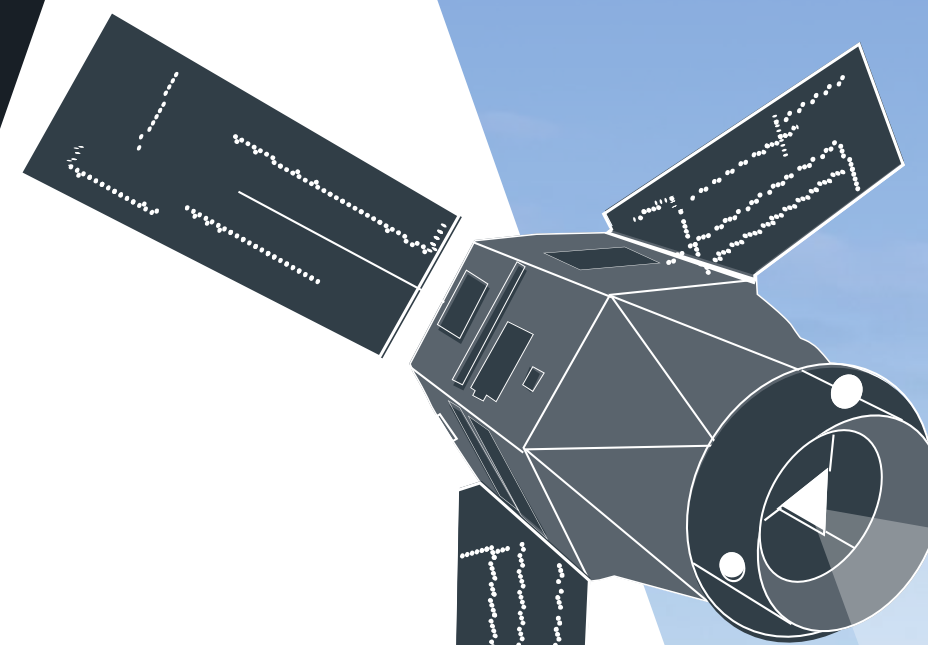


**EOS DATA  
ANALYTICS**



# Satellite monitoring for banking sector and financial institutions

The recent development in the practical use of satellite monitoring and machine learning technologies has transformed the food production industry around the world. Farming of today is precision agriculture – eliminating guesswork, minimizing effort, reducing waste, cutting expenses, and maximizing productivity.

EOS Data Analytics has been working with banks and financial institutions long enough to understand exactly what it can do for them. A competitive sales strategy and strong, transparent and long-lasting relationships with the client can be achieved through the application of the latest technologies.

In fact, we have assembled a product that combines the power of the latest technologies with our expertise in agriculture to provide a strong link between banks and their clients. This product is EOSDA Crop Monitoring – a digital satellite-driven platform with functionality specifically calibrated to the daily challenges of farming.

