

HIGHER - Better Policy Instruments for High Innovation Projects in the  
European Regions

# Improving food production through innovative Smart Farming services

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The shareholders legacy to the coalition

Farmers' Associations

- 70 Coops
- 150K Farmers
- 0.75 B € Turnover
- 0.5 M ha Area

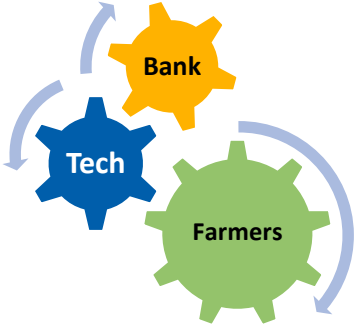


- Gaia Cloud Platform
- AgriTech Know-How
- AgriTech Solutions
- Smart Farming

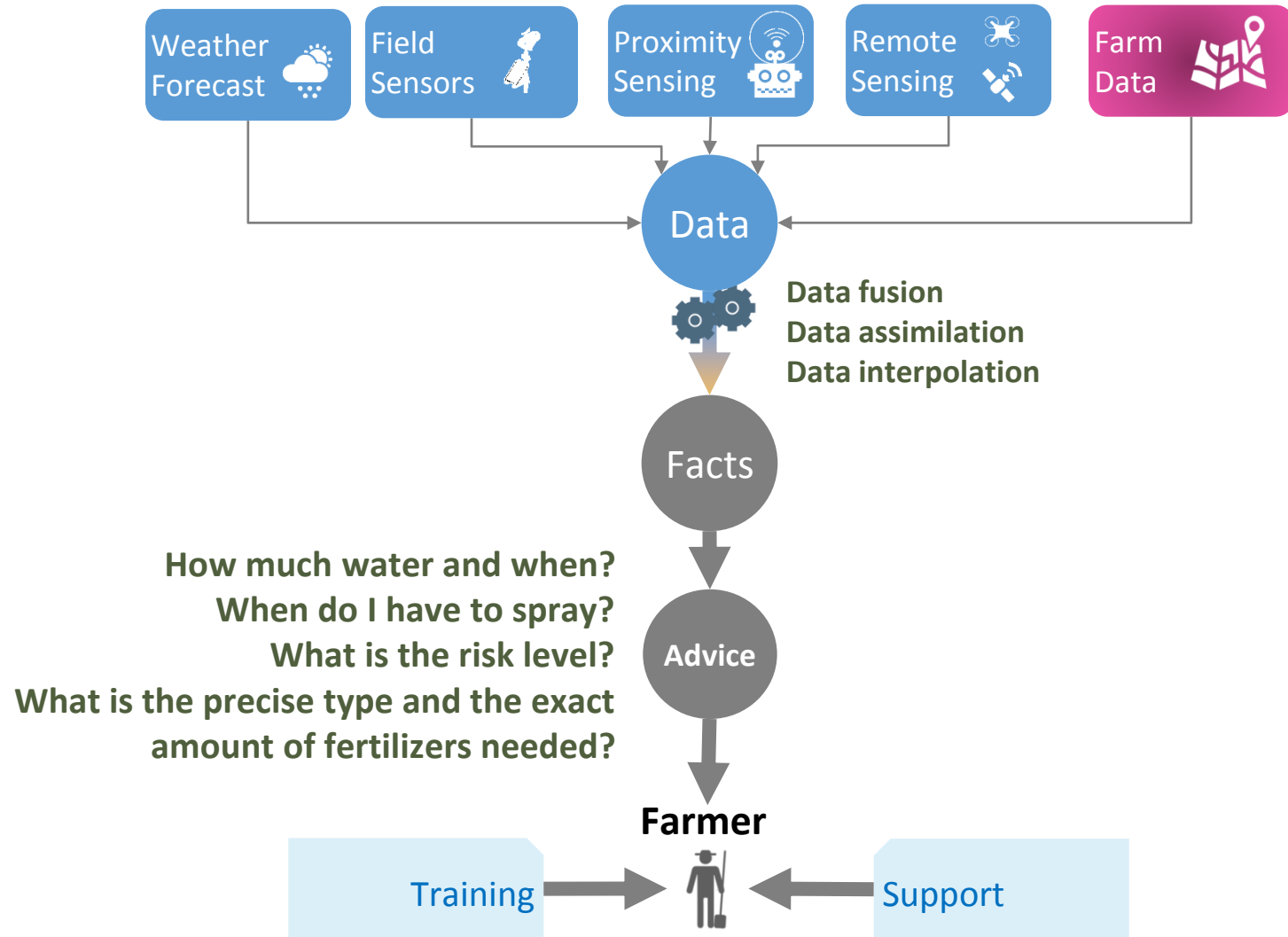


- No 1 in GR
- Contract Farming
- AgriCard
- Young Farmer loans

Member of the Agro-Food Partnership in Central Macedonia



# Supporting Farmer using Data – Advisory Services

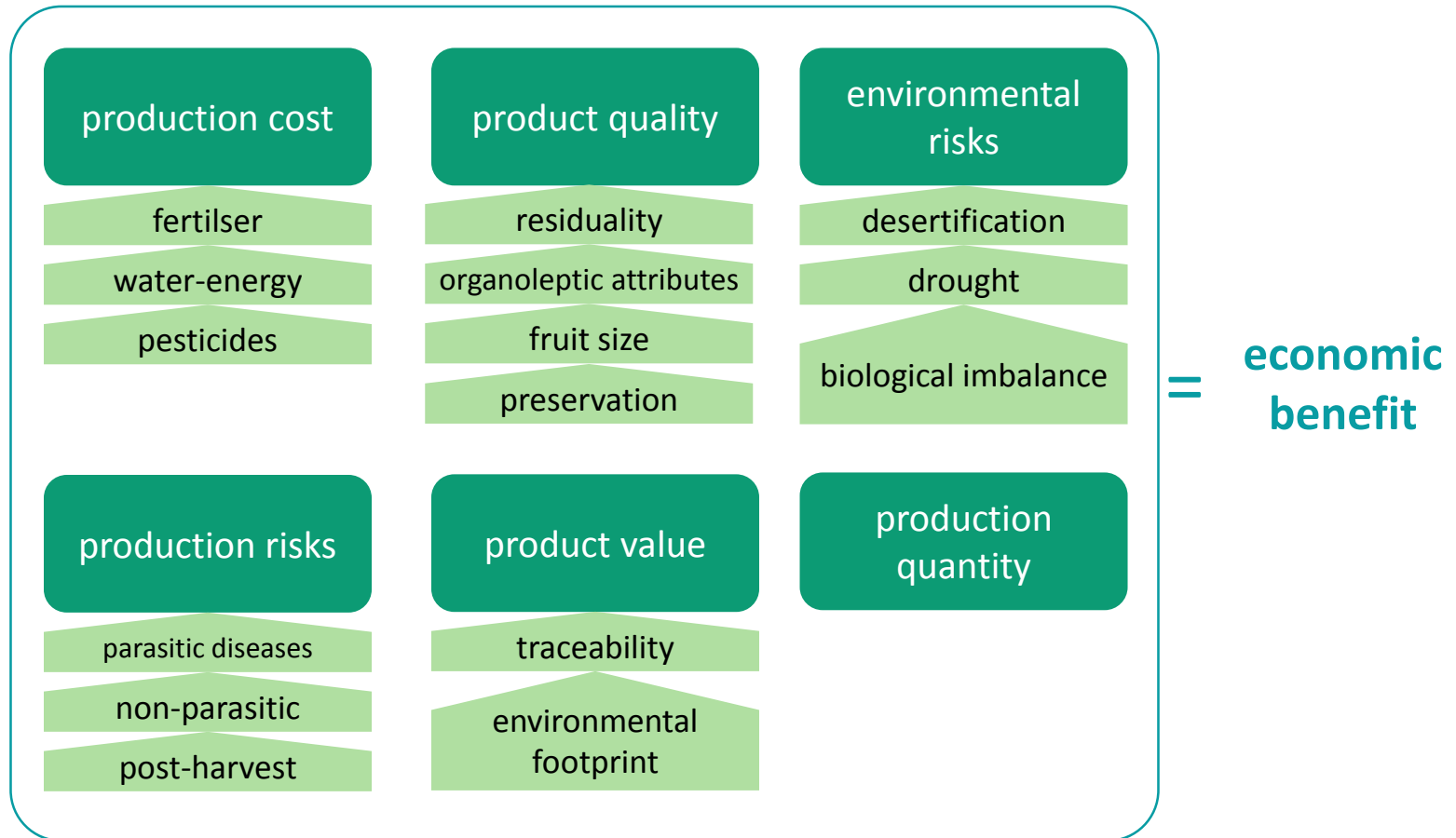


# Smart farming services

- **Fertilization advice:** Advice on the precise needs of plants in terms of nutrients, based on their exact needs & nutritional status of the soil. It makes use of soil sampling and analysis, leaf sampling etc.
