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Space Spectrum statement

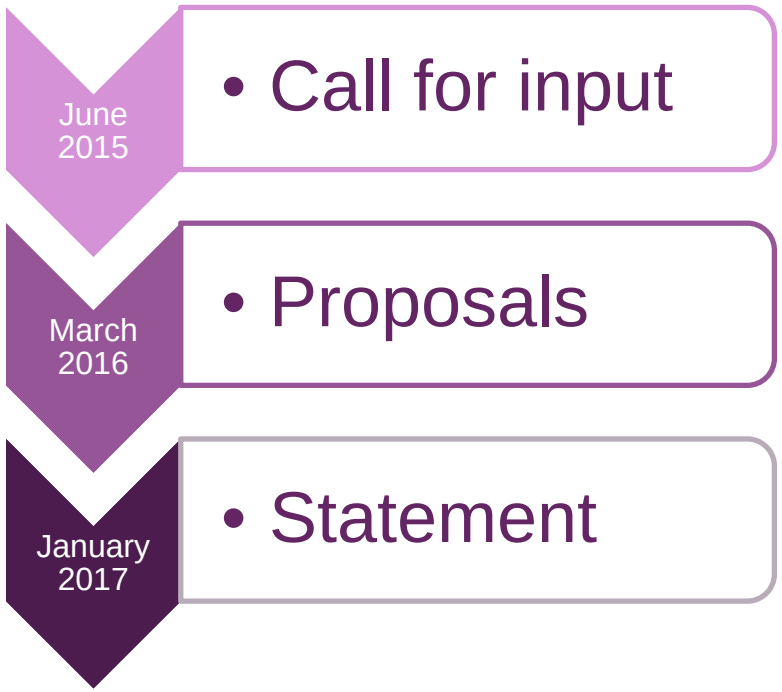
- Background
- Enabling growth in satellite broadband
- Enabling earth observation growth
- Other areas
- Existing benefits and new uses

Background

Why

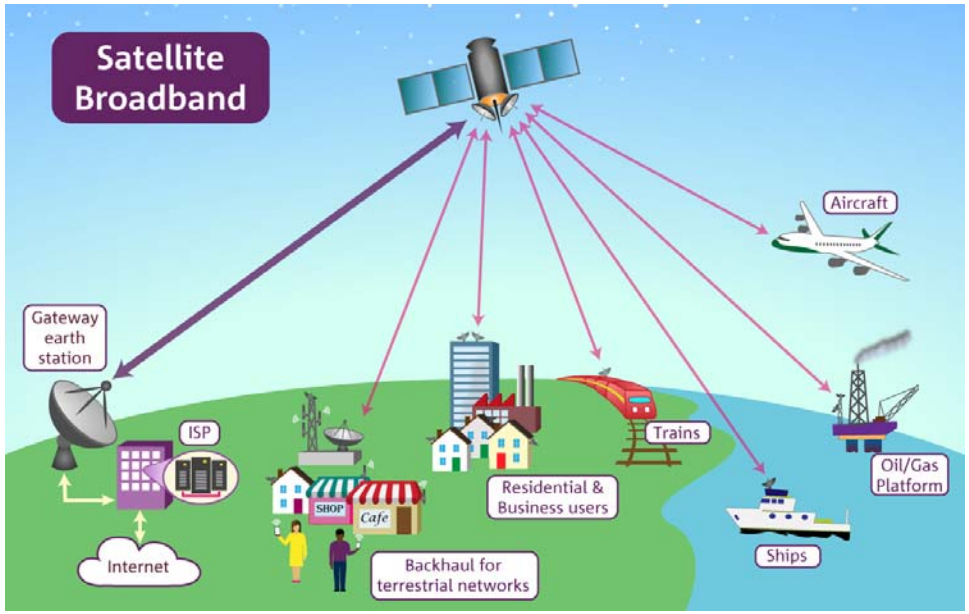
- Benefits of space spectrum
- Growing & competing demands
- Focus on where we can add most value

How



Enabling growth in satellite broadband

- Better fixed broadband options
- Better broadband on aircraft and on ships



- *Liberalise*
- *Efficient use of existing bands in UK*
- *Monitor demand*
- *Additional spectrum?*

Satellite Broadband:

Liberalise spectrum use

making communications work for everyone

Earth Stations In Motion (ESIM) in Ka band	• WRC-19 Agenda Item 1.5
CEPT framework for NGSO terminals in Ku band	• ECC Decision in 2017

Satellite Broadband:

Monitor demand

Collect UK satellite broadband subscriber data	• Communications Market Report 2017

Satellite Broadband:

Efficient use of existing bands

making communications work for everyone

Efficient use of Ka band in UK (17.3-17.7, 17.7-19.7 GHz, 27.5-30 GHz)	• No immediate action needed
Efficient use of Ku band in UK (14.25-14.5 GHz)	

