Yield Prediction and Estimation from Earth observation (YIPEEO)

- **Challenge:** The threat of hunger and food insecurity for several hundred million people worldwide is being exacerbated by more frequent extreme weather events resulting from changing climate conditions.
- **Solution:** Minimizing the impact of extreme events and changing climate on agricultural production through the use of monitoring and forecasting of crop growth and yield for more informed decision making.
- **Project goal:** YIPEEO aims to improve field-scale crop yield forecasts through the usage of high-resolution remote sensing data and cutting edge scientific methods.

Project consortium

Vienna University of Technology

Global Change Research Institute CAS

EODC Earth Observation Data Centre for Water Resources Monitoring GmbH

Funded by

European Space Agency

Keywords: Earth Observation, Machine Learning, Numerical Weather Forecast, Yield Prediction, Decision Support Tools

Objectives and Concept

[1] Providing inputs for the development of the next generation of "fit for purpose" observation systems for agricultural monitoring

[2] Setting the bases for enhanced cooperation between ESA and EC, **working towards a Common Science Agenda** addressing the grand agriculture-related challenges

[3] A proper Science-Society interface & dialogue resulting in a **transfer of science & technology results into practical solutions for farmers** and other food system actors

[4] Establishing a sound scientific basis for **developing a Digital Twin of crop areas** and agricultural activities
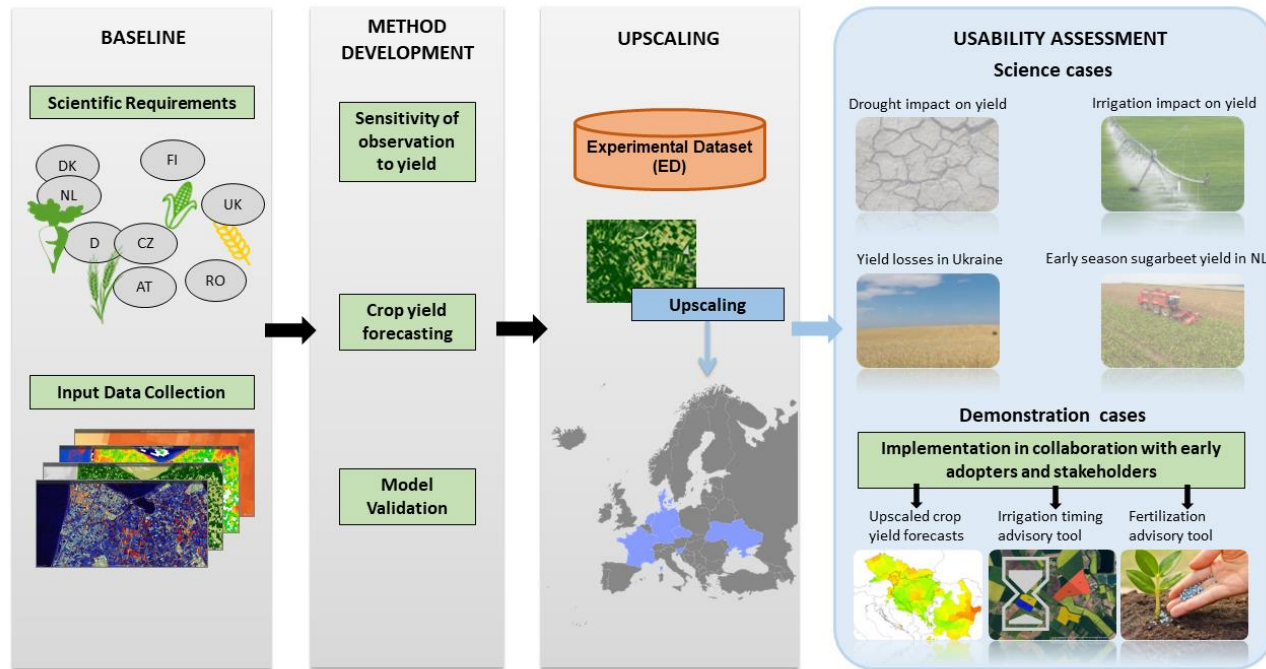
Proposed technical implementation