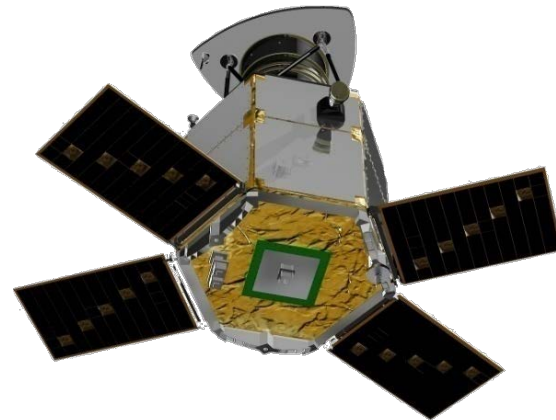


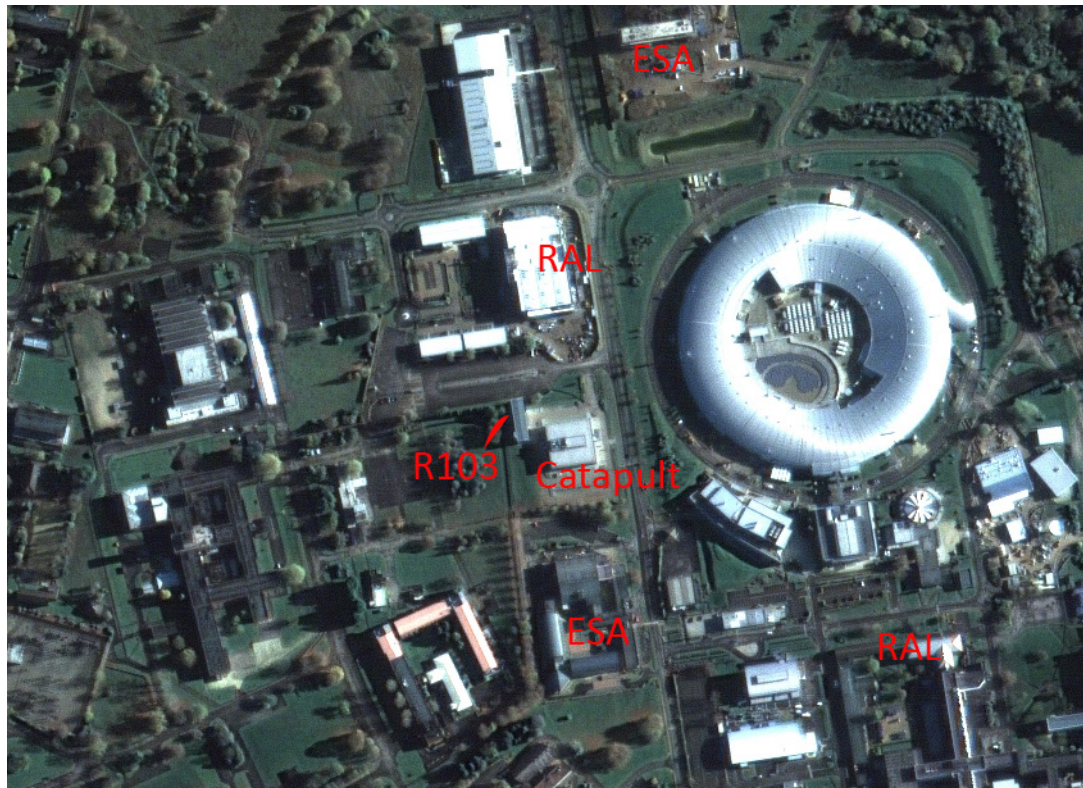


## **ELECNOR DEIMOS**

**Lift 2015**



**5 February 2015**



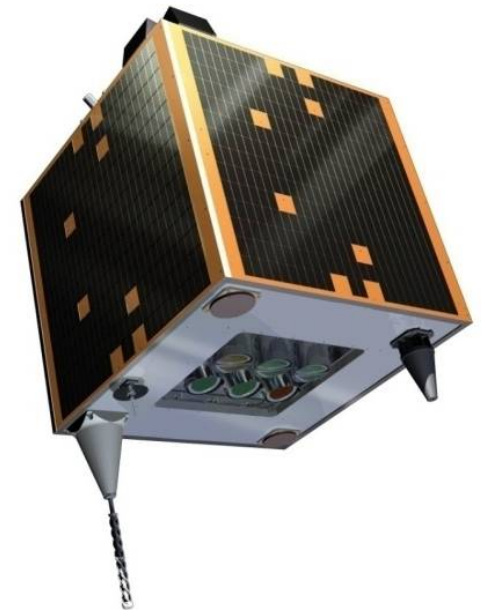