- **Plant protection advice:** Advice on the optimal time for applying plant protection measures (sprayings). It makes use of scientific models that correlate the infection/infestation risk by a pest/disease with the microclimatic conditions of the area.
- **Irrigation advice:** Advice on the optimal amount and time of irrigation water, based on the actual irrigation needs of the plants, by defining the optimum irrigation dose. It makes use of the distribution of the root system in the soil, soil moisture etc. It can be expanded to support the automated irrigation of the field, based on the irrigation advice.

# Benefits of smart farming services

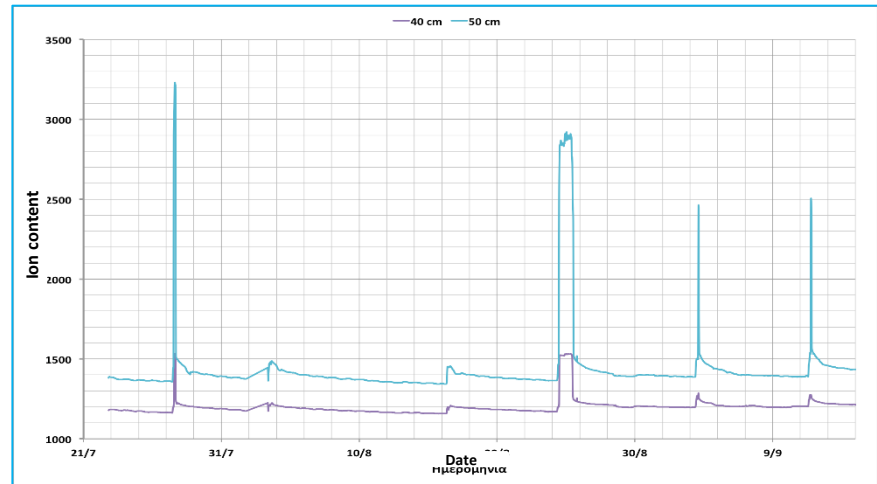
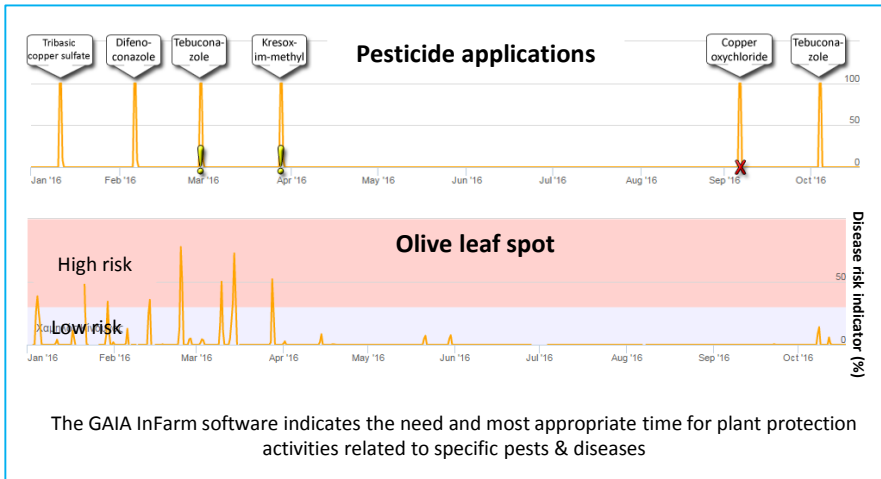
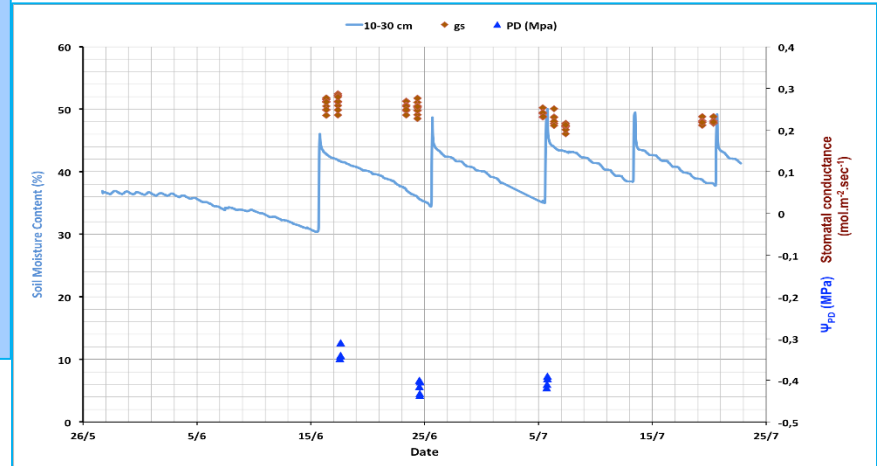
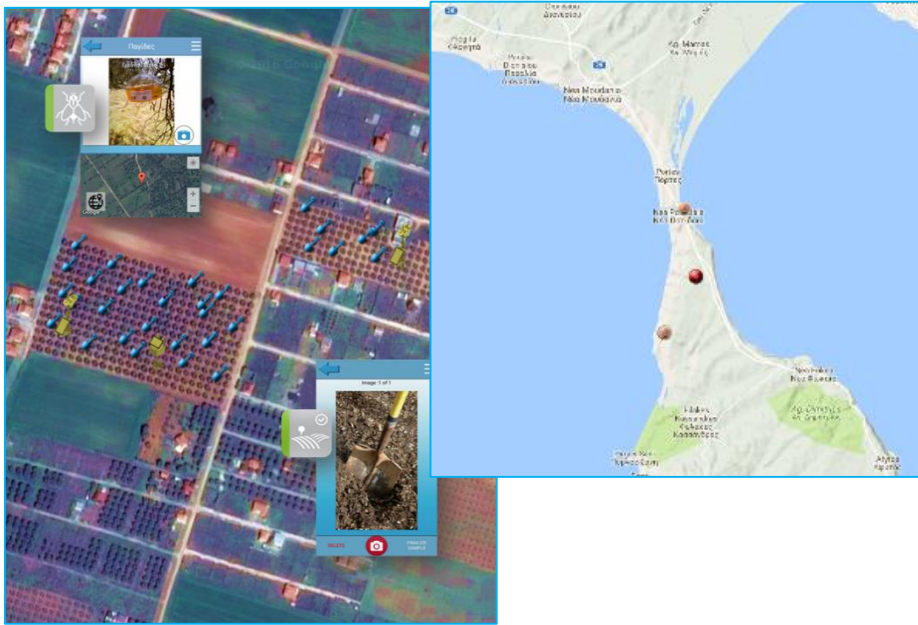
For the producer and the producers' cooperatives