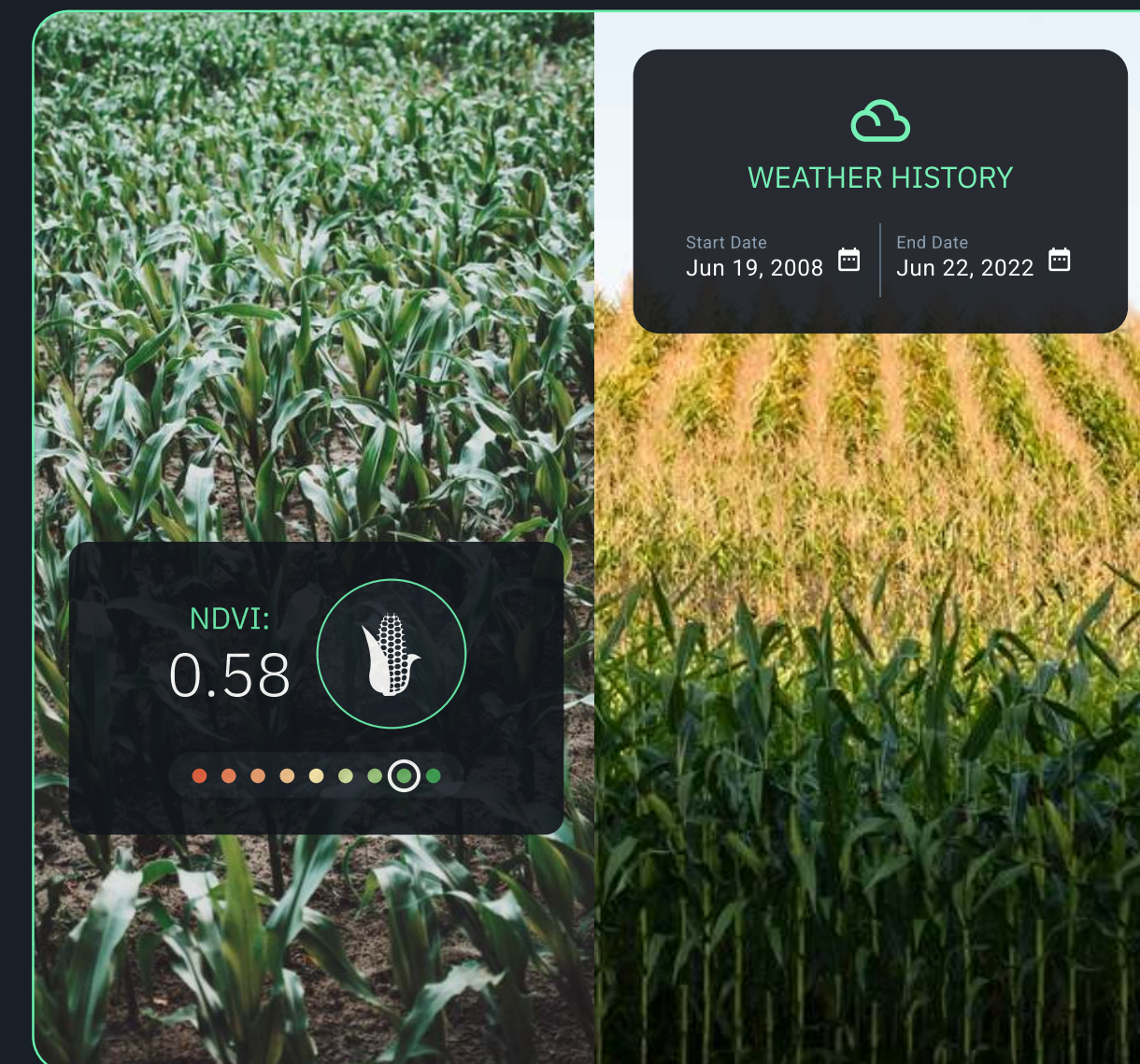


EOSDA Crop Monitoring is a one-stop solution for building trusted relationships between financial institutions and their clients – farmers, insurers, traders, and more. It is the tool that can be used to:

- ✔ Study field productivity trends and monitor crop performance
- ✔ Create precise maps for variable-rate seed & fertilizer application
- ✔ Get a hyperlocal 14-day weather forecast
- ✔ Access historical vegetation and weather data on any given field
- ✔ Receive notifications and alerts

and much more.

Banks and financial institutions can benefit from using our data via API access or as a White Label solution, thus getting their own product for parametric insurance or loan risk assessment purposes. Additionally, we offer a number of AI-powered custom solutions – developed by an experienced RnD team – to some of the most critical challenges of modern agriculture that can also be used as an added value proposition for the bank clients.



# Benefits for banks and financial institutions

✓ Make well-informed decisions on loan risk assessment based on definitely large samples of data.

✓ Access to crucial data on the market status for a particular region, country, or globally – key to attracting more customers.

✓ Enroll the partnership reselling program to expand the portfolio and reach out to new markets.

✓ Ability to track remotely state of the crop with high update frequency.

✓ Prevent fraudulent actions to the insured fields.