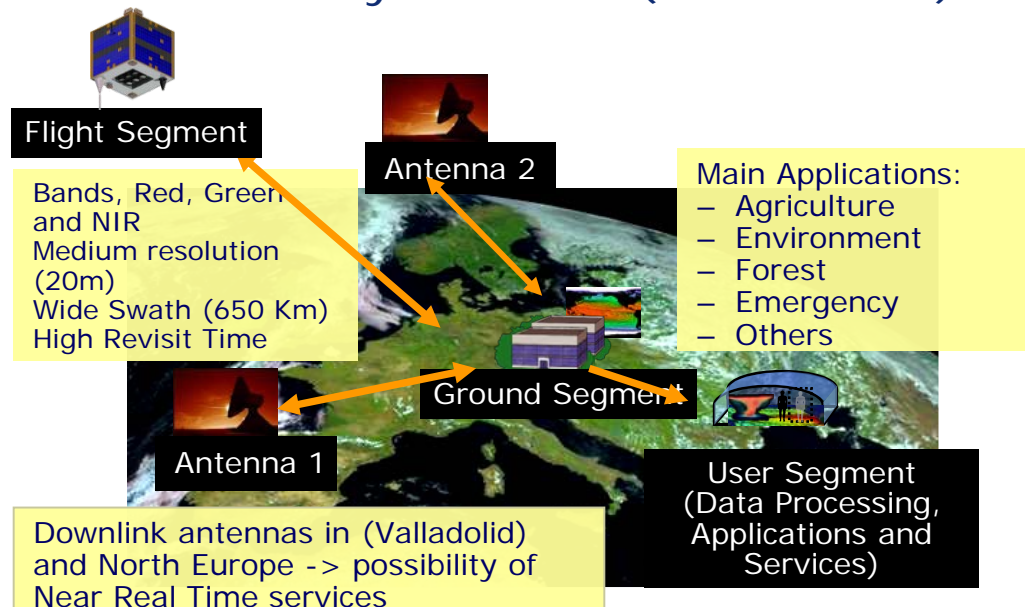
**Deimos Space UK – located on the Harwell campus close to ESA (ECSAT), UKSA, RAL-Space, Satellite Applications Catapult Centre and many other space companies including SMEs**



