

Questions & Answers about the EO-BALP Development Project

1. January 18, 2024_1

1. What is the intended outcome of this research? What is the final vision/product/service of this research' result? Is it just the creation of a platform?

Answer: The research is conducted within the framework of the EO-BALP project. The goal of the EO-BALP project is to develop a cloud service platform for Earth Observation data access and processing, and to provide six different applications that will demonstrate the practical use of satellite data in various domains. The platform's functionality also allows the creation of products (data) and services (applications) and makes them available to all who are interested. The purpose of the research (including survey and interviews) is to gather the needs and requirements of users for the platform. Based on the information collected during the research, a requirements specification is created, which is an important input for the development of the platform.

2. Where does the satellite data input come from and what is its nature?

Answer: The raw data consists of data from ESA satellites Sentinel 1, Sentinel 2, Sentinel 3, Sentinel 5, and Sentinel 6. There will be additional remote sensing data available on the platform depending on end-user needs (Lidar, orthophoto, etc).

3. Is it just the collection of historical information into one portal?

Answer: Within the framework of this project, six satellite data processing applications and the platform itself, through which these applications are usable, are created, rather than just collecting raw data. Remote sensing data available on the platform is updated every day from external sources (Sentinel data from ESA, other data from original data providers) so that applications which are built using the platform can always get the newest data.

4. Will there be a "Baltic satellite" in the future?

Answer: The current platform is purely software-based, and no hardware (including a satellite) is created within the scope of the project.

2. January 18, 2024_2

1. If an institution's main use case is the downloading data generated by these six applications for the purpose of using it in their own software, does the Platform facilitate this and how is it ensured?

Answer: Platform automatically downloads all newest remote sensing data (including EO data) and runs postprocessing tasks for it (cloud removal, radar orbit and terrain corrections, specific product generation, etc). When new postprocessed data is available user tools or models are triggered to generate user-specific products. After these products are ready they are automatically published as download-ready files or web services (XYZ/TMS, WMS, MVT).

2. Do all the data that reach the Platform become accessible to everyone through APIs?

Answer: During the project implementation and validation phases all of the data will be available to registered end-users free of charge. End-users will be contacted to discuss possible billing models for recovering platform operation costs and in the future there will be a specific billing model implemented after the platform is validated.

3. Are there any licences or restrictions attached to the data retrieval, or is it freely available to everyone without restrictions?

Answer: Licences for the remote sensing data are the same as for original data products - each data source will have this information available. In practice this will often mean that data is free to use for any commercial and research needs with a condition of citing the original data source. Data access restriction to the platform is a separate question.

4. Is there a more specific description (documentation) of the APIs provided by the platform? If it is not available yet, when will it be?

Answer: There is a detailed description of the functionality to be implemented but not the API itself. Specification of the API and interface wireframes will be available in the next three months.

5. Most applications offer data export, but is this export via a user interface, or is it possible (and it would be ok) to create a machine-to-machine interface?

Answer: All of the original data products and data produced by end-user tools will be available (by user choice) to download in original data format (download via both web UI and API) or to be published as web services (XYZ/TMS, WMS, MVT). So yes, it will be easily possible to create a machine to machine interface.

6. When will the applications start producing their data? In contract with Datel, it is clearly agreed that by 07.05.2024, Datel would have completed and transmitted the first 10 analyses (1 analysis per city). So, there should be some plan for the others in this regard too.

Answer:

1. Application "Infrastructure & population centre monitoring" - the first 10 analyses (1 analysis per city) will be completed and submitted by May 7, 2024.
2. Application "Water Quality Monitoring" - data will be available starting from 2024-08
3. Application "Forest Monitoring" - monthly analyses starting from 2024-08
4. Application "Agricultural Land Monitoring" - data will be available starting from 2024-08
5. Application "Natural resource extraction monitoring" - data will be available starting from 2024-08
6. Application "Maritime Monitoring" - data will be available starting from 2024-08

7. Will the platform provide users with new raw data from satellites? If yes, at what interval will this data be updated?

Answer: Yes, the platform will automatically download new remote sensing data (including satellite data) from original providers and make it available for end-users. New products are checked every ten minutes and download is usually finished within one hour of product availability.

8. At what interval does each application provide its analysis data (processed data)?

Answer:

1. Application "Infrastructure & population centre monitoring". Within the framework of this project, InSar analyses are performed only in the period April 2024 - March 2025. One analysis per city per month, 10 cities * 12 months. In total 120 analyses.
2. Application "Water Quality Monitoring" - depending on satellite revisiting time, data will be available on a daily basis (from Sentinel-3) or every 3-4 days (from Sentinel-2). Since data originates from optical satellite images, data can be not available due to cloud cover.
3. Application "Forest Monitoring" - monthly analyses starting from 2024-08.
4. Application "Agricultural Land Monitoring"- 3-4 or 6 days depending on the satellite used for the algorithm (Sentinel-2 for burned area, Sentinel-1 and/or Sentinel-2 for flood) if the image is cloud free.
5. Application "Natural resource extraction monitoring" - yearly.

6. Application “Maritime Monitoring” - on average data will be available every 5 days.

3. February 19, 2024

1. Approximately, when can potential end users expect feedback and the opportunity to begin testing the beta version?

Answer:

According to plan, starting September 2nd, 2024.