

Knowledge Transfer in the New Centre for EO Instrumentation

**Mick Johnson, CEOI Director
3rd May 2007**

Centre for EO Instrumentation

What is the CEOI?

- Newly established UK Centre for EO Instrumentation
- NERC, DTI and industry funded
- Collaboration between 4 partners:
 - Astrium Ltd: Director, overall lead
 - University of Leicester: Science/Missions
 - RAL: Science/Technology
 - QinetiQ Ltd: Programme management

Objectives of the CEOI

- Driving force and centre for innovation in EO instrumentation
- Define and deliver instruments of highest quality
- Viewed across Europe as key UK strength
- Build highly capable partnerships between academia and industry
- Train next generation scientists and technologists
- Knowledge exchange and transfer

Implementation of the CEOI

– **Science driven, project based**

- Targeting EO science issues of critical importance to UK
- Delivering quality, cutting-edge technology

– **Partnership**

- Science involvement in technology projects
- Developing future instrument scientists and technologists

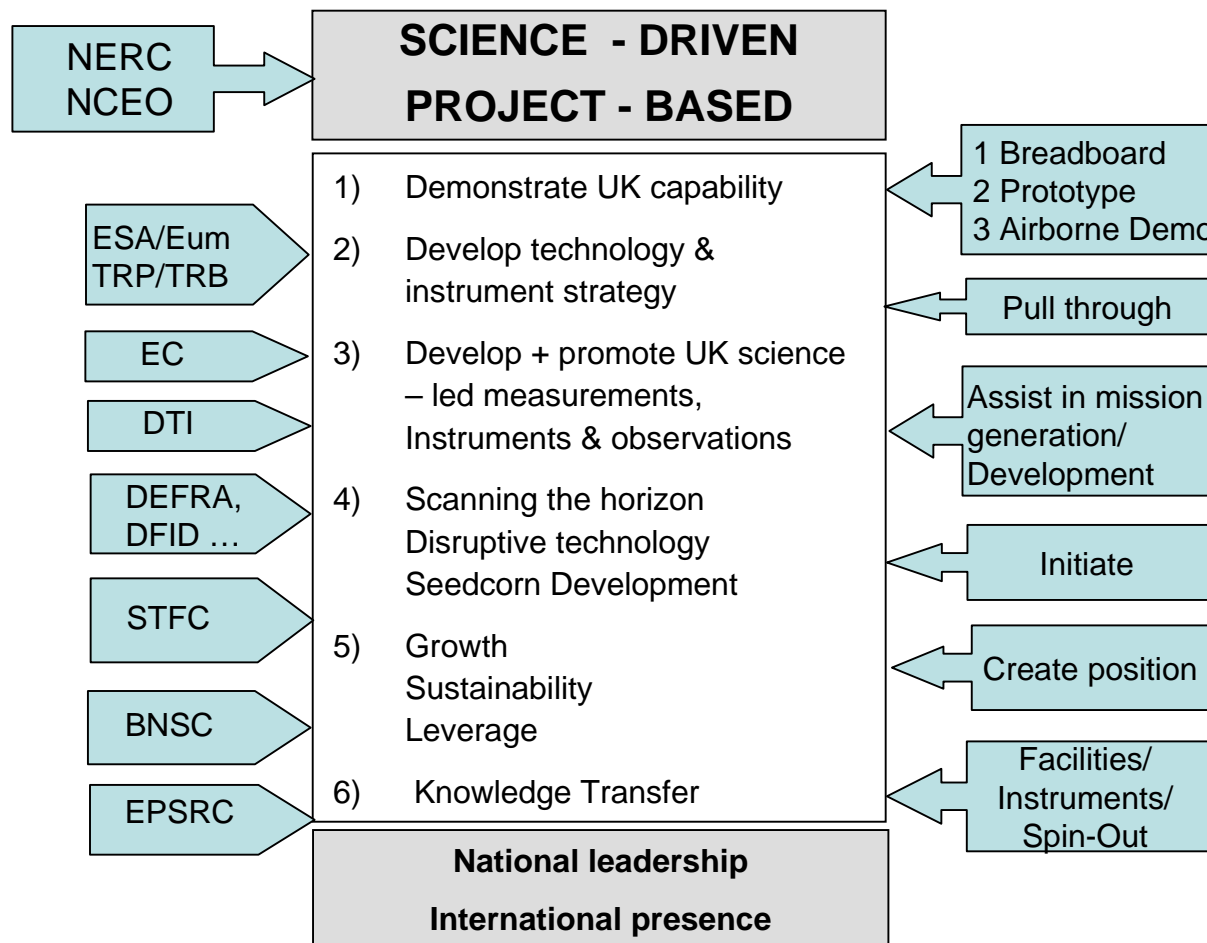
– **Providing leadership**

- Ambitious but achievable objectives
- Looking to the future and identifying innovative technologies

– **Growth in capability**

- Establishing critical mass
- Additional funding, business growth

Role and Attributes of the Centre



Centre Operation

- **Initial Technology Programme:**
 - Strong links to science requirements throughout programme
 - Led by Partners, with SMEs, University groups, NERC CofE
 - Delivery in 15 months
- **Innovative ideas through Horizon Scanning:**
 - Seek emerging science, mission and instrument ideas
 - To identify longer term programme (yrs 2-5)
- **Open Call** to allow additional activities
 - Identify and fund ‘seed-corn’ projects and technologies
 - Prepare for extended Centre operation
 - Will be inclusive of all UK EO capabilities
- High priority to establish close working relationship with NERC/DTI Steering Committee and NCEO

The CEOI Programme

KO

15
Months

Centre Setup
& direction

Preparation

Centre Strategy & Direction

Strategy & Direction

Initial work
programme

Near-term TP1: Microwave radiometric sounding of the atmosphere

Near-term TP2: Spectrometers and Detectors for UV/VIS/NIR atmos comp

Mid-term TP3: LIDAR technologies for 1.5-2.5µm CO₂ sounding

Mid-term TP4: Laser heterodyne sounding 4-100µm