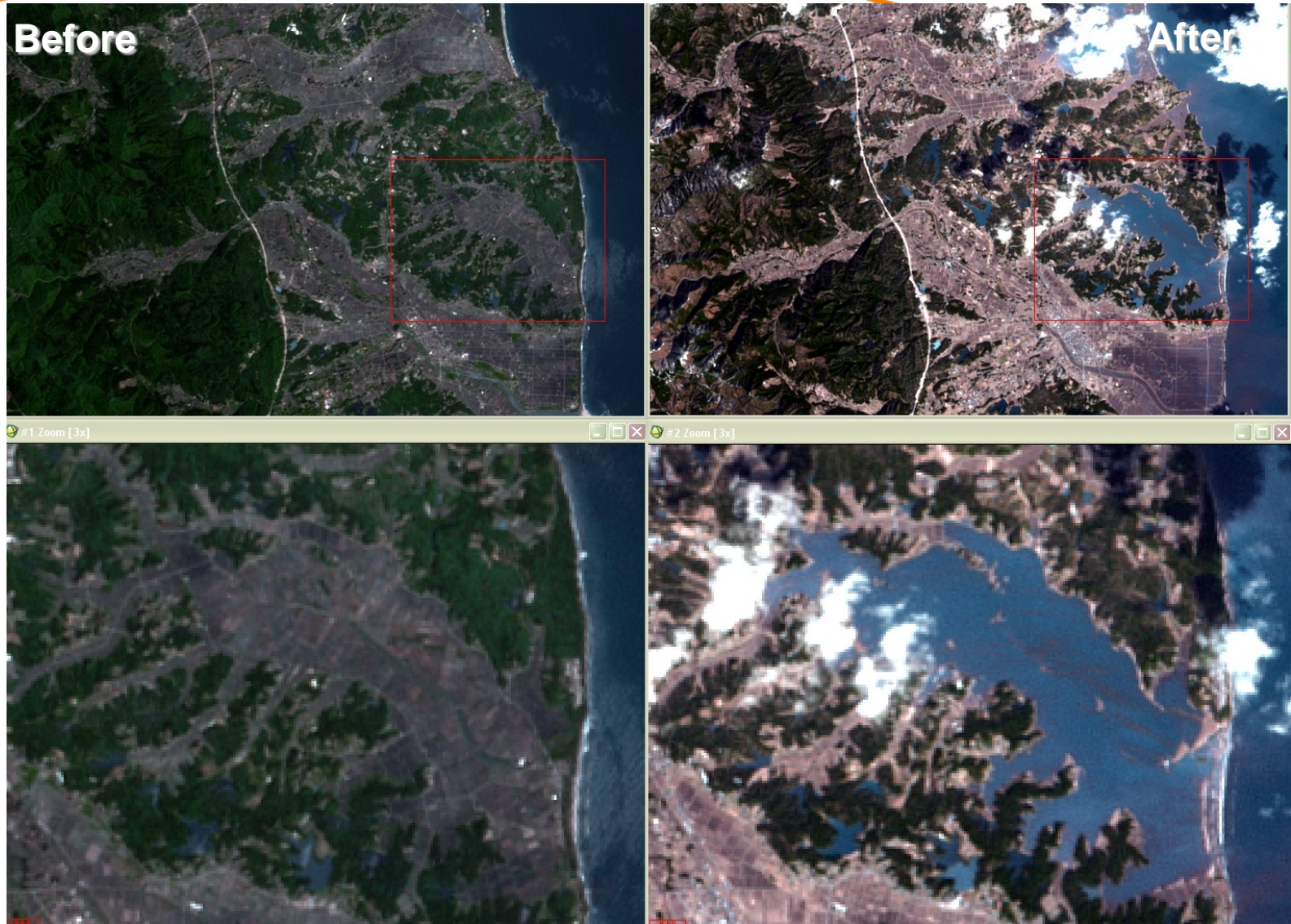
# DEIMOS EO Missions – DEIMOS-1 & Perseus



- **DEIMOS – 1:** Launched 2009
- 22m wide-area coverage
- Low cost system
- 5 Years in Space July 2014
- 1<sup>st</sup> commercial DMC satellite
- Customers: Governments, Commercial
- Data continuity: Perseus (with Dauria)



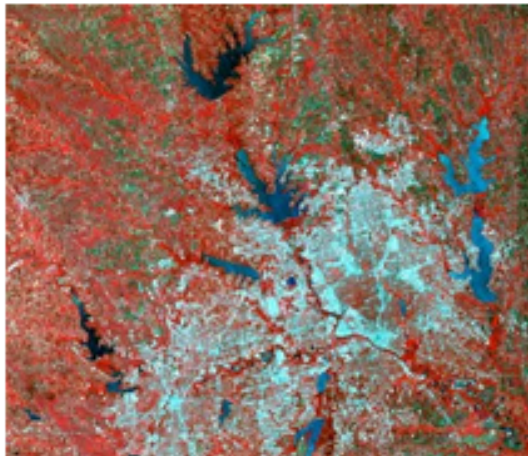
# Deimos-1 Imagery - SENDAI





# Dauria Aerospace and Elecnor Deimos to Partner on New Earth Imaging Constellation

By *Rachel Scharmann* | May 15, 2014 | *Europe, Regional, Satellite TODAY News Feed, ST Briefs, Technology*