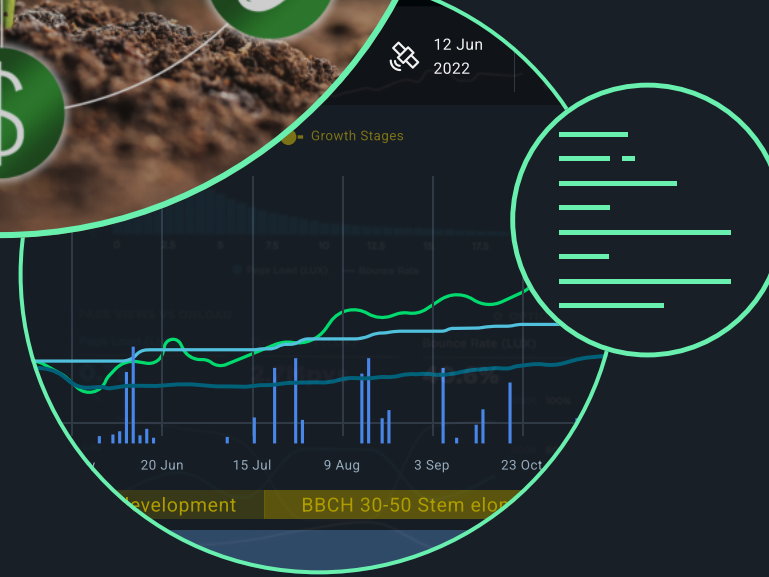
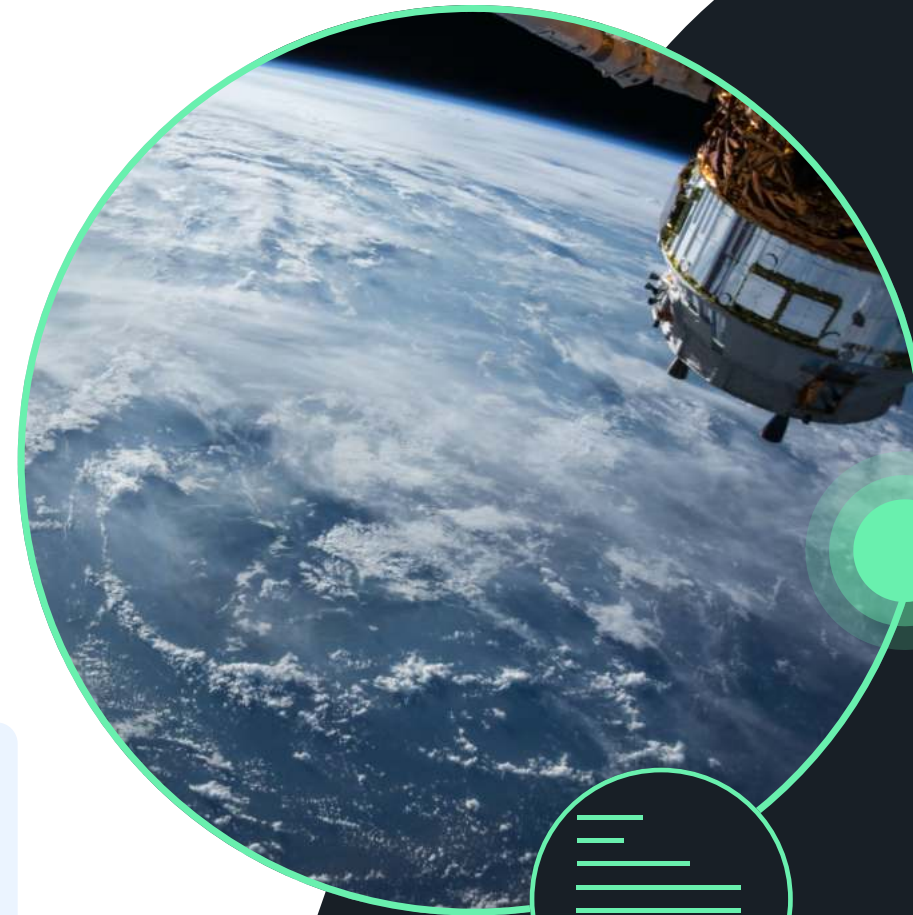
✓ Save time and efforts usually spent on sending insurance agents to access the state of the fields.

✓ Create your own product for parametric insurance.

✓ Find out when it's time to return the investments.

✓ Build transparent relationships with your clients.

✓ Offer our services as an added value proposition to your clients.



# Key EOSDA Crop Monitoring features for banks and financial institutions

## Satellite field monitoring

- ✓ Remote sensing of any field via regular access to high-quality satellite imagery and vegetation indices.

## Vegetation indices

- ✓ A set of tools developed by GIS specialists for remotely analyzing various field-level parameters, such as vegetation density and chlorophyll content at different stages of crop growth. More indices, tailored to special parameters, can be added to the platform on request.

## Growth stages

- ✓ To ensure the correct correlation of different types of data for the field (vegetation indices, temperatures, precipitation, and more), the system displays current growth stage for certain crop types on the platform. We use the international scale (BBCH).  
**Important! Make sure the sowing date is correctly specified.**

## Water stress detection

- ✓ A special algorithm determines the level of water stress in a field, perfect for detecting waterlogging and/or drought conditions in a timely manner.

## Crop rotation

- ✓ You can store data on which crop types grew on the same field in the past seasons. Correctly specify the sowing and harvesting dates for each season, and you'll always have access to the crop rotation record for this field in your account.

## Weather analytics

- ✓ The platform provides access to daily weather, historical weather since 2008, and a 14-day forecast. The available parameters include temperature, precipitation rate, cloudiness %, wind speed and direction, and more.



