

DynaCrop – unlocking EO services for the food production value chain

Summary

DynaCrop is integrating EO to digital farming for higher yields, easier decisions, and more joy of farming. It harnesses power of EO to foster the data-driven change across the food value chain

Sponsor	Project	Soluti
 <p>The e-shape project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement 82085</p>		

Taxonomy

- Agriculture
- land use/land cover
- biodiversity
- land ecosystem

User profile

Agdata.cz provides a cloud system (SaaS) for comprehensive digitization of farms and agricultural enterprises. We combine data from many sources such as GPS units, weather stations, agricultural sensors, satellite imagery, forecasting models and more to help farmers make better decisions. Agdata is an open system that can be easily integrated with existing customer systems (payroll, accounting, weight, fuel, etc.).



Service description

DynaCrop is integrating EO to digital farming for higher yields, easier decisions, and more joy of farming. It harnesses power of EO to foster the data-driven change across the food value chain.

DynaCrop is a white-label ecosystem enabling companies in food value chain to use advanced information, statistics and intelligence based on EO. It provides ready-made crop monitoring, field statistics, application maps and soil moisture assessment on a global scale. Information is delivered through value-added platform (API, white label web application, QGIS plugin) and client is receiving sales support, user-centric consulting and R&D cooperation as part of the cooperation.

Instead of building another solution for farmers, DynaCrop pursues a synergy with companies already established in the food value chain and help them to integrate EO-based information at scale. In this way, it minimizes resources needed for EO integration (money, time, human resources) and provide clients with state-of-the art service and consulting at low costs.

Customer experience

We use the DynaCrop service as a main source of satellite products. We appreciate the reliability of the service, cheap price and flexibility of the DynaCrop team that is always ready to solve our issues and consult our ideas.

Need

The food production sector must undergo a major change in order to sustain food production for a growing population and turn sustainable and carbon-neutral at the same time. Earth Observation is bringing tools that support the transition, but their adoption is slow due to the high complexity of the issue.

Challenges

DynaCrop service is currently fully operational. Therefore, the main technical challenges are in extending the service further.

The key issues consist of:

- Providing information in periods with high clouds occurrence. We are developing a multisensor data fusion vegetation index (Sentinel 1,2,3 + weather) using combinations of recurrent, neural and GAN networks.
- Providing reliable extrapolation of soil organic carbon content based on fusion of EO and soil sampling
- Extract and flag substantive anomalies in EO-based field statistics and vegetation dynamics.

Another technical challenge lies in optimizing methods for effective scaling up of the underlying infrastructure in moments with rapid increase in demand from customers.

Results

- Enable companies in the food value chain to adopt EO-based services at scale
- Support implementation of Farm-to-fork strategy across the value chain
- Encourage regenerative farming and measure its impact
- Support digital farming integrators in expanding the use of EO services



References

Learn more about the service: <https://dynacrop.space/en/>

Learn more about e-shape: www.e-shape.eu

A question? Contact the Helpdesk: <https://helpdesk.e-shape.eu>