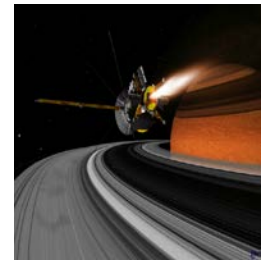
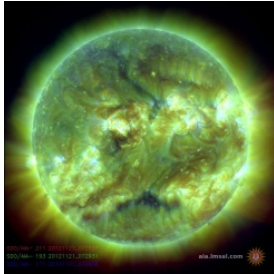




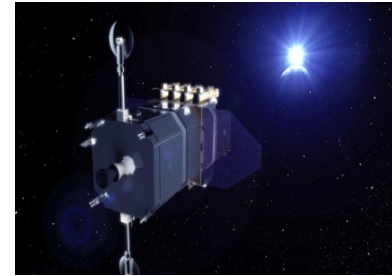
***Prof Richard Holdaway***  
***Director***



**“Led by Science - Enabled by Technology”**



***Targeting Growth  
and Impact  
with Industry***



**£21M turnover, 90% external (of which £10M is Overseas)**

**Primary customers: BIS, MoD, HO, DEFRA, DECC; STFC, NERC...**

**+**

**25 Space Agencies (inc NASA, ESA, UKSA, JAXA, ROSCOSMOS, CNSA, ISRO ...)**

**30 Institutes (inc JPL, GSFC, Sandia, NRL, USAFRL, Met Office, NPL ...)**

**60 Companies (inc Airbus, Lockheed, Thales, Telespazio, SciSys, ...)**

**40 Universities (inc MIT, Cal-Tech, BUAA, Oxbridge, Imperial, UCL, Surrey, ...)**

**+**

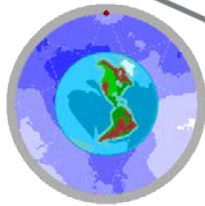
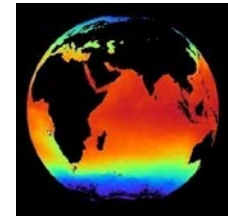
**HSG: Sat App's Catapult, ESA Harwell (ECSAT), ESA BIC, Industry**

**RAL Space : a gateway to 170 organisations in 34 countries**

# What we do:

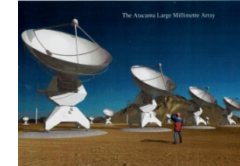
- **Research (10%)**

**Solar Physics, Space Weather, I-R Astronomy, Climate, Radio/Atmospheric Propagation**



- **Design & build Space Instruments (50%)**

**211 instruments in Space,  
+ Ground-based telescopes**



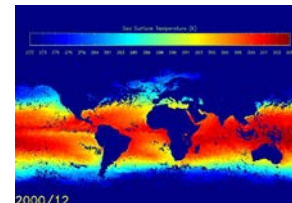
- **Develop key technologies (15%)**

**Electronics/Detectors, Optics/Thermal, MMT, Robotics**



- **Data/information Centres (25%)**

**Curation, Analysis, Dissemination**



# What else do we do?

- **Economic impact**



**Collaboration with Industry; 7+2 Spin-Outs**



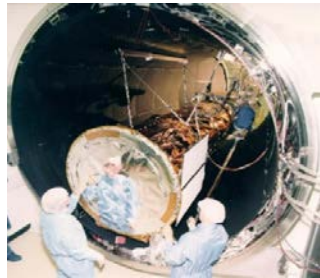
- **Societal impact**

**Outreach, Training, Apprentices, Interns**



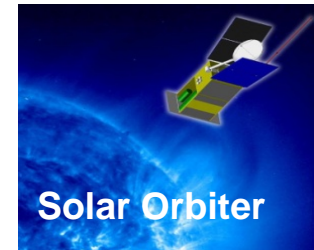
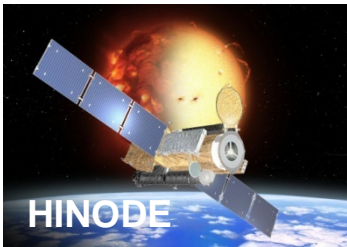
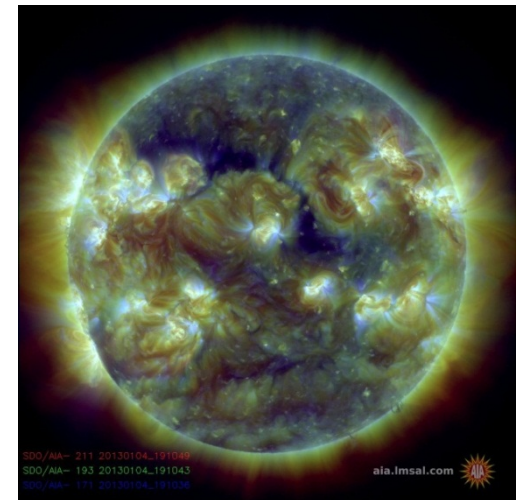
- **Provide “National” Facilities & Expertise**