## Field leaderboard

- ✓ An interactive tool for prioritizing fields that you own or tend according to crop performance. The fields with the most recent and most negative vegetation index (NDVI) change will automatically be sorted to the top of the list. There are 7 other criteria according to which you can prioritize your fields and download field lists as pdf or spreadsheets.

## Vegetation map

- ✓ A map for optimal (cost-efficient) nitrogen fertilizer application, precision irrigation, and effective crop protection measures. Thanks to a special algorithm, a field gets visually divided into zones according to the vegetation values, which, then, allows you to carry out the variable-rate application of inputs, thus saving money. A ready vegetation map can be exported from the platform and used as a script by the farm equipment.

## Productivity map

- ✓ This map helps you decide on the amount of phosphorus and potassium fertilizers to be applied in particular areas of the field based on the productivity measurements for a selected period of seasons. Other uses of the productivity map are differential sowing (matching the amount of seeds with the productivity of a particular area of the field) and cost-efficient precision soil sampling.

## Precision scouting

- ✓ All scouting activities can be easily managed both on the platform and in the specially developed mobile scouting app by EOSDA. Thanks to the team account feature, everyone involved in the process always stays connected. For example, when a field owner or an agronomist creates a new scout task in their account on the platform and assigns a scout to complete it, the scout is notified immediately if there's an online connection.
- ✓ The mobile scouting app is designed to help scouts in the field. Maps work offline so that the location of the task is visible to the scouts at all times, guiding them to the problem area. Scouts can add snapshots made on the spot and all other necessary information to the instantly generated online report. Once the report is ready, the manager gets automatically notified of it via the shared account.

