

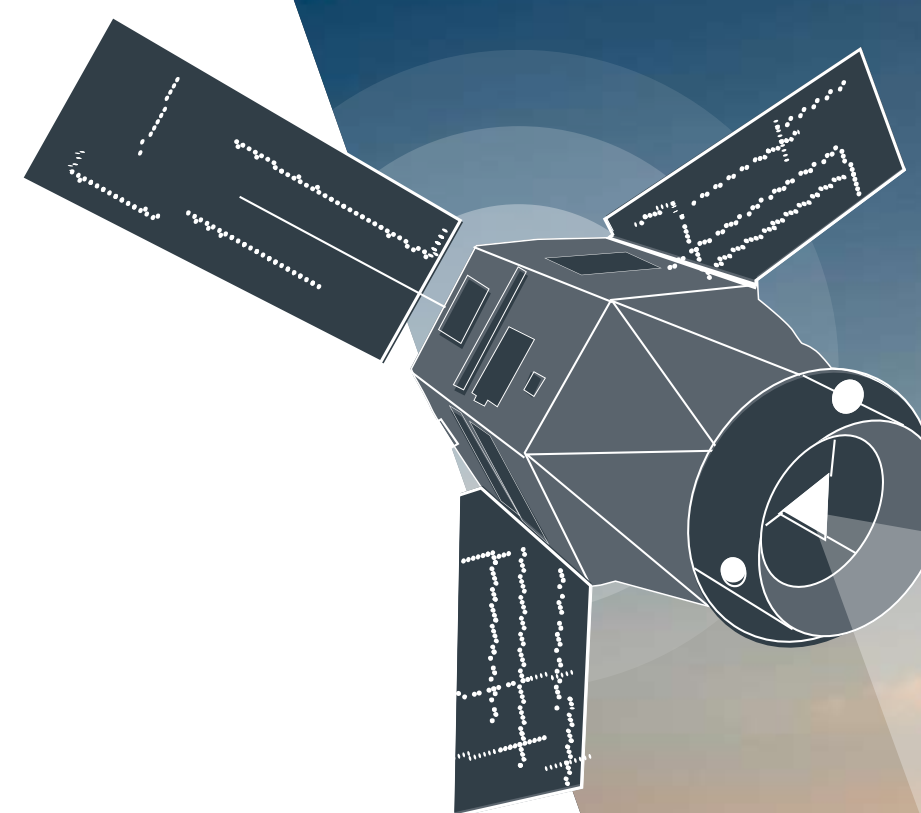
**EOS DATA
ANALYTICS**

Satellite monitoring solutions for agricultural cooperatives

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

EOS Data Analytics has been working with agricultural cooperatives long enough to understand exactly what their needs are. We provide the latest satellite-driven and AI technologies to our clients so they can develop competitive crop management strategies, build lasting and transparent relationships between the coop members, and achieve more with less.

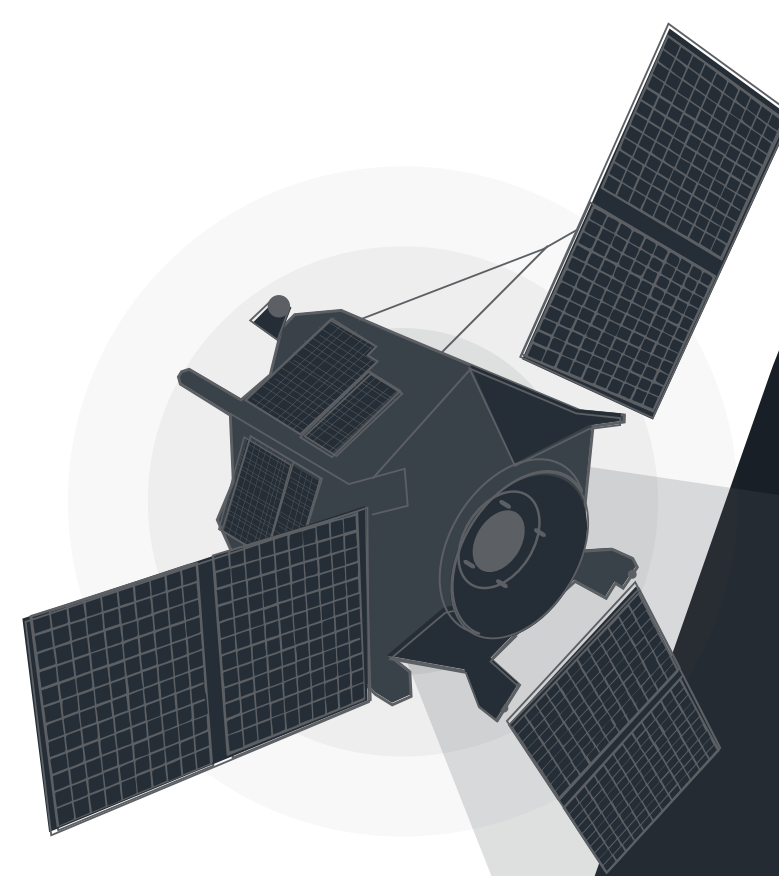
And having combined the innovative satellite-driven and AI-powered technologies with our expertise in agriculture, we have assembled a product that allows the agricultural cooperatives members to stay connected regardless of the distances and be well-informed about the state of crops at all times. EOS Crop Monitoring, the digital precision agriculture platform we've created, has its functionality specifically calibrated to deal with the daily farming challenges in an efficient, result-oriented way.