**2 Ground stations, Thermal Vac, Vibration, Calibration, CDF, Spectroscopy, Precision components, Robotics test facility**



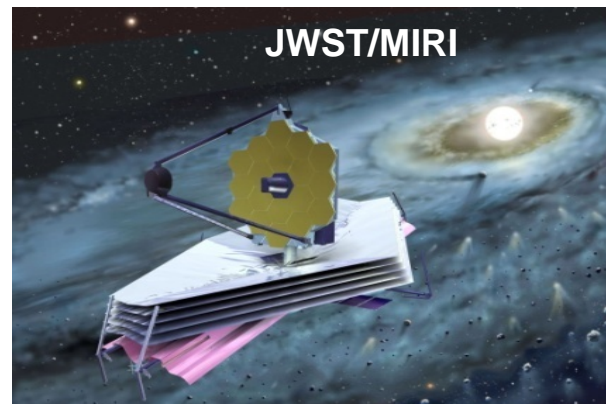
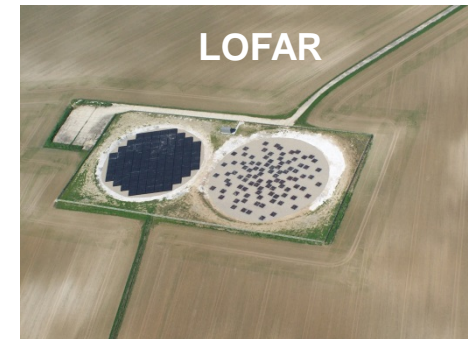
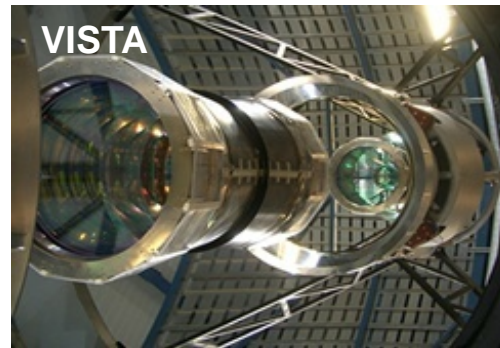
# Solar Science

- **Physics & chemistry of the Sun**
  - > **Nuclear Fusion**
  - > **Space Weather**
  - > **Climate Change**



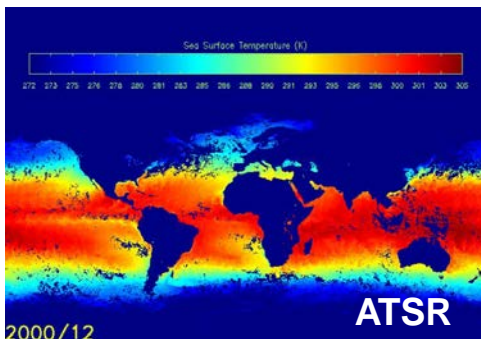
# Astronomy

- New star formations, exoplanets
- Dust clouds and decaying stars



# Earth Observation

- **Build & Calibration of Instruments**
- **Curation of EO data / improved models**
  - > **Deliver better forecasts & predictions**
- **Next generation SST (ATSR to SLSTR)**

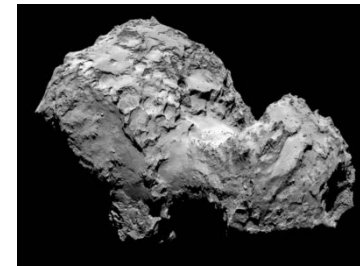


# Highlights of 2014

- **Cameras installed on ISS**



- **Rosetta rendezvous and landing**



- **R100 Nat Space AIT & Cal Facility**



- **Newton £12M with China for Agri-Tech**





# **RAL Space R100: A National Facility**



# Harwell Space Cluster

Rapid growth

RAL Space R100 operational  
2015

ESA ECSAT fully operational 2015

Next 200,000 sq ft for 2017

RAL Space + Industry in same  
buildings

Further information:

Prof Richard Holdaway

RAL Space

Angus Horner  
Partnership

Harwell Campus

TeL: +44 (0) 1235 445000





**Phase 2 Space  
Technology  
Centre/Space  
Cluster building  
80,000 sq ft**

**Phase 3 Space  
Cluster building  
120,000 sq ft**

Space  
Applications  
Catapult  
Centre

Diamond Light  
Source

Restaurant and  
Gym – Summer  
2016

Harwell Oxford  
New Innovation  
Centre –  
Summer 2016

**Space Technology  
Centre Phase 1 –  
under construction**

European Space  
Agency – under  
construction