*Example of Earth imaging from Dauria Aerospace. Photo: Dauria Aerospace*

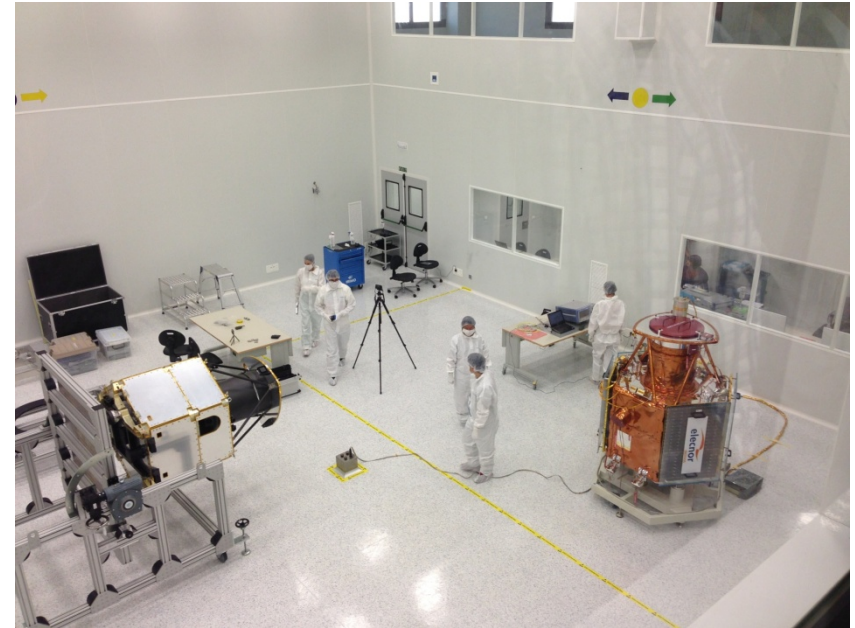
[Via Satellite 05-15-2014] **Dauria Aerospace** and **Elecnor Deimos** have entered a partnership to develop Deimos Perseus, a new Earth observation constellation comprised of satellites from both companies. The satellites will have multispectral sensors to provide automated identification of features such as crop types, their robustness and the stage in the growing cycle.

"By 2016, Deimos Perseus will be able to image the entire Earth on a daily basis," said Fabrizio Pirondini, CEO of Elecnor Deimos Imaging. "Deimos Perseus will allow for in-depth monitoring of wild fires, floods, crop yields, forest composition, among other agricultural and forestry data processing."

# DEIMOS EO Missions – DEIMOS-2



- **DEIMOS -2**: Optical multispectral (panchromatic, R, G, B, NIR)
- 75 cm (pan-s) Resolution – Agile platform
- Fully commercial!
- Launched: 19<sup>th</sup> June 2014
- Operational from November 2014