EOS Crop Monitoring is a one-stop solution for agri cooperatives and their members

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.



Field monitoring

- ✓ Regular monitoring of crop health based on the data retrieved from satellite imagery analyzed using remote sensing indices.

Vegetation indices

- ✓ Data on the state of vegetation according to different parameters calculated as ratios and expressed as numbers from -1 to 1. Different indices are available (NDVI, NDRE, MSAVI, ReCI) adjusted to different growth stages to get the most accurate information about the health of the crops. Custom indices are available too.

Water stress detection

- ✓ Monitoring of water/moisture contents in the plants and the soil via satellite imagery analysis using a number of trained algorithms. Helps prevent harvest loss due to water stress.

Growth stages

- ✓ Visualization of growth stages for a specific crop on the graph according to the international BBCH-scale. Improve your field treatment decisions - reducing costs and increasing yields - based on the correlation of growth stages and various field and weather parameters (vegetation indices, temperature, precipitation, among others).

Crop rotation

- ✓ The record of crop rotation history, sowing and harvesting dates, as well as growth stages conveniently displayed in a box. It allows you to plan the future sowing operations, thus maintaining soil fertility, reducing risks of plant diseases and pest infestations.

Weather monitoring

- ✓ Access to key weather parameters, including clouds, temperature, and precipitation on a daily basis. Additionally, access to crucial historical hyperlocal weather data going back to 2008. A 14-day weather forecast will give you enough time to prepare for unfavourable weather conditions and keep your crops safe.

Field leaderboard

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

Vegetation map

- ✓ A map for estimating the amount of nitrogen required by different areas of the field. It can be used for differential N fertilizing to reduce nitrogen waste and cut costs as well as strengthen the yield. The map is built based on the latest available satellite image and is very easy to use thanks to color schemes adjusted to index values.

Productivity map

- ✓ Productivity maps are designed to provide users with seed & fertilizer (potassium and phosphorous) variable rate application recommendations to increase the overall productivity of a crop growing on a particular field in the long term. Every map is created based on a series of satellite images of the crops and the NDVI index statistics available since 2019. You can manually select the period to estimate productivity of various areas within the field - ranging from a couple of days to several years.

