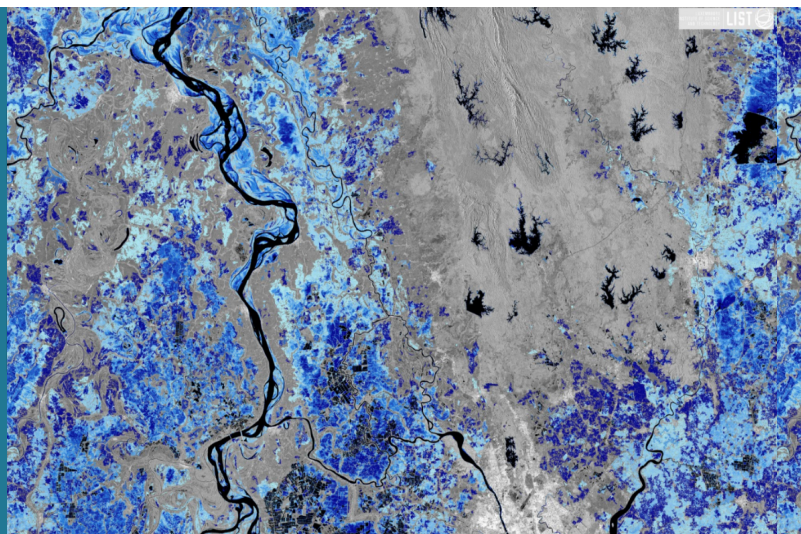


## e-shape

Generating a satellite Earth Observation-based flood inundation record with and for end users



### Inspiration

Earth Observation (EO) satellites operated by the European Space Agency (ESA) provide a wealth of data that many research organizations, public administrations and private companies in Europe benefit from. If high readiness EO-based services come out from these data sources, the current European landscape is nevertheless fragmented. In this context, the European Commission set up an unprecedented initiative aiming to ensure a strong coordination and coherence within EO activities, through its contribution to Global Earth Observation System of Systems (GEOSS) under its EUROGEOS initiative.

The e-shape project, nested by EUROGEOS, is driven by the need to develop operational EO services with and for the users and to create a conducive environment whereby the strengths of Europe are exploited towards addressing societal challenges, fostering entrepreneurship and supporting their sustainable development through addressing the three main priorities of GEO: SDGs, Paris Agreement and Sendai Framework.

### Innovation

e-shape aims to deliver a comprehensive suite of EO services to EU citizens, researchers, businesses and policy makers through the implementation of 27 pilots spanning 7 thematic areas such as health surveillance, renewable energy and ecosystem monitoring.

As part of the water resources management showcase, LIST will be in charge of the water bodies and floodwater pilot activity targeting the use of long term satellite EO-based data collections at European scale to improve the estimation and management of flood hazard.

LIST researchers already developed an operational software that enables the automatic and systematic processing of EO data for monitoring water bodies over Europe. Together with IT experts of the e-shape consortium, they will deploy the software in order to co-design innovative products that meet the specific needs of different users (e.g. insurers, water managers, research organizations).

LIST will also take advantage of its proven remote sensing expertise by contributing to another pilot aiming at significantly reducing the uncertainties in European-wide flood forecasting. LIST researchers will provide satellite-derived products as inputs to hydrological models.

### Impact

e-shape will enable a better visibility of a product developed by LIST at European scale and among international users organizations. This innovative project will also represent a strong opportunity to foster knowledge exchange and transfer between the experts of the consortium. Furthermore, the implementation of e-shape will allow for a better coordination and coherence among the EO sector, but also build EO-based services with and for the users through a co-design approach.

The e-shape pilots will ensure scientific and technological excellence, addressing key societal challenges (e.g. Paris agreement, Sendai Framework, SDGs) and leveraging existing results from previous projects to effectively meet user demands.

### Financial Support

Horizon2020

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