



MAKING  
AGRITECH  
SUSTAINABLE

**AGRICOLUS**


# Smart Farming

AGRICOLUS

Increase yield quality and quantity

Reduce economic and environmental cost






# The FIELD at the center of the system



Optimizing  
the yield and  
crops  
management

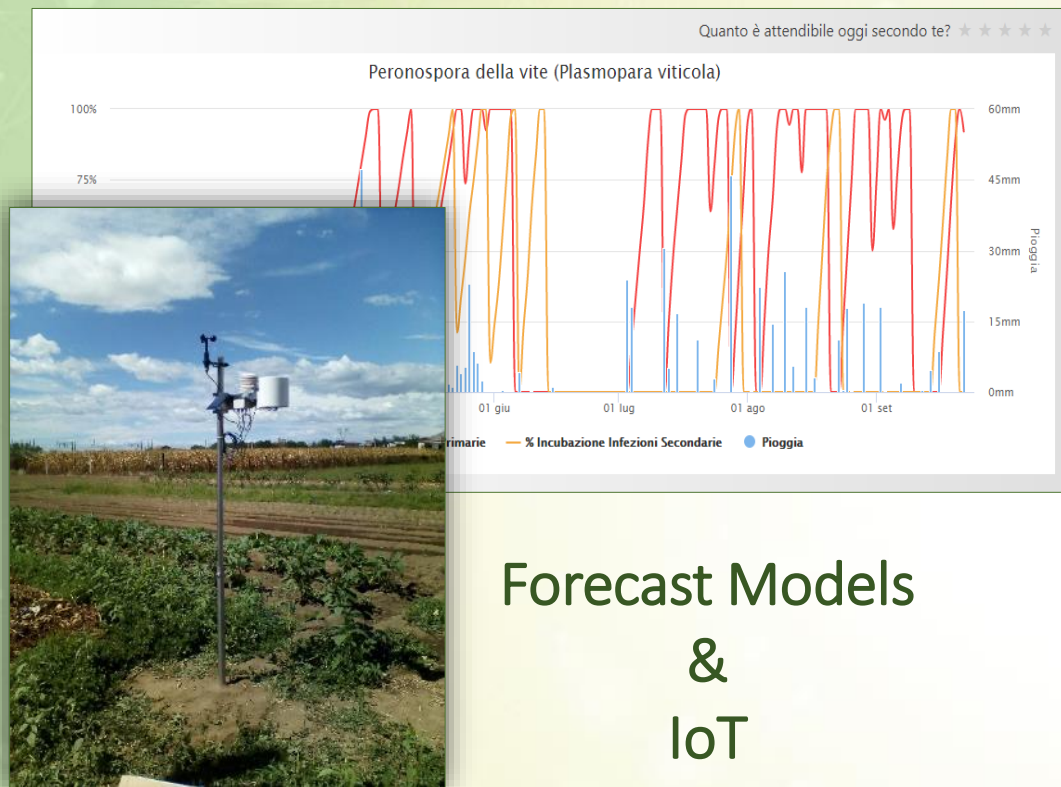


Preventing  
climate and  
pest adversities



Reducing  
costs and  
environmental  
impact

# The complete solution for any agronomical need



Forecast Models  
&  
IoT



Crop Scouting



Operations



Remote sensing

Some customers since 2015



Regione Toscana



# Control, forecast, decision



WEATHER DATA



SATELLITE DATA



AGRICULTURAL INPUTS



IN-FIELD MONITORING

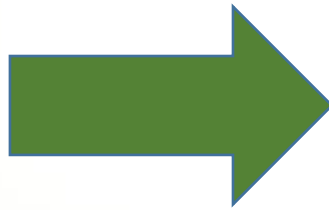


FORECAST MODELS



