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Project coordinator: HYPERTECH SA

Contact :

Christopher Ververidis,
c.ververidis@hypertech.gr

Hypertech 

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<https://eo4society.esa.int/projects/spatial/>



AI AND EARTH OBSERVATION FOR FINANCIAL MARKETS

Project by

Hypertech 

Funded by

esa

 **esa**

This activity is carried out under a programme of, and funded
by, the European Space Agency

Challenge

Soybean Futures Contracts Volatility

- ~10 Billion Euros/year worth of soybean derivatives imports in EU
- Price volatility in the range of 15%
- Possible losses of 1.5 Billion Euros

SPATIAL Solution

AI-based combination of Earth Observation Data with Financial Markets Data for forecasting Soybean Future Contract prices

Machine Learning Models

- ✓ In-season crop mapping
- ✓ Soybean Yield Forecasting
- ✓ Soybean Futures Prices Forecasting for multiple time horizons

Explainable AI

- ✓ Model feature analytics

Data sources



Clients

Small and medium size soybean futures contracts buying and trading organizations

- Soy processors
- Soy Retailers/Wholesalers
- Traders & Investors
- Restaurants
- Farmers
- Breeders

Benefits

- Better trading strategies
- Enhanced risk management
- Increased profits from trading

SPATIAL Performance

Forecasting US Soybeans production

- Average relative error in US production estimation less than 7% for the years 2016-2020
- Maximum forecasting accuracy achieved by August

Forecasting CBOT Soybeans Futures Contacts prices

- 63% accuracy for 2-weeks ahead forecasts
- 63% accuracy for 1-month ahead forecasts
- 60% accuracy for 2-months ahead forecasts
- 60% accuracy for 3-months ahead forecasts

