Conflicts of Interest? Satellite Constellations and the UK and European Responses

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A little history…

- Project West Ford in 1961: 480 million dipole antennae
- Protests from astronomers, including in UK and USSR
- Francis Graham-Smith noted potential issue for optical astronomy in 1980

“The Council of the Royal Astronomical Society views with greatest concern the reported intention of the U.S. National Aeronautical and Space Administration to put into orbit a large number of reflecting dipoles.

Such a step would begin to shut off one of the few wavelengths available to radio astronomy to further our knowledge of distant regions of space. At the present stage of development of radio astronomy it is quite impossible to say that a particular wave-length could be dispensed with, and it would be scientifically a grave disaster if this project were permanent.

QJRAS, June 1962
Where we were, and where we’re heading…

- 2019: around 2,000 satellites deployed in Low Earth Orbit (up to 2,000 km altitude)
- Now: +1791 Starlink satellites at 550 km, +322 OneWeb satellites at 1200 km
Early responses

- American Astronomical Society, International Astronomical Union, RAS issued statements of concern
- (Predictable) Twitter outrage too
UK ‘space landscape’ (1)

- Outer Space Act (1986) and Space Industry Act (2018)
- BEIS oversees most science spending – secretary of state grants orbital licences
- Licensing mostly CAA, OfCom regulates radio spectrum
- UK Space Agency is delivery body
OneWeb

- $500m part-purchase by UK government, alongside Bharti Global, driven by former advisor Dominic Cummings
- Doubts over procurement process (civil servants, select committee chair)
- Now integral to UK Space Strategy
UK ‘space landscape’ (2)

- New Space Strategy (September 2021)
- Covers growth, ‘Global Britain’, science and technology, defence and space services – including satellite broadband
- Space sustainability
- No reference (yet) to ground-based astronomy
European ambitions

- EU proposal for €7 billion constellation
- Mooted to tackle Internet dead zones in Africa as well as Europe
- Feasibility studies underway
- Could be built via European Space Agency
Working Groups: RAS

- Slow compared with AAS...
- RAS group includes academics, industry, funding agencies, major observatories
- Sub-groups cover optical and radio astronomy
Working Groups: EAS

- Europe-wide remit
- Membership from astronomical community, European Satellite Operators Association
- Liaison with EAS member societies in more than 30 countries
What we’re doing…

- Parliamentary questions
- Science and Technology Facilities Council studies
- Commons Science and Technology Committee included satellites in inquiry
- Dialogue with UK Space Agency and OfCom
- Briefing journalists
What we’re doing…

- Sessions at EAS annual conference
- Meetings and liaison with European Commission
- Briefing MEPs (Niklas Nienas, Green group, would like to talk to Sky and Space Intergroup)
What’s next?

- IAU Centre for Protection of the Dark Sky from Satellite Constellations: EAS and RAS supporting SKAO / NOIRLab bid
- Public engagement and awareness
- Grassroots campaigns: public and MPs, MEPs
- Arguments for reform of national licensing regime: protection of sky included in space sustainability and recognition of astronomy as ‘space activity’
- Urgent need for formalised engagement at national and European level
Thank you for your attention!