Satellite Technologies for Agri-tech
Independent, not-for-profit organisation

- We are a unique company with our position as a neutral convener
- We act as a **connector** to bring innovators together to collaborate (end users, universities, satellite industry, SMEs...)
  - **Choose the best partners**

We bring **PACE** to a previously closed and slow moving industry:

- Pioneering
- Agile
- Collaborative
- Entrepreneurial

**Thin prime** – IPT (integrated project team)
Our major activities are programmes that support the growth of the satellite applications sector and create focal points for innovation.

- **Technology teams and themes**  
  *Focussing on driving innovation through developments in enabling satellite technologies*

- **Projects**  
  *Focussing on exploitation and allowing the agility and flexibility needed to support innovation*

- **Demonstrators**  
  *Showcasing innovations to promote the power of space-derived services and connecting UK innovators with end-users*

- **Platforms**  
  *Integrating data, tools and methodologies to allow innovators to prototype, develop, integrate, test and demonstrate new products, services and applications*

- **Facilities**  
  *Enabling infrastructure to support the community to innovate.*
Our Platforms for Agriculture
Climate, Environment and Monitoring from Space (CEMS)
Data Discovery Hub

Satellite data, resources, and applications at your fingertips. Explore, examine, engage.

Search by keyword

- Climatology
- Elevation
- Environment
- Farming
- Imagery
- Inland Waters
- Intelligence
- Planning
- Structure
- Copernicus

Data © USGS 2013
Image © Satellite Applications Catapult 2014
Earth Observation for Agriculture
Applications of Earth Observation in Agriculture

- Variability Mapping
- Growth Stage Monitoring
- Irrigation Management
- Seed density optimisation
- Soil mapping
- Crop re-growth monitoring
- Fertilizer application management
- Crop health management
- Crop damage assessment
- Invasive species monitoring
- Weather forecasting
- Crop yield estimation
- Harvest forecasting and management
- Agri-environmental assessment
- Land Use and change
- Management planning
- Field boundary management
- Illicit crop management
- Compliance and certification
- Crop identification
Crop Health Management

World View 3
data: 31cm
Spatial Resolution
Crop Health Management

World View 3 data: 31cm Spatial Resolution
Research is being conducted to demonstrate the possibility of monitoring the growth stage of cereal and oilseed rape crops, by linking data from the Copernicus Sentinel 1 satellite with phenological state.

A reliable crop growth index will enable farmers to support precision farming techniques.

Sentinel 1 data is optimally positioned to support a monitoring service as it is acquired regularly at no cost to the user, day and night and is largely unaffected by cloud cover.
Ecosystem Service Assessments are valuable tools for local authorities, as they provide a framework for looking at whole ecosystems in decision making.

Object-based image analysis, on multiple satellite datasets, is used to classify the county borough.

Each delineated habitat is given a score of importance, from low to high, for each ecosystem service layer:

Multi-temporal and sensor classification, using object-based analysis

Derived ecosystem service layers
Telecommunications for Agriculture
Seamless Communications - Multiple Communication Bearers

- Internet
- Cellular
- Wi-Fi Hotspot
- Fleet Management
- Satcom

CATAPULT Satellite Applications
Navigation for Agriculture
Agriculture is a growing market for satellite navigation.

**Variable application rate** enable farmers to reduce input costs and increase crop yields.
Data Fusion for Agriculture
Data Fusion: Integrated Solution
The end