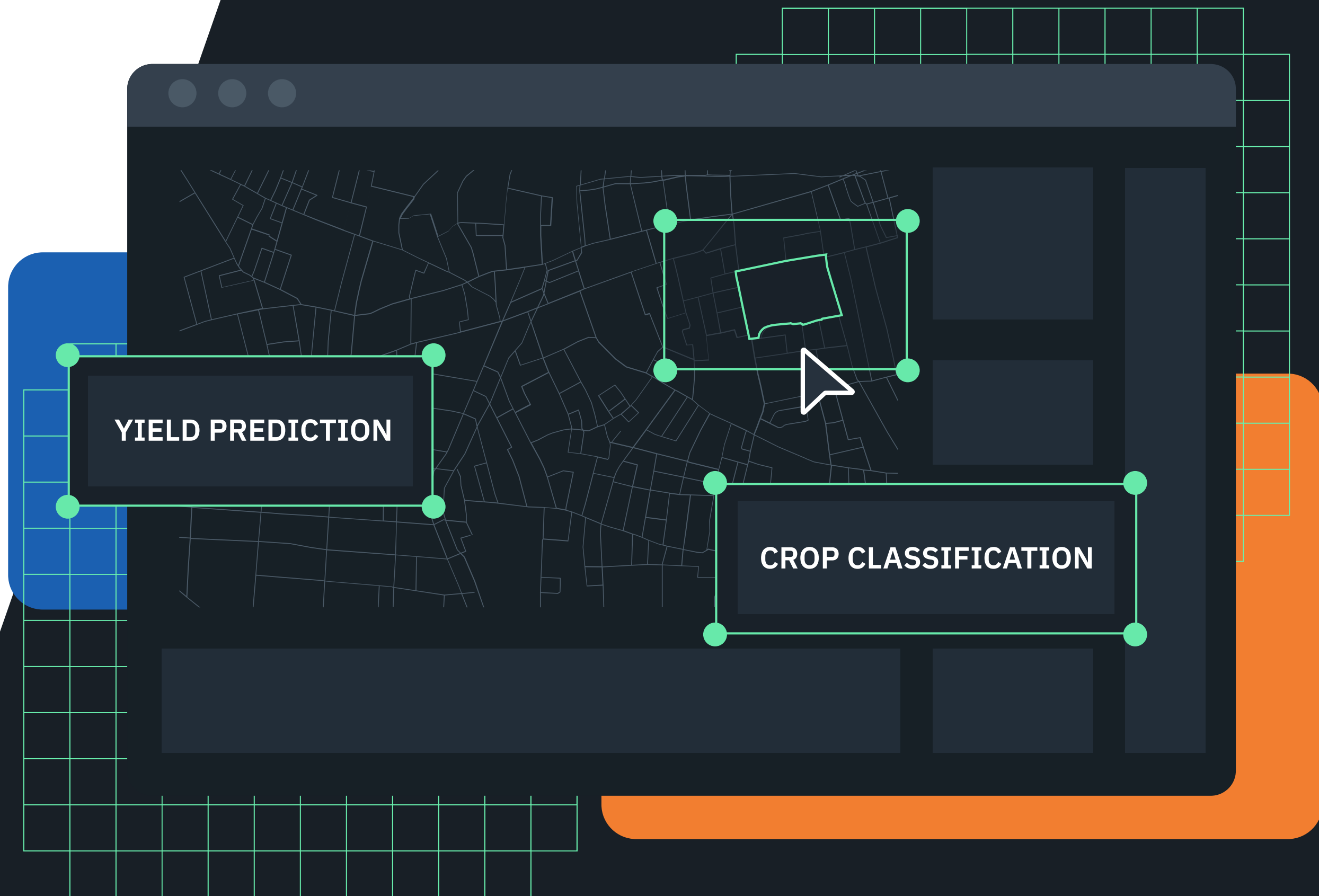
## Team management

- ✓ Team management feature equips field owners with more effective tools of control over scouts and other employees. You can create your own Team account and assign different roles (access permission settings) to members: Admins have the most access to features and fields on the platform. Scouts can add fields and create tasks. Observers have a more limited scope of abilities on the platform as decided by the Team Owner.



# Custom solutions

EOSDA has years' worth of expertise in developing practical AI-powered solutions for agricultural purposes. You can request a solution that fits your particular case – and, thus, get a competitive edge over other players in the agro market.



## Yield prediction

- ✓ The algorithm estimates the amount of crop that will be collected from specific fields based on the history of past yields. Input data includes but is not limited to growth stage information, temperatures, precipitation, and type of soil.
- ✓ The accuracy of estimates made 14 days prior to harvesting can reach up to 90% and usually depends on the quality and completeness of the data. Values for the predicted yield can be downloaded as .xlsx, .csv, and .shp files.
- ✓ You also get a detailed PDF or .docx yield prediction report containing the review of all the data used in the analysis to better understand the grounds for the proposed yield forecast.

## Crop type classification

- ✓ Automatic identification of the type of crop growing within each field shown on the map. It is possible to create a crop classification map for a whole region, as large as a country. Our model is based on Sentinel-2 time-series images with a 10-m resolution and has an accuracy of up to 90%, depending on the quality and completeness of the data. Maps are provided as .geotiff and .shp files. You also get the data on crop rotation, land use, and acreage/hectare for each separate field and their total area.

## Field boundaries detection

- ✓ Automatic delineation of agricultural field outlines in the satellite image of an area of any size - from a couple of fields to a whole region. The retrieved field contours (boundaries) can be uploaded to some GIS software as a .shp file. Large numbers of fields can be thus mapped without the need for allocating large sums of money and resources to the process.

## Harvest dynamics monitoring

- ✓ Remote estimation of the dates when each field of interest has been harvested either in this season or in the previous ones. We combine radar and optical satellite imagery from Sentinel-2 to construct time series and calculate the hectare/acreage of fields with the recent sharp drop in vegetation index values.
- ✓ Estimated data values are available as .xlsx, .csv, and .shp files. You also get a PDF or .docx report stating the number of harvested fields, total hectare/acreage, and other important data.

## Soil moisture analytics

- ✓ Mapping of soil moisture levels within fields and farms. You can keep track of moisture levels in the soil within your area of interest thanks to a 1-2 day satellite revisit and study the historical data available since 2002. Our algorithm calculates soil moisture amount at the surface and root depth (up to 70 cm). Combined with a vegetation index value and relevant weather data, a soil moisture map can be used to remotely assess the state of crops within specific fields.