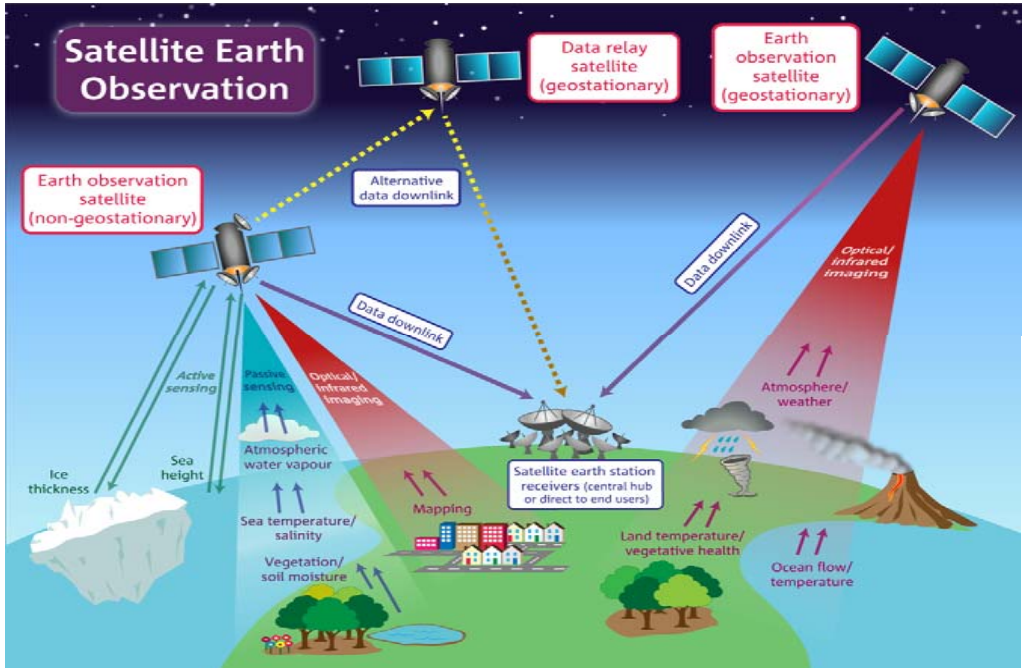
Satellite Broadband:

Additional spectrum?

Consider authorisation of V band feeder links	• After WRC-19 (Following AI 1.13 studies)
Satellite broadband update if necessary	• ~ 2018

Enabling earth observation (EO) growth

- Greater economic & environmental benefits
- Supporting wide range of new EO based applications



- *Spectrum needs of small satellites for TT&C*
- *EO data downlink, ROES in the 8 GHz band*
- *Access to bands for remote passive sensing*

Earth Observation:

Spectrum needs of small satellites for TT&C

Identify suitable spectrum for small satellites TT&C	• WRC-19 Agenda Item 1.7
Review / update UK licensing in light of WRC-19 (Long term solution)	• 2020
Working with public sector bodies re access to spectrum for TT&C (short term solutions)	• 2017 and on-going

Earth Observation:

Data downlink

Consult on implementation of RSA for Receive Only Earth Stations in 8025-8400 MHz	• Q3/4 2017
Consult on pioneer bands for 5G, including 26GHz	• Q2 2017

Earth Observation:

Access to bands for remote sensing

New work item on Improvement to EESS sensor filtering	• Proposal to ITU-R Study Group 7 (April 2017)
Potentially leading to ITU-R report/Recommendation	• 2017-2019
Take appropriate care before introducing new services	• Contribute to CEPT/ITU studies e.g. 5G and science use at 26 GHz • 2017-2019

Other benefits

Wide range of other benefits, including space research and radio astronomy

Particular growth areas include:

- Higher resolution broadcast TV
- Satellite navigation and positioning
- Machine-to-machine (M2M) communications / 'Internet of things' (IoT)
- Safety-related communications

Existing benefits and new uses

- Growing and competing demands
- Informed policy decisions
  - Understand existing use & benefits
  - Careful consideration of coexistence
- Taking enforcement action where necessary
- Support pro-active investigation of sharing opportunities

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On-going work – Overview & forward look

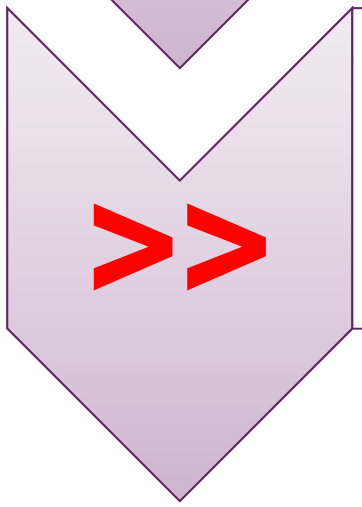
- Managing satellite filings
- International representation
- Earth station authorisation and recognition
- Provision of information on spectrum regulation and use