Scouting

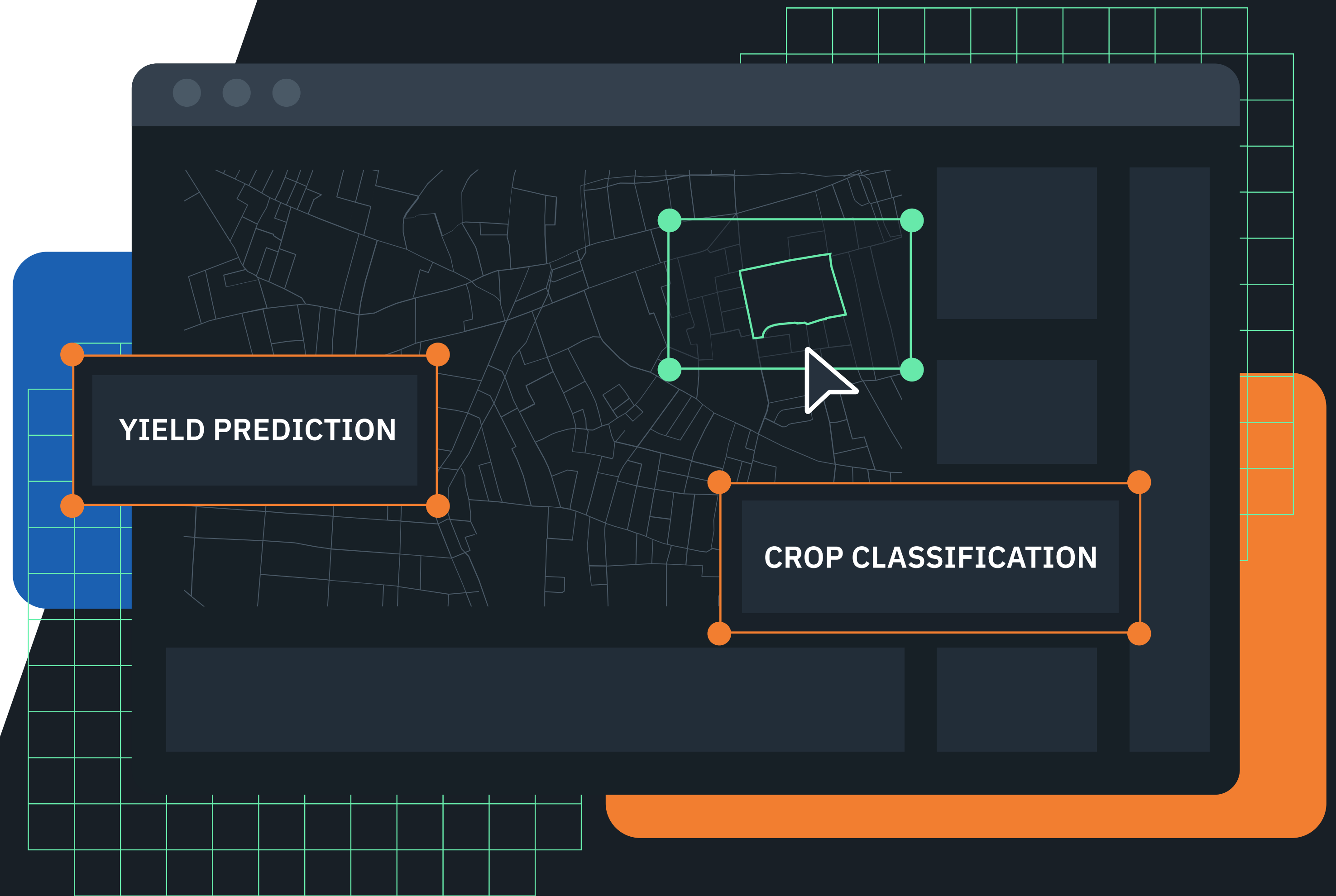
- ✓ We offer a scouting feature that is basically a log and a GPS navigator for field scouts and owners. Pick a spot in the field, mark it, create a task, and send a scout - for owners. The Crop Monitoring mobile app will help the scouts do their job much easier and with higher precision, generate report on location that can be instantly shared with the owner via the shared account.

Team management

- ✓ The team management feature gives field owners a more transparent and effective control over scouts and other employees via a so-called "team account".
- ✓ The team owner assigns different roles to other team members: Admin has access to the field and scout task editing feature, among other features, while the scout can add fields and create tasks, but cannot edit them. Admin can also add new team members, but the Observer can neither add fields nor tasks.