Science & technology
horizon
scanning

Horizon scanning

Horizon scanning

Open call

Open call

Bids

Bids

Bid Eval

Bid Eval

New work
programme

New projects (Technology and seedcorn)

New projects

Studentship
programme

Studentship & training

Studentship & training

1/4/07

1/7/07

1/10/07

1/1/08

1/4/08

1/7/08

<approx dates>

Knowledge Transfer in the CEOI

- Partner Technology Programmes
 - Joint academic/industry partnerships
- Open Call Process
 - To allow development of broad UK capability
- Challenge Workshops
 - To identify the science and technology challenges
- Training, secondments, studentships and workshops

Technology Research Programme

- Four activities are identified for immediate kick-off:
 - Microwave radiometric sounding of the atmosphere
 - Spectrometers and detectors in UV/Vis/NIR for atmospheric composition measurement
 - LIDAR technologies in 1.5-2.5 μm range for CO_2 measurement
 - Laser heterodyne sounding in 4-100 μm range

CEOI 'Open Call' Opportunity

- Opportunity within CEOI to bid for funding through 'Open Call' ITT
- Approximately £250K available (part funding)
- Priorities to be defined in the call itself
 - Likely to include Technology Seedcorn and Knowledge Transfer/Networking Activity
- Timescales are:
 - ITT Release in May 2007
 - Contracts placed in Aug/Sept 2007
 - Completion by June 2008

Challenge Workshops

- Series of workshops to identify major science and technology challenges:
 - Ocean, Land, Atmosphere, Cryosphere, Solid Earth and Emerging Technologies
- Identify future instrument and technology requirements
- Hosted at recognised centres
 - Leading scientists and technologists
 - Full participation invited from NERC Centres, NCEO, UKSpace etc

**Ocean Challenge Workshop
at NOC, Southampton on
14th June 2007**

UK Centre for EO Instrumentation

**For further information
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Summary

Establish substantial EO instrument capability for UK

- Strong industry/academic partnerships
- Technology programme to deliver significant outputs
- Align industry investment with UK science priorities
- Knowledge transfer through instrument projects and training
- Young scientists/technologists to work with current experts
- Establish next generation of instrument scientists & technologists
- Long term aim – to produce UK teams able to propose and win EO missions in international programmes