Kieran Arnold

Satellite Applications Catapult

Satellites in our everyday lives

We work with Innovate UK

CATAPULT Satellite Applications

Satellites in our everyday lives

What we normally think of :

CATAPULT
Satellite Applications

Satellites in our everyday lives

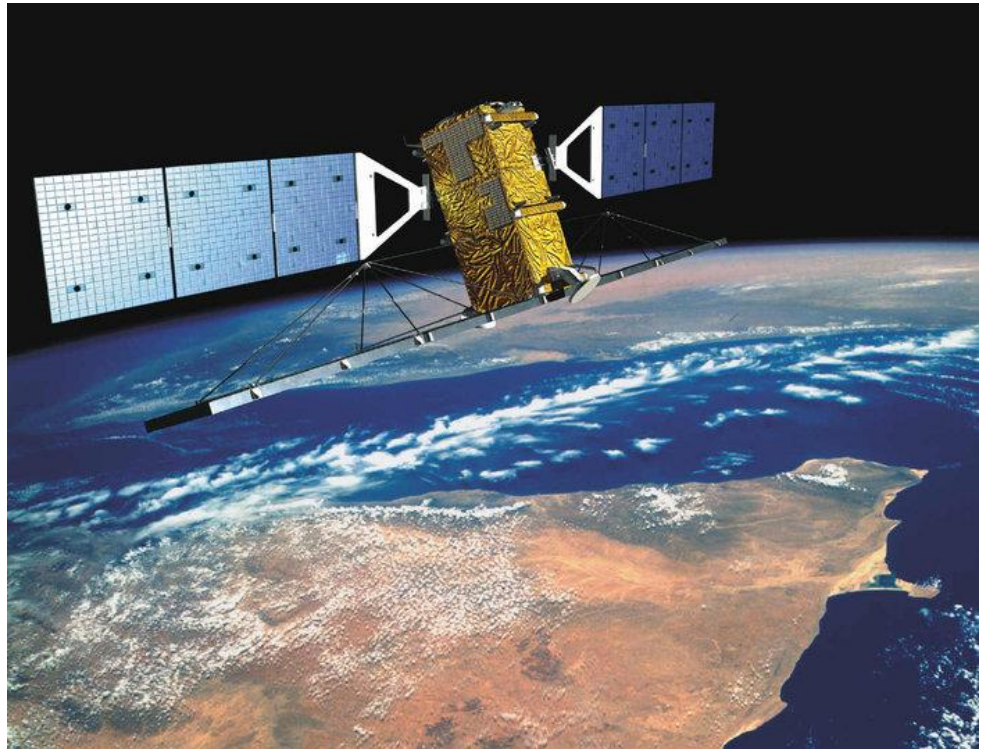
- Communications: 777 satellites.
- Earth observation: 710 satellites.
- Technology development/demonstration: 223 satellites.
- Navigation/Positioning: 137 satellites.
- Space science/observation: 85 satellites.
- Earth science: 25 satellites.

CATAPULT
Satellite Applications

Satellites in our everyday lives

Copernicus is a group of satellites.

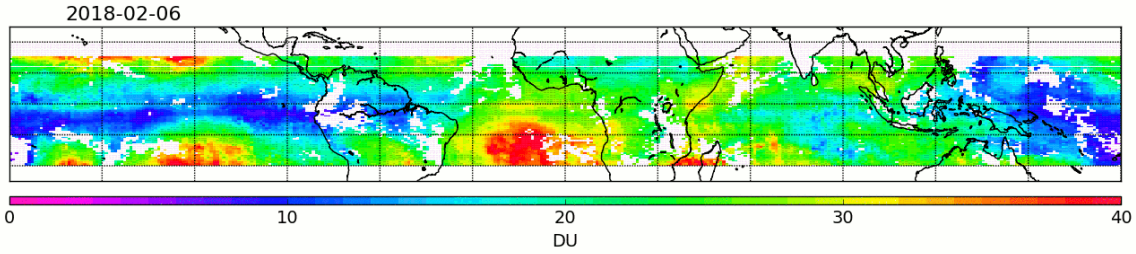
It consists of six families known as "Sentinel", each one formed by one or several satellites, and those in the "Sentinel-2" family "offer very useful information about our planet, providing information to understand environment impact , agriculture and sustainability.