Custom Solutions

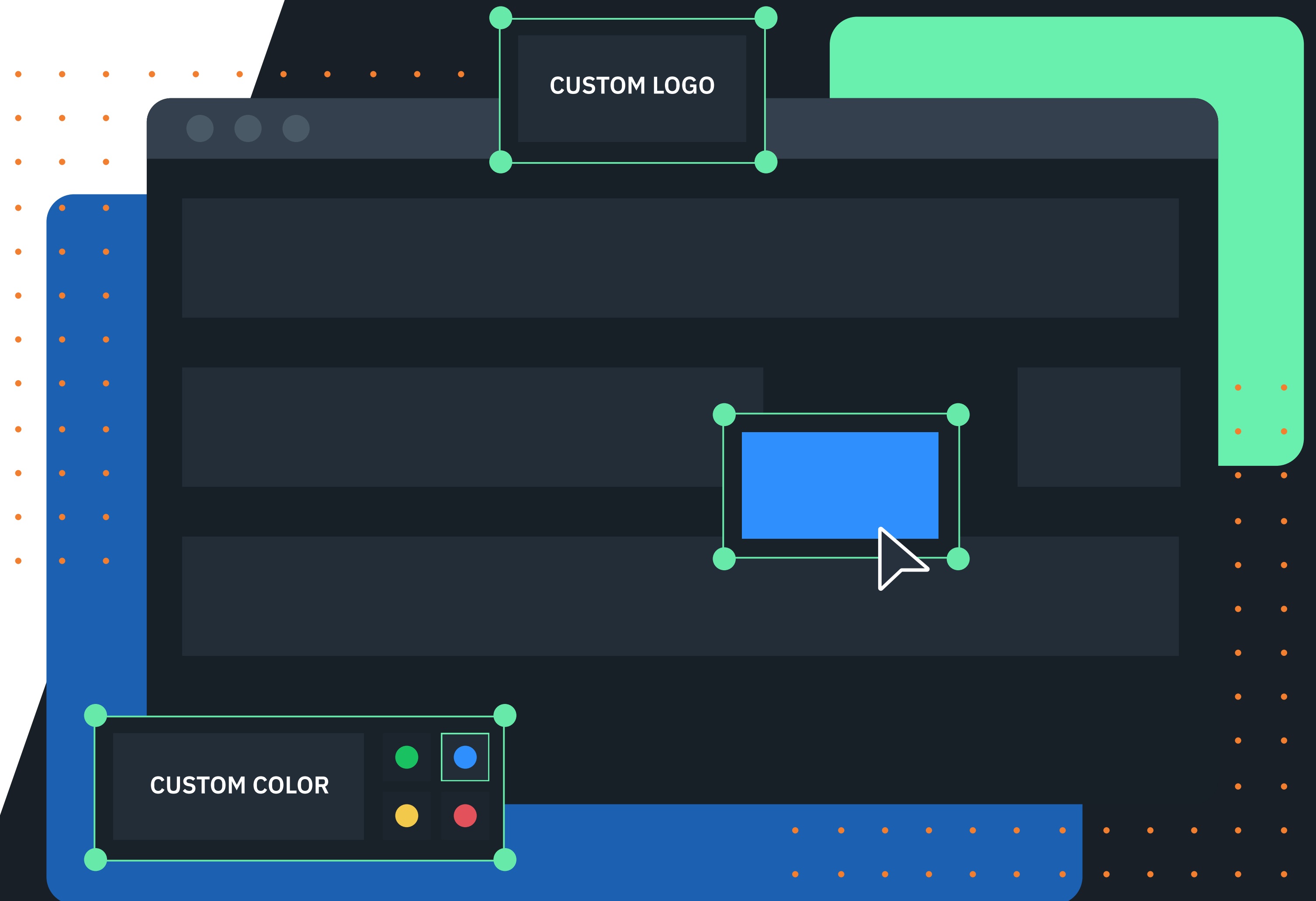
EOSDA offers years worth of expertise in developing practical AI-powered solutions for agricultural purposes. You can request a solution that fits your particular case — and, thus, get a competitive edge over other players on the agro market.



White Label

We offer a ready product created specifically for growers 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, along with other customizations. Also available is a Partner Management panel + a mobile app for crop scouting.

(Advanced WL option).



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.).

Field boundaries detection

- ✓ Automatic delineation of agricultural field outlines in the satellite image of an area of any size — from couple of fields to a whole region. The retrieved field contours (boundaries) can be uploaded to a 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.

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.

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 data. Maps are provided as .geotiff and .shp files. You also get the data on crop rotation, land use, and acreage/hectarage for each separate field and their total area.

Yield prediction

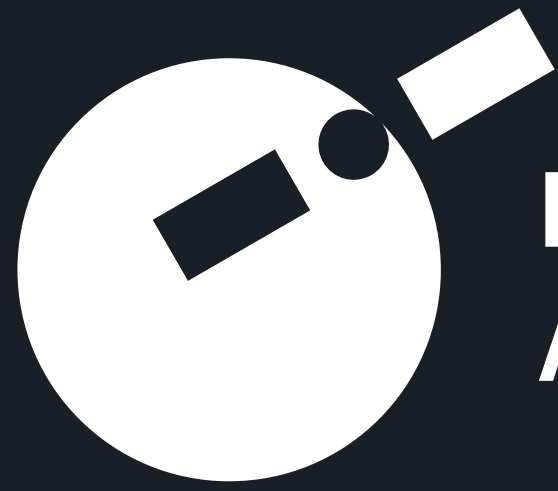
- ✓ The algorithm estimates the amount of crop that will be collected from specific fields based on the history of past yields. Input data includes but is not limited to growth stage information, temperatures, precipitation, and type of soil.
- ✓ The accuracy of estimates made 14 days prior to harvesting can reach up to 90% and largely depends on the quality and completeness of 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.