## Land cover classification

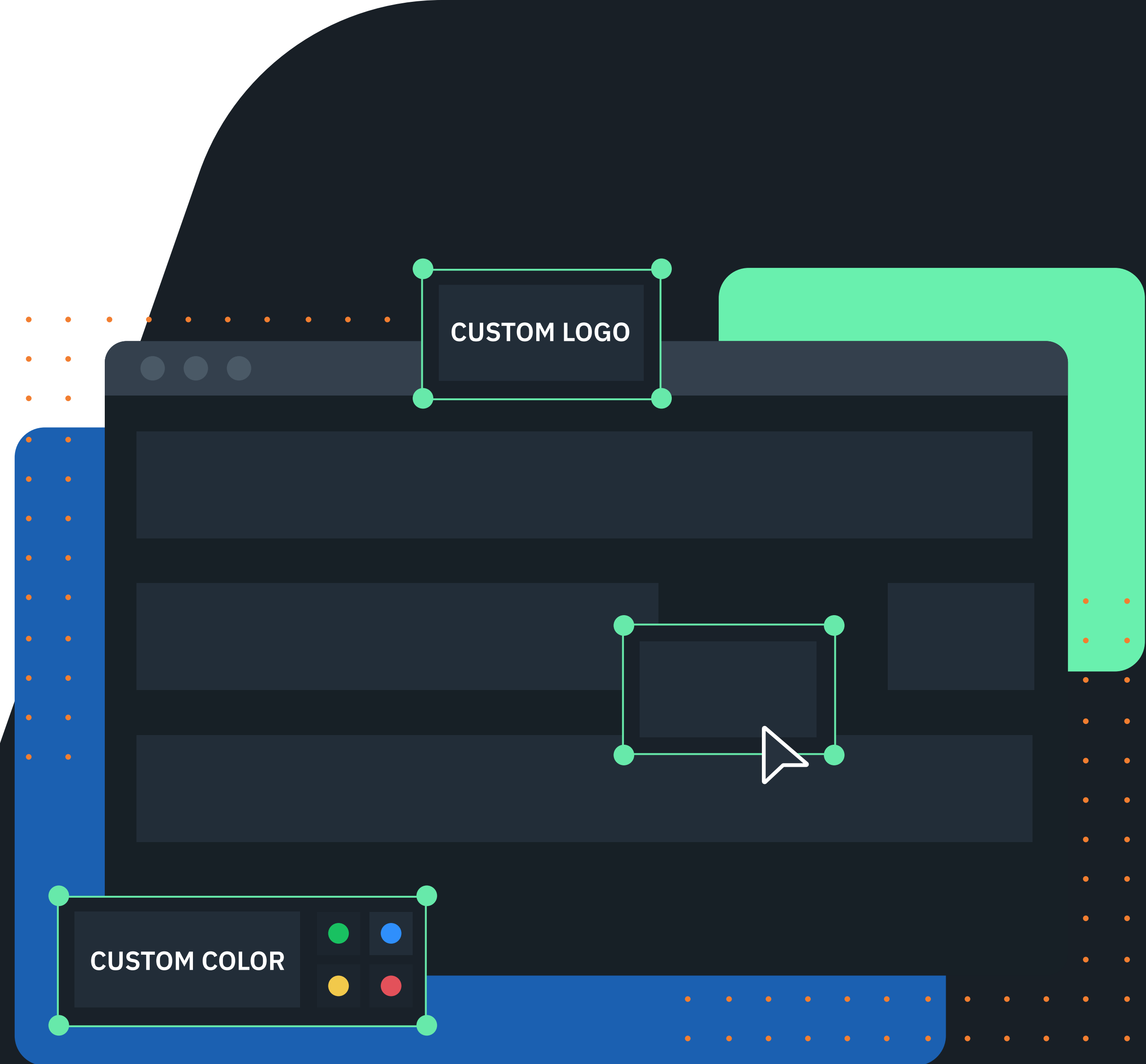
- ✓ A map that contains geospatial information about different types (classes) of landcover: forests, water, croplands, urban areas, swamplands, and more. The map can represent as many classes as necessary. The map can be used to assess the natural resources located within an administrative area on any scale (farm, region, country, etc.).

## Soil type classification

- ✓ Soil type maps allow you to assess biophysical parameters of soil that have an impact on crop development. With these maps, you can assess the state of fields and predict the probability of soil degradation\*. **\*accuracy of the prediction depends on the completeness of additionally provided data, e.g. are there any water objects nearby, what's the slope degree of the field surface, and so on.**