# Madrid-Barajas Airport

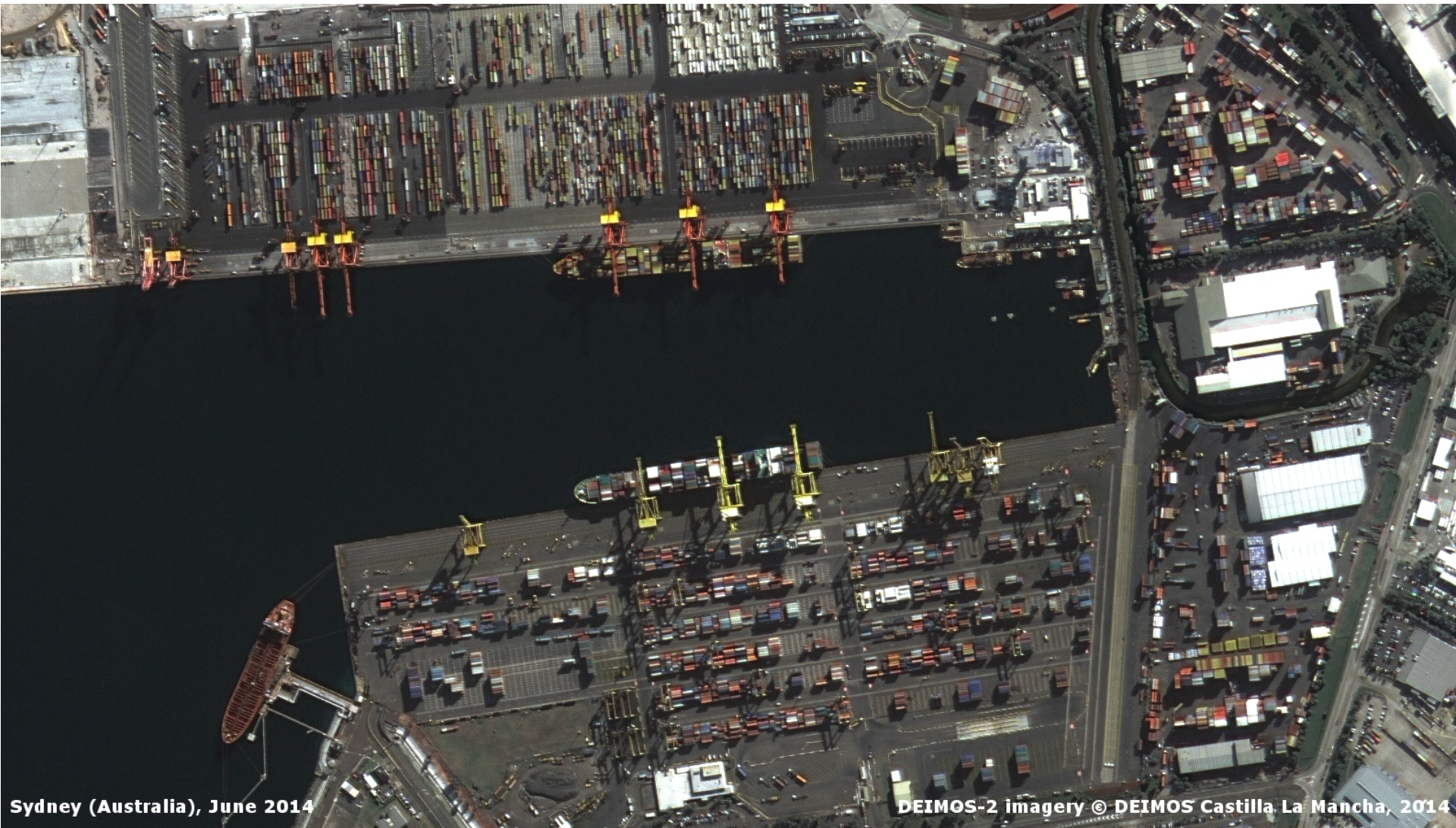


Terminal 4 of Adolfo Suárez Madrid-Barajas Airport, Madrid (Spain), August 2014

DEIMOS-2 imagery © DEIMOS Castilla La Mancha, 2014



# Sydney Australia



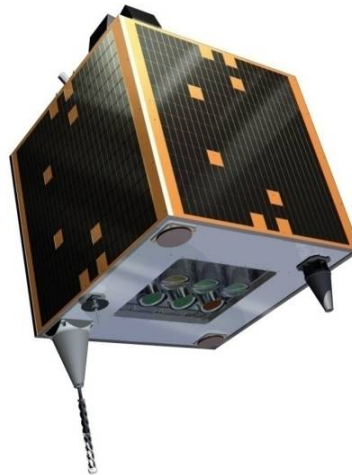
Sydney (Australia), June 2014

DEIMOS-2 imagery © DEIMOS Castilla La Mancha, 2014

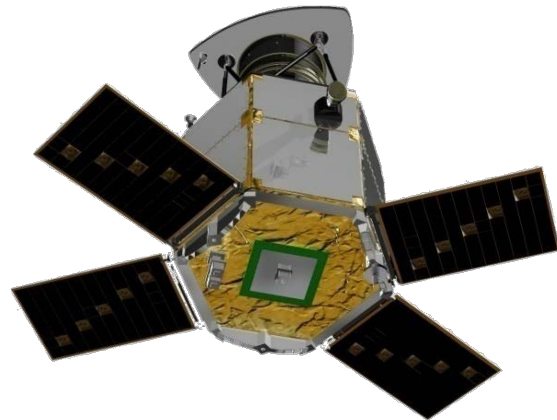








## Applications

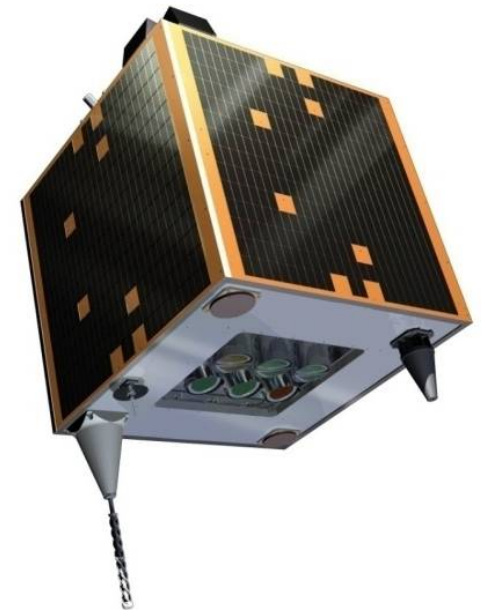
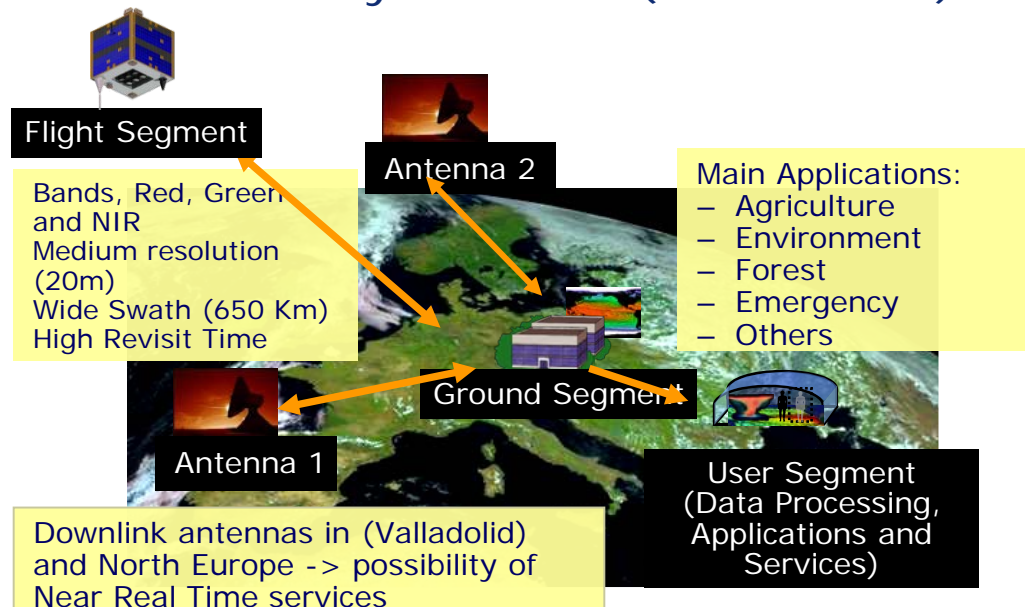




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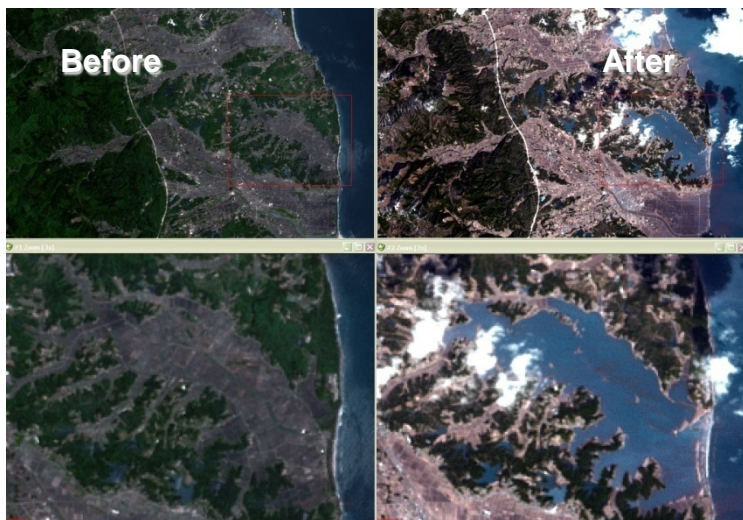


## Typical Application Areas:

- Disaster Monitoring: Fire, Floods, Earthquakes, Tsunamis, etc
- Surveillance: vessel detection, change detection
- Resources Monitoring: agriculture, forest, land use, water resources
- Environment Monitoring: quality of water, oil spills



**Agriculture**



**Disaster Monitoring**



**Forest Monitoring**



# CropID – low cost crop classification

- Start with database of field boundaries from the RPA
- Accurately geolocate low-cost satellite image from Deimos-1/UK-DMC2
- Apply software algorithms using machine learning approach to deliver map of UK horticulture