Soil moisture analytics

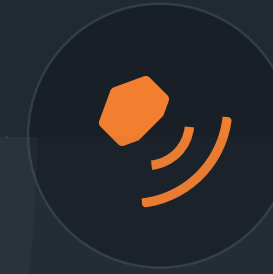
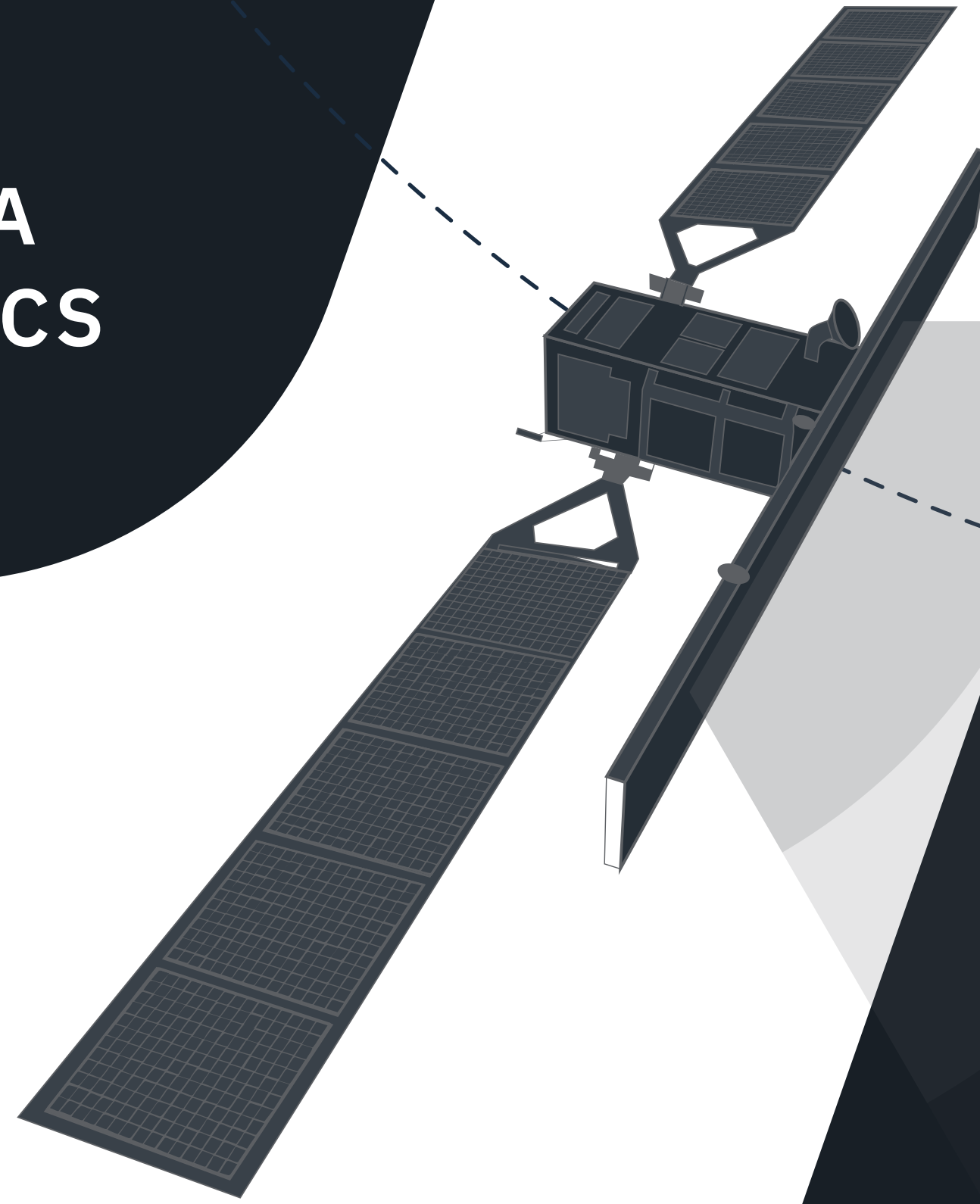
- ✓ Mapping of soil moisture levels within fields and farms. You can keep track of moisture levels in the soil within your area of interest thanks to a 1-2 day satellite revisit and study the historical data available since 2002. Our algorithm calculates soil moisture amount at the surface and root depth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

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 hectarage/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 hectarage/acreage and other data.



EOS DATA
ANALYTICS



735 422 users
of EOSDA products
globally



105,000+ current
users of EOS Crop
Monitoring
worldwide



At least one
registered user
from **every country**
in the world



32,000,000
hectares of fields
already added
by EOS Crop
Monitoring clients
for monitoring

Let our experts guide you!

CONTACT US