# EOSDA Crop Monitoring White Label

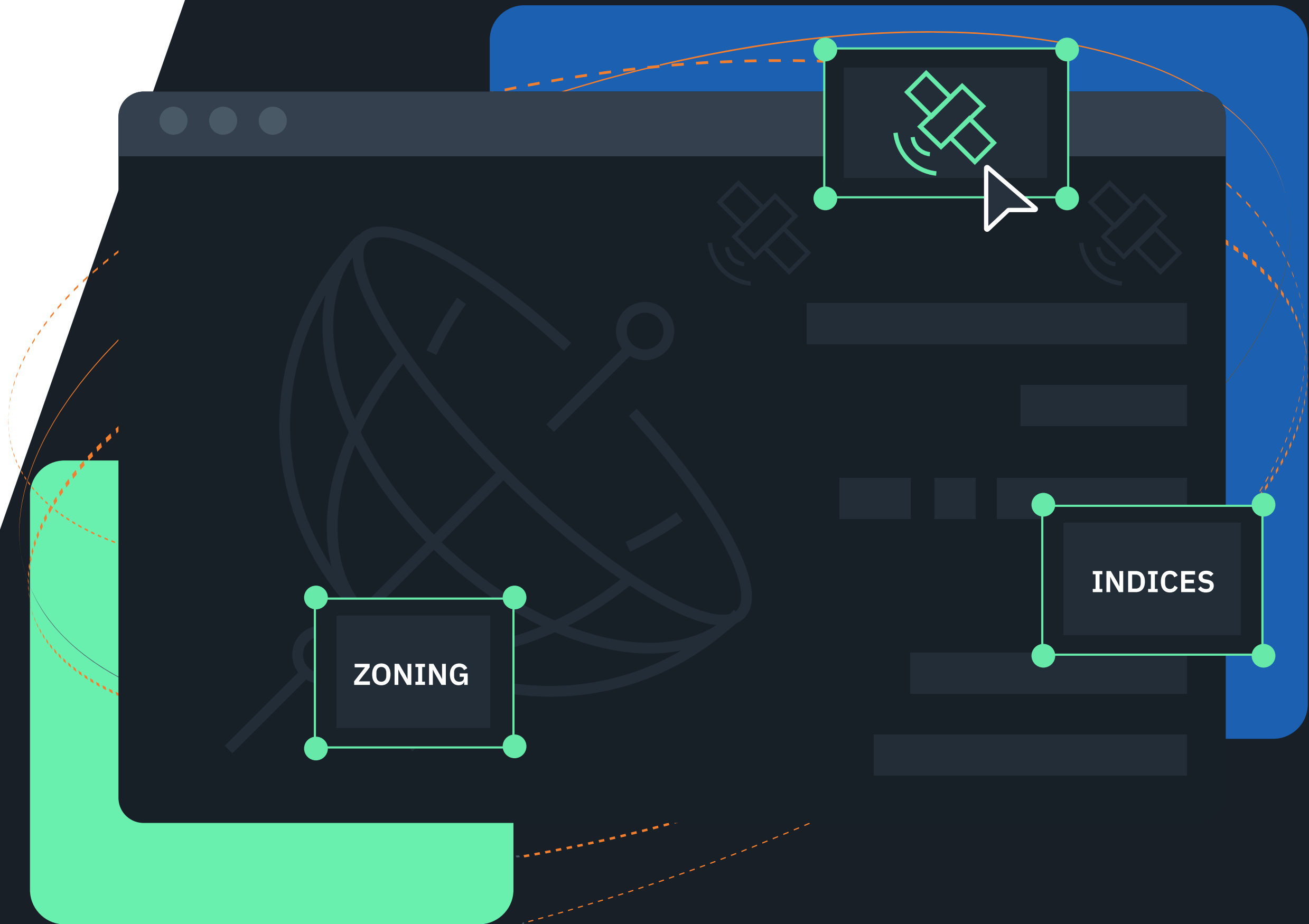
We offer a ready product created specifically for banks and financial institutions as a White Label solution. You can use the platform on your own domain, under a logo of your choice, with color themes you prefer, and other customizations. Also available is a Partner Management Panel + a mobile app for crop scouting (advanced WL option). You get to select the specific features you would like to use. We will also assign a personal manager to assist you with every issue. The end result will be a fully customized product to answer your needs.

