



Session 2 Introduction

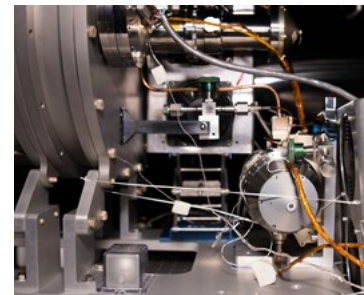
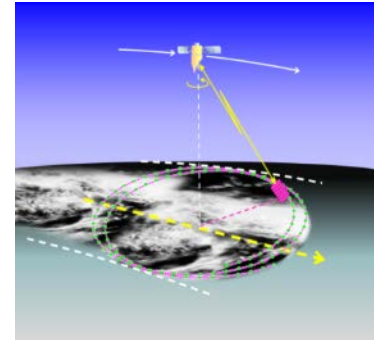
Technology Developments in Current CEOI Projects

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What is the CEOI?



- UK Space Agency initiative to strengthen UK EO technology capability, with enhanced breadth and depth
 - Funds innovative technologies for global EO mission opportunities
 - Supports developments for commercial exploitation opportunities
 - Create new UK jobs and economic growth through leverage of investment in EO
 - Parallel industry investment, total approx £2-3M pa
- Partnership led by Airbus with QinetiQ, STFC/RAL and University of Leicester



CEOI Technology Development Programme



- The CEOI's primary role is to manage a peer-reviewed and grant-supported programme to develop EO technologies for scientific, operational and commercial space missions.
- The programme is built around a Technology Development Ladder:
 - **Pathfinder** projects – for low TRL and proof of concept work
 - **Fast Track** projects – for TRL raising, & addressing potential flight opportunities
 - **Flagship** projects – for addressing strategic technologies associated with a known flight opportunity (TRL~ 5 and above)
- The newly issued EO Technology Strategy underpins the CEOI development programme

Our 10-year vision is for the UK to become a world leader in new EO technologies

- **Economic Impact:** Develop EO technologies which lead to increased exports, jobs and economic growth
- **Innovation:** Support new and innovative ideas that offer tangible benefit to future missions
- **Capability:** Strengthen capability where the UK already leads, can build a lead in a new area or can overtake existing capability elsewhere
- **Return on ESA Investment:** Maximise the benefit from the UK funding to ESA and other institutional bodies

The EO Technology Strategy is [available here](https://www.gov.uk/government/publications/uk-earth-observation-technology-strategy):

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UK EO Technology Capability



Technology Theme	UK Strength	Market Trend	Comments
Radar/SAR	✓✓✓	✓✓✓	Excellent & established UK capability; Significant commercial/operational/science markets
Passive microwave	✓✓✓	✓✓✓	Excellent & established UK capability; Ongoing operational/science markets
Optical imaging	✓✓✓	✓✓✓	Excellent & established UK capability; Significant commercial/operational markets
Optical spectroscopy	✓✓✓	✓✓✓	Excellent and established UK capability; Significant commercial/operational markets
IR imaging	✓✓	✓✓✓	Growing UK capability; Growing commercial/operational markets
IR radiometry	✓✓✓	✓✓✓	Excellent and broad UK capability; Ongoing operational/science markets
IR spectroscopy	✓✓	✓✓✓	Growing UK capability; Ongoing operational/science markets
LIDAR	✓	✓✓	Growing UK capability; Viability of space-based LIDAR recently established (Aeolus)
Radar Altimetry	✓	✓	Some UK capability; Strong competition within Europe
UV spectroscopy	✓✓	✓	Good UK capability; Limited user pull and mission opportunities
Quantum Technologies	✓✓	✓✓	Growing UK capability; Space market is long term; non-space market more immediate