



OBSERVATIONS

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Realising the value of satellite data and technology across government

Terri Freemantle reviews progress on the Space for Smarter Government Programme (SSGP) since its launch just over two years ago

SSGP was created as a strategic, national initiative to drive the uptake and use of space products, data and services across government departments and the wider public sector.

Led by the UK Space Agency and delivered in collaboration with the Satellite Applications Catapult, the programme has been helping the public sector adopt space as an enabler to stimulate innovation and growth, while also making government more efficient and 'smarter'.

Given the breadth of public sector audiences, SSGP has prioritised its initial efforts on the environment, local government, devolved administrations, and natural hazards risk management.

Key stakeholder

The Department for Environment, Food & Rural Affairs (Defra) has become a key stakeholder for SSGP, as greater focus is turned on Europe's downstream Earth Observation (EO) market, forecast to be worth €1.8bn by 2030. Former Environment Secretary, Elizabeth Truss, even described environmental and geospatial data as "modern black gold".

Between now and 2020, Defra expects "satellite data to play an indispensable role in policy development and operations, across the DEFRA network." With this in mind, an SSGP team member is embedded part-time within Defra's Earth Observation team, helping it produce a "Roadmap for the use of EO in Defra and the wider family 2015-2020". This is designed to identify project priorities and establish how the data is operationalised cost-effectively.

This activity is not undertaken in isolation; while expertise exists in pockets around Defra and various government agencies, Defra is looking to improve and consolidate existing skillsets in order to maximise its usage of satellite data. This has extended to an EO Centre of Excellence that will strengthen collective knowledge and skills.

Driving new services and cost savings

Driven by strong user interest in the capabilities offered by satellite technology, coupled with demand for greater financial savings, SSGP has engaged with key local government organisations and stakeholders including the Department for Communities and Local Government (DCLG), Local Government Association (LGA), Society of Local Authority Chief Executives and Senior Managers (SOLACE), and County Councils Network (CCN).

Among the SSGP capability demonstration projects being undertaken is one led by the University of Leicester to create an

Air Quality Hotspot Mapper (AQHSM)¹. This addresses the persistent problem of poor air quality, which is estimated to cost the UK economy up to £19 billion annually in adverse health effects (Defra, 2010). Following an initial feasibility study, the AQHSM has been developed into a viable web-based visualisation tool capable of delivering near-real time pollution monitoring over urban areas.

Elsewhere, Satellite Oceanographic Consultants have combined EO spaceborne altimeter data with tide gauge data to establish a sea level monitoring service² that assesses sea level

variability in UK waters. Thanks to this work, end-users will gain a greater understanding of changes that strongly influence flood probabilities. In doing so, it will allow more timely and insightful decisions on when and where to direct investment that reduces flood risk.

Looking ahead, SSGP will be developing these and other projects³ as part of the Government's objective to stimulate economic growth through a greater uptake of satellite products and services.

- [1. http://www.spaceforsmartergovernment.uk/case-study/university-of-leicester-air-quality-hotspot-mapper-aqhsm/](http://www.spaceforsmartergovernment.uk/case-study/university-of-leicester-air-quality-hotspot-mapper-aqhsm/)
- [2. http://www.spaceforsmartergovernment.uk/case-study/satellite-oceanographic-consultants-ltd-sea-level-spacewatch/](http://www.spaceforsmartergovernment.uk/case-study/satellite-oceanographic-consultants-ltd-sea-level-spacewatch/)
- [3. http://www.spaceforsmartergovernment.uk/case-studies/](http://www.spaceforsmartergovernment.uk/case-studies/)



Cross-government Earth Observation Discovery Day. © UKSA Space for Smarter Government Programme



Pollution concentrations in a complex urban environment, as modelled by the FluidAir system of the University of Leicester and EarthSense Systems Ltd. This information was used to generate air quality maps for the HotSpot Mapper project within the Space for Smarter Government Programme Image © Satellite Applications Catapult Ltd