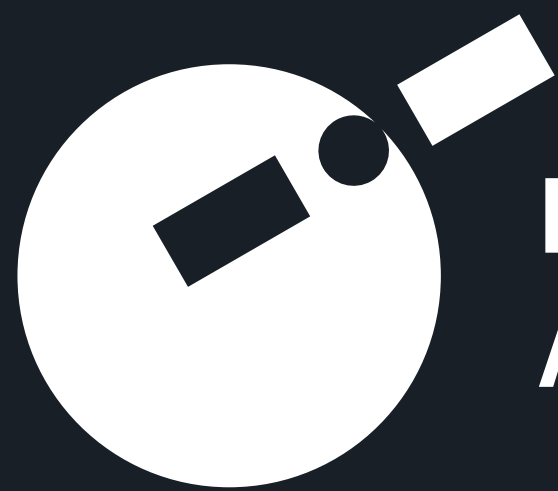




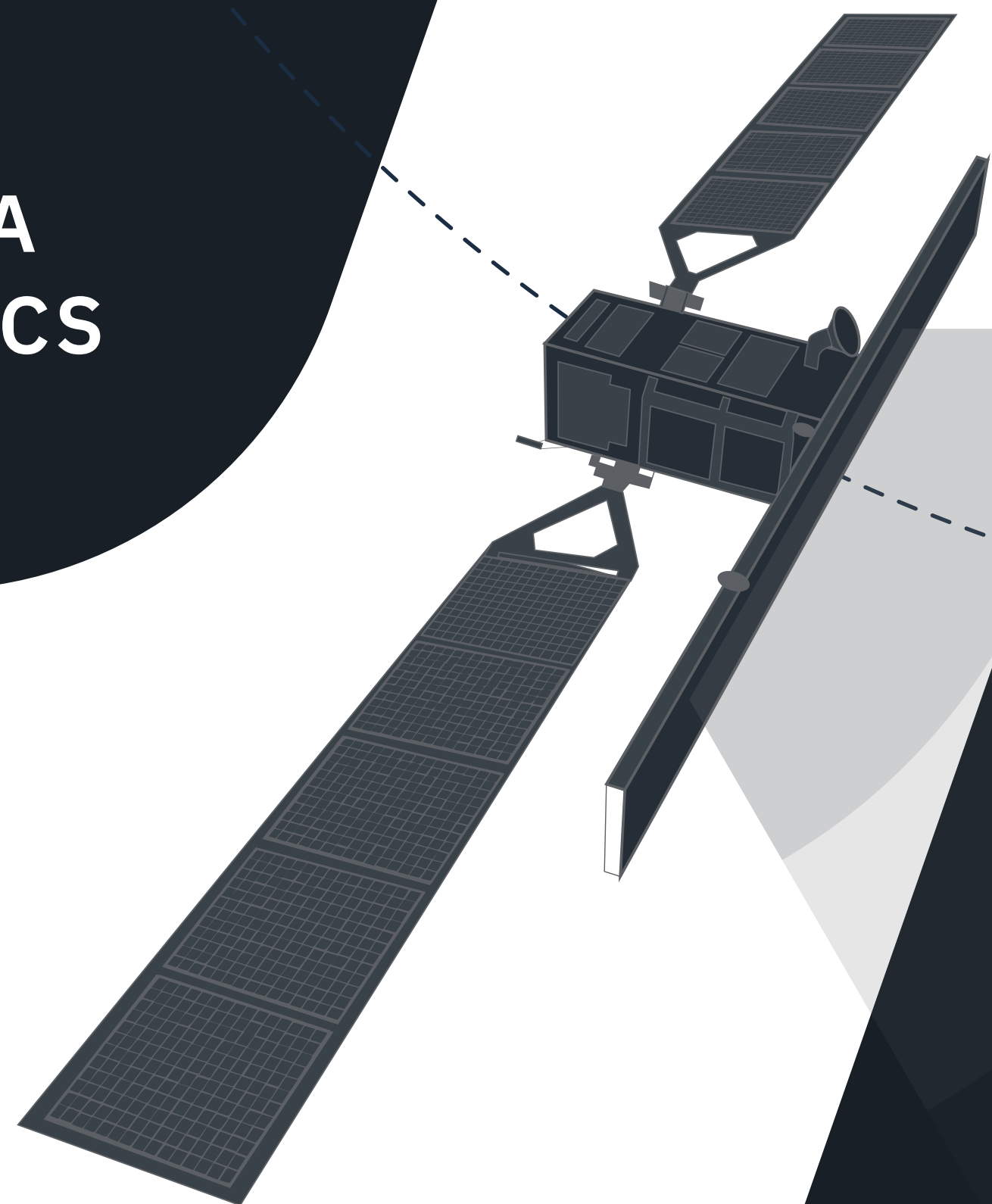
# EOSDA Crop Monitoring API

One of the services we offer for financial institutions is our EOSDA Crop Monitoring API documentation that provides access to data retrieved from regularly obtained satellite imagery, access to historical field and weather data archives, a 14-day weather forecast, and more. All of these features can be easily integrated into third-party software as well as on a third-party website. Such integration will add value to the software and the website alike.





**EOS DATA  
ANALYTICS**



**950 000 users of  
EOSDA products  
globally**



**170K+ current  
users of EOSDA  
Crop Monitoring  
worldwide**

**Contact us — let our experts guide you!**

**CONTACT US**



**At least one  
registered user  
from every country  
on Earth**



**66 mln ha of fields  
added to the  
platform for  
monitoring**