

Technology Watch

This page keeps you up-to-date on the latest and most innovative technologies in the Earth observation sector. The focus is on technologies that help make sense of the wealth of EO data that are available, new missions as well as other related data sources such as GNSS, space-based communications or UAVs that can be combined with EO data.

Latest Technology Developments by Category

Title	Creator	Modified
Ready, Steady.... Analyse Data (e-shape)	Christopher Oligschläger	Jun 08, 2021
Tide gauges in Orbit: Applications of Satellite Altimetry (e-shape)	Christopher Oligschläger	Jun 08, 2021
Planetary Digital Twin (e-shape)	Christopher Oligschläger	Jun 07, 2021
Navigating the landscape of EO platforms (e-shape)	Christopher Oligschläger	Jun 07, 2021
IoT in Smart Cities (PARSEC)	Christopher Oligschläger	Jun 07, 2021
Satellite navigation & EO (PARSEC)	Christopher Oligschläger	Jun 07, 2021
High-speed datacubes (PARSEC)	Christopher Oligschläger	Jun 07, 2021
Robotics (PARSEC)	Christopher Oligschläger	Jun 07, 2021
GNSS & EO (PARSEC)	Christopher Oligschläger	Jun 07, 2021
InSAR (PARSEC)	Christopher Oligschläger	Jun 07, 2021
Data collection & analysis technologies (PARSEC)	Christopher Oligschläger	Jun 07, 2021
Smart cities (PARSEC)	Christopher Oligschläger	Jun 07, 2021
Emissions-measuring technologies (PARSEC)	Christopher Oligschläger	Jun 07, 2021
Drones & HAPS (PARSEC)	Christopher Oligschläger	Jun 07, 2021
In-situ data (PARSEC)	Christopher Oligschläger	Jun 07, 2021
Networking & Communications technologies (PARSEC)	Christopher Oligschläger	Jun 07, 2021
New Satellite Technologies (PARSEC)	Christopher Oligschläger	Jun 07, 2021
Big Data (PARSEC)	Christopher Oligschläger	Jun 07, 2021
INDES MUSA. Change detection using LiDAR point clouds and orthoimages	Christopher Oligschläger	Jun 10, 2020
Dimensions Multi-Purpose Land Information System - 5DMuPLIS	Christopher Oligschläger	Jun 10, 2020

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Earth Observation information services and products are in constant evolution. They cover the last mile towards the customer and are for many customers the most tangible result of remote sensing technology. Their innovative developments are largely dependent and based on the evolutions in new Missions, Imagery, etc.

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Dimensions Multi-Purpose Land Information System - 5DMuPLIS	Christopher Oligschläger	Jun 10, 2020
Iceberg Detection Software (IDS)	Christopher Oligschläger	Jun 10, 2020
Polaris	Christopher Oligschläger	Jun 10, 2020
Polar Thematic Exploitation Platform (P-TEP)	Christopher Oligschläger	Jun 10, 2020
INnovative multi-sensor network for DEformation and Seismic Monitoring of Urban Subsidence-prone Areas	Christopher Oligschläger	Jun 10, 2020
Pipeline Integrity Management from Space	Christopher Oligschläger	Jun 10, 2020

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New Missions start with a vision to enable the development of future innovative EO capacities. Increasing performance and reduced cost/mass are important drivers for innovation in this section. One mission can cover a wide range of applications. Missions result in satellite imagery and data that are further developed into information services and products.

Title	Creator	Modified
Wavemill	Christopher Oligschläger	Jun 10, 2020
NovaSAR-S	Christopher Oligschläger	Jun 10, 2020
Skybox Imaging	Christopher Oligschläger	Jun 10, 2020

New technologies are being developed in terms of space-based satellite communications systems; more powerful processors, new encoding capabilities, and new user terminal capabilities that can make user systems more mobile, more versatile, more personally responsive, more powerful in terms of performance, and yet lower in cost.

Title	Creator	Modified
Networking & Communications technologies (PARSEC)	Christopher Oligschläger	Jun 07, 2021
ARCTIC IAP - Improved Situational Awareness in the Arctic	Christopher Oligschläger	Jun 10, 2020
UAV ASIGN for near-real time oil-pipe monitoring	Christopher Oligschläger	Jun 10, 2020

Satellite imagery in remote sensing has four types of resolution: spatial, spectral, temporal, and radiometric. Spatial resolution is the pixel size of the image, spectral resolution determines the number and type of available spectral bands, temporal resolution quantifies the revisit frequency of the satellite for a given location and radiometric resolution refers to the bit-depth of the image.

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GNSS & EO (PARSEC)	Christopher Oligschläger	Jun 07, 2021
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There are only 2 global operational Global Navigation Satellite Systems (GNSS): the American GPS and the Russian GLONASS. The European Galileo positioning system is in its initial deployment phase and is expected to be operational in 2020. France, India and Japan are in the process of developing regional navigation systems. Satellite-AIS (Automatic Identification System) is an automatic tracking system used by ships.

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Satellite navigation & EO (PARSEC)	Christopher Oligschläger	Jun 07, 2021
GNSS & EO (PARSEC)	Christopher Oligschläger	Jun 07, 2021

Unmanned Aerial Vehicle or drones are aircrafts without a human pilot on board. Its flight is controlled by computers integrated in the vehicle or from a distance through the control of a pilot on the ground. Legislation often runs behind Innovation in this sector. The highly detailed and very localized data collection forms an interesting complementary with Satellite Missions.

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