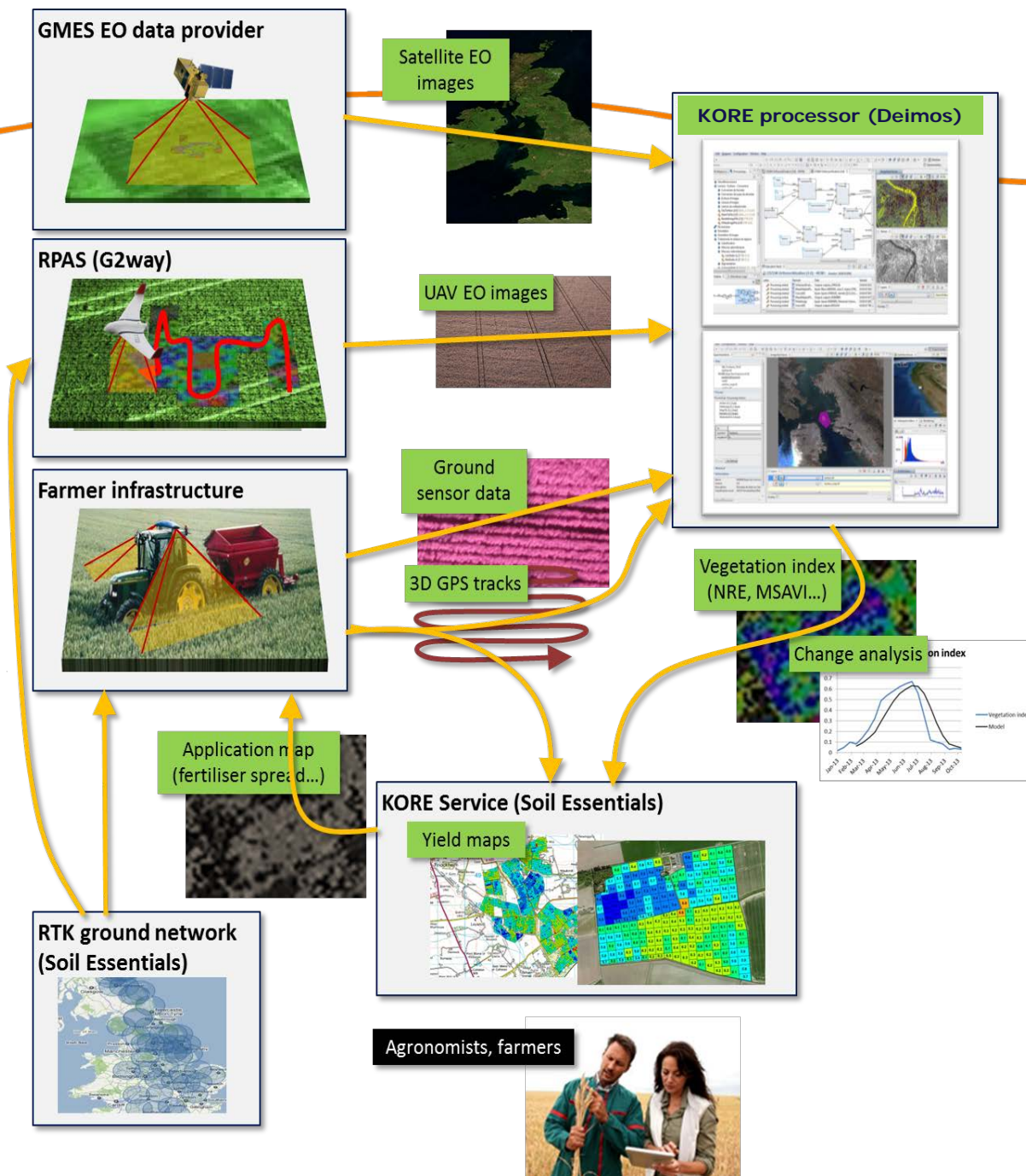


Co-funded by: **Innovate UK**  
Technology Strategy Board

Partners/subcontractors: *Cranfield* UNIVERSITY **CATAPULT** CGI   



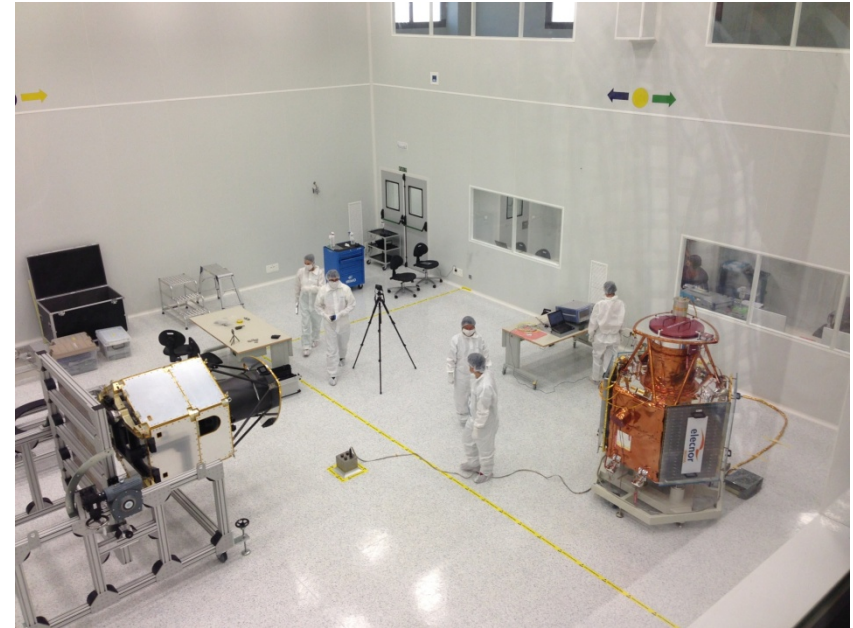
# KORE – integrated precision agriculture