Aim to deliver our on-going work in a high quality and efficient way

Managing satellite filings

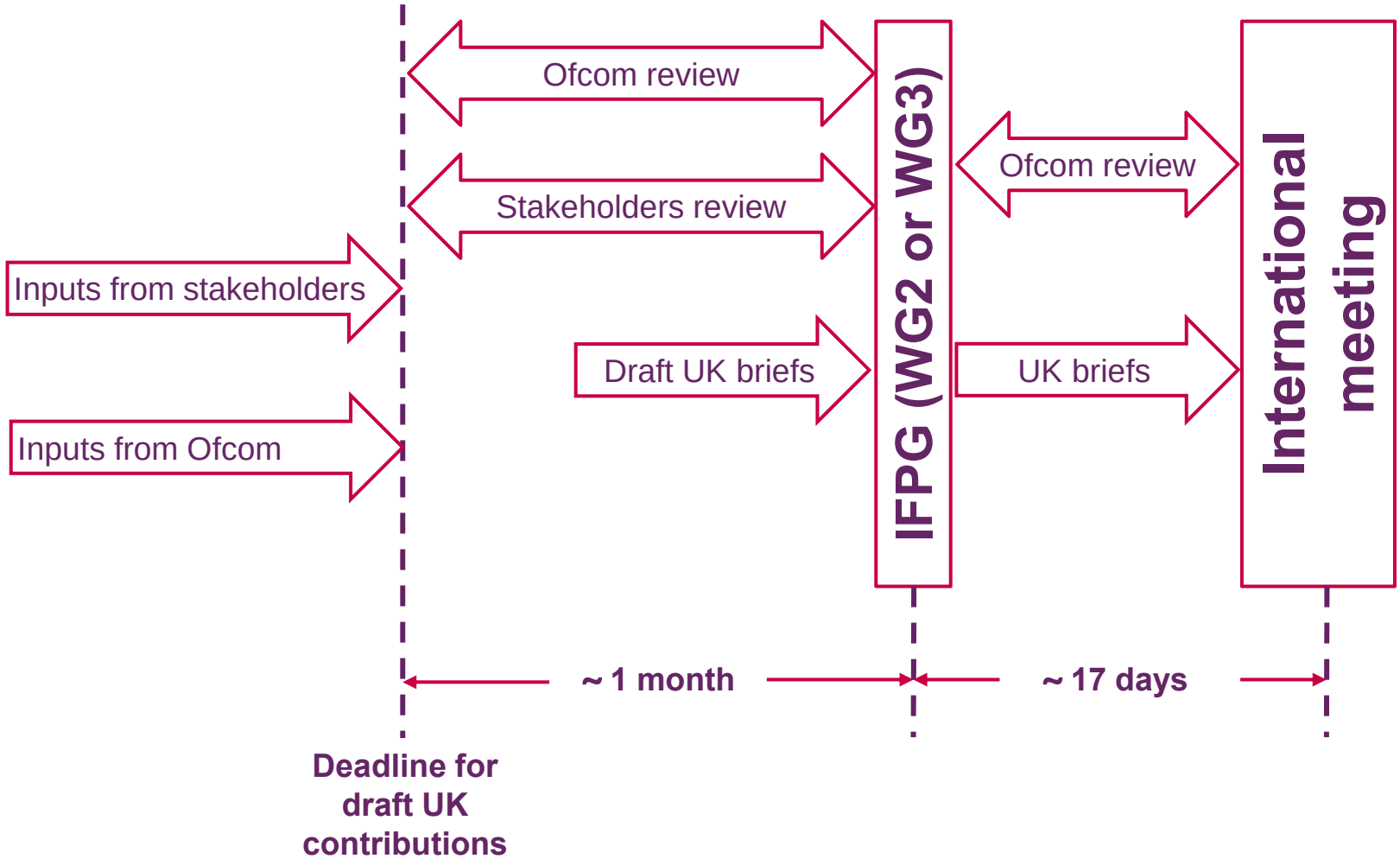
Managing satellite filings

- Centralised information
- Templates
- Time for response



- New info mgt system
- “Virtual satellites”
- Charging for satellite filings

International preparatory process



Earth station authorisation

Ongoing programme to update licence products and improve the efficiency of processes

NGSO earth station authorisation	• extension of licences to cover use with non-geostationary satellites • software implementation due early 2017
Transportable Earth Station (TES)	• relaxation of clearance near airports • software implementation due early 2017

Earth station authorisation

Website guidance	Plan to improve online licensing information, e.g.: • regulatory and technical information • guidance notes and FAQs • links to other related information
Licensing software upgrades	• improves efficiency • more user friendly online portal • e-licensing for some licences • basic online capability for managing earth station licences • extension of e-licensing to other licences?

Information on spectrum regulation and use

Continue to improve information about spectrum regulation and use

Existing tools:

Space Spectrum Interactive Data	• allocations, licence products, actual use • will keep as a snapshot in time
UK Spectrum Map	• frequency band usage, types of licence and applications • possible update to increase usability

Information on spectrum regulation and use

Existing tools:

UK Plan for Frequency Authorisation (PFA)	• availability of licence product by frequency band • possible integration into new interactive tool
Wireless Telegraphy Register (WTR)	• information on who is licensed in each frequency band • possible integration into new interactive tool
UK Frequency Allocation Table (FAT)	• 2017 update to be published soon • new format and structure

Information on spectrum regulation and use

New tools in the pipeline:

Space science spectrum use	• information on typical space science applications by frequency band

Future ideas:

Integrated tool on spectrum information	• considering new tool which combines elements of the FAT / PFA / WTR

Thank you