DECISION SUPPORT SYSTEM

SUPPORT IN



IRRIGATION



FERTILIZATION



PLANT DISEASES



PHENOLOGY



# Agricolus platform

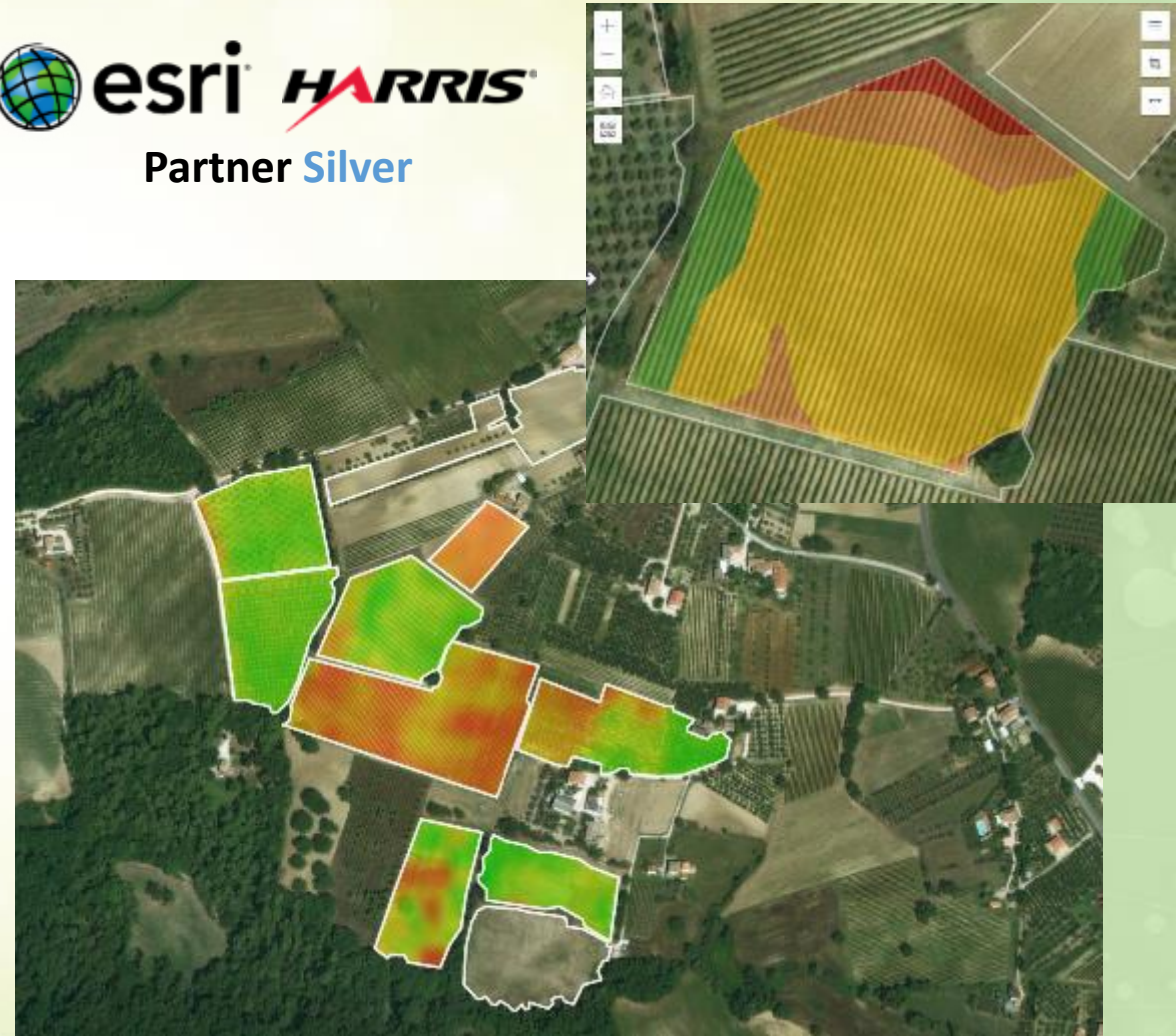


# Maps and satellite data

Geolocate the field on the map and Consult satellite analyses of the field to understand crops development and variability over time.

Landsat 8 is the satellite used: it provides multispectral images per each field **every 16 days** at a distance of 30 meters.

Satellite Sentinel 2 provides multispectral images **every 5 days** at a distance of 10 meters with **vigour and water stress indices**. It is possible to process images from **drone**.



# Monitoring in field

Consulting data on your field from mobile, wherever you are.  