Precision Agriculture

Enabling proactive decision support to maximise yields

This animation shows early season crop type classification in the Emmeloord region of the Netherlands in June 2018 based on Copernicus Sentinel-2 data. Green shows summer crops, red: potatoes, orange: vegetables and flowers, yellow: cereals, and blue: grass.



Crop health and growth from space

Sentinel-2’s main instrument has 13 spectral bands, and is designed to provide images that can be used to distinguish different types of vegetation and monitor plant growth

Heavy shades of red, showing vegetated areas, dominate this false-colour image. The varying tones represent different vegetation types, at different stages in the annual vegetation cycle. The near-infrared channel of Copernicus Sentinel-2 has been used to achieve this false-colour effect. A number of crops are grown in this area, including maize, asparagus and hot peppers (rocotos), which feature in many local dishes, such as the region’s signature dish of rocoto relleno.

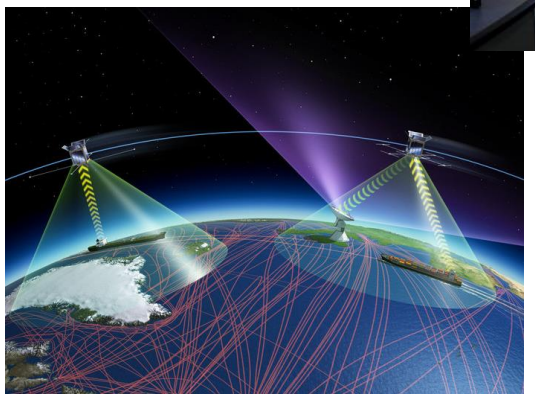
Millimetric ground movement from space

Data from the Sentinel-1 satellites acquired between 22 February 2015 and 20 September 2016 show that Millennium Tower in San Francisco is sinking by about 40 mm a year in the ‘line of sight’ – the direction that the satellite is ‘looking’ at the building. This translates into a vertical subsidence of almost 50 mm a year, assuming no tilting.

The coloured dots represent targets observed by the radar. The colour scale ranges from 40 mm a year away from radar (red) to 40 mm a year towards radar (blue). Green represents stable targets.

Monitoring Illegal fishing from space

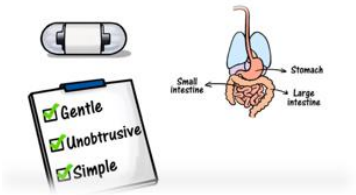
Illegal, unreported and unregulated fishing (IUU) depletes fish stocks, destroys marine habitats, distorts competition, puts honest fishers at an unfair disadvantage, and weakens coastal communities, particularly in developing countries

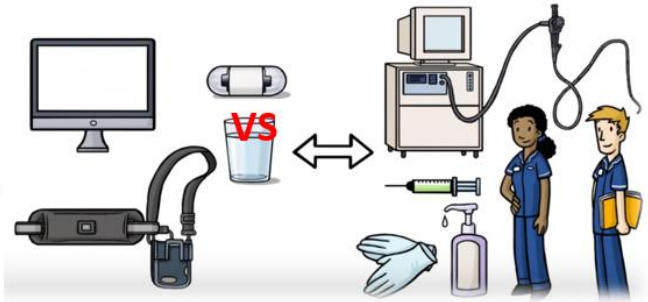


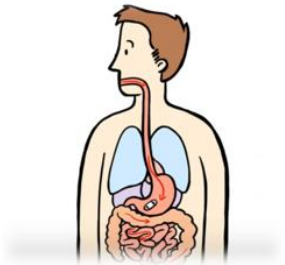
of better <u>health</u> and wellbeing, empowered by space technologies.

Delivering the ultimate selfie !

Images that travel saving time, Money & and using space



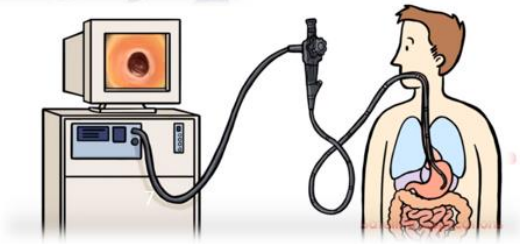




PillCam Endoscopy

Annual £90M saving

Reduces burden on NHS resources.

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