# Innovation

- Low cost and high-effectiveness advisory services;
- Advisory services with high level of adaptation to different microclimatic conditions and crops;
- Active involvement and collaboration of researchers, technology providers, agronomists, farmers' associations and farmers;
- No need for farmers to invest in technological infrastructure;
- No need for farmers to learn how to operate complex digital tools and hi-tech agricultural machinery;
- Exploitation of modern, innovative technologies, various types of data, scientific knowledge and practical experience.

# Use case: Olive groves at N. Potidaia, Chalkidiki

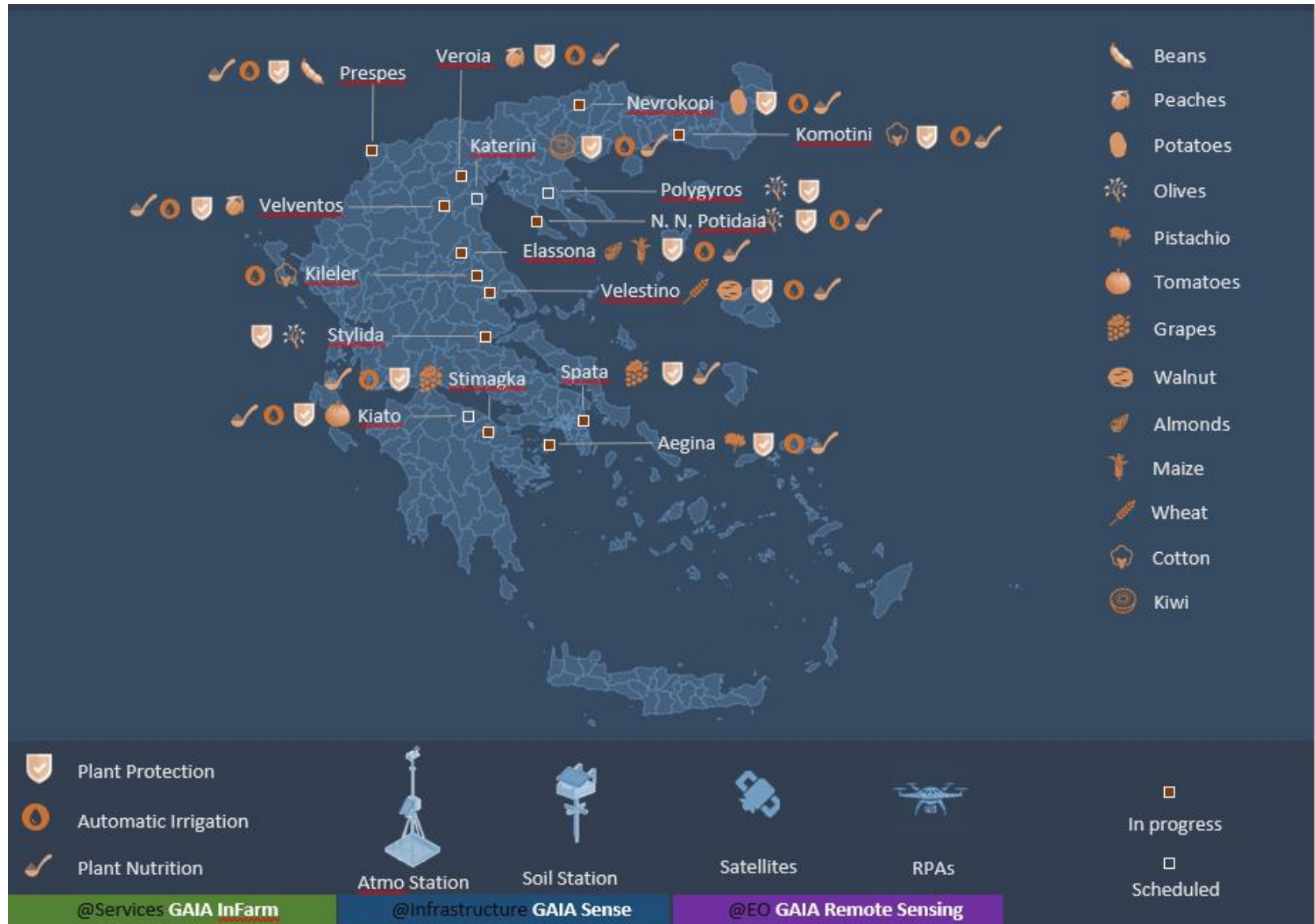


# Results from the application so far

- **Fertilization:** Precise nutritional needs of olive trees were defined and the fertilization advice was implemented successfully.
- **Plant protection:** Advice can help farmers reduce the use of pesticides through increased efficiency (targeted application)
- **Irrigation:** Olive trees were constantly over-irrigated, which led to:
  - High irrigation (thus production) costs;
  - Waste of (precious) irrigation water, a scarce resource;
  - Loss of nutrients due to fertilizers' run-off => increased fertilization costs;
  - Increased soil humidity favors infestation by soils fungus (e.g. Verticillium), leading to reduced quantity and quality of production and need for increased pest control measures



# Smart Farming case studies in Greece



# Next steps

- Collaboration with innovative agricultural cooperatives
- Collaboration with partners working with proximity sensing
- Collaboration with scientific partners to create the models for the new crops.
- Focus on establishing collaborations in different regions with different crops

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Thank you for your attention  
Any questions?

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