# DEIMOS EO Missions – DEIMOS-2



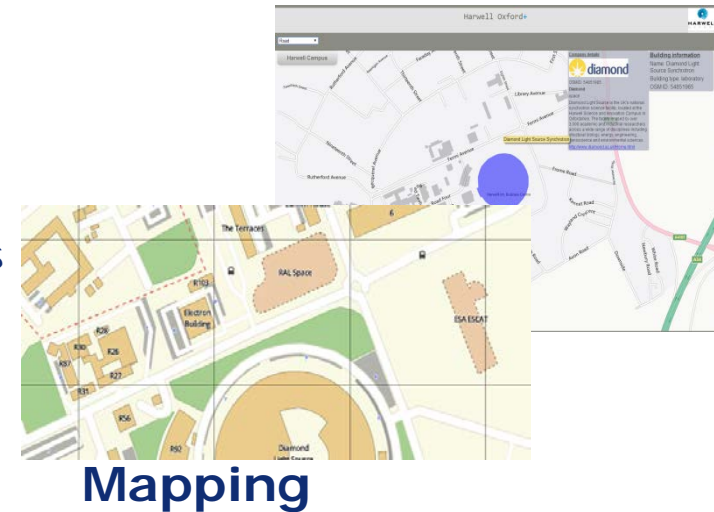
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- Fully commercial!
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## Typical Application Areas:

- Surveillance: e.g. vessel detection, borders, aircraft, security & defence
- Change detection: e.g. Urban planning
- Mapping: e.g. Digital maps, 3D maps, basemaps for web-based services
- Resource monitoring: e.g. Water, mining
- Infrastructure monitoring: e.g. cables, pipelines



**Rare-Earth Mine (China)**



**Urban Planning**



# Surveillance - Aircraft





More frequent data is key



## Pangeo Alliance: A Unique Earth Observation Constellation

The PanGeo Alliance is the first global alliance of Earth Observation satellite operators. With four members, the Alliance provides access to imagery and tasking opportunities from a unique and growing fleet of Earth Observation satellites.

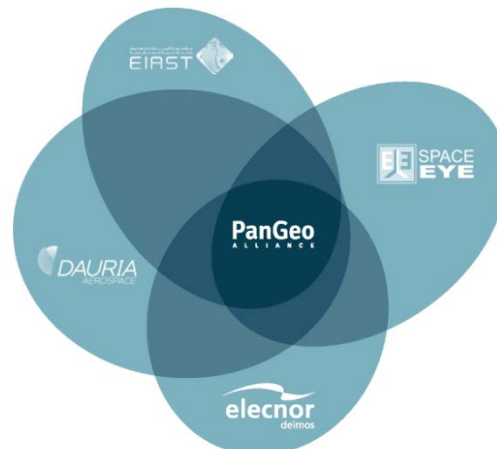
PanGeo multi-satellite mission planning gives customers access to imaging from all Alliance satellites as well as a connection to directly request tasked imagery from the operator.

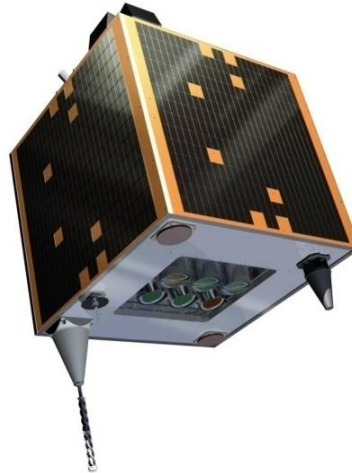
The fleet encompasses multispectral imagery in a range of resolutions (from 20m to 75cm per pixel), and a daily global imaging capability.

PanGeo coordinates access to each member's archive so that each member can see what is available and directly request images from the entire Alliance archive.

All PanGeo Alliance members can provide access to the full products portfolio of the whole satellite fleet.

Customers benefit from a global network of resellers and a unified access point to new tasking and archive imagery.





**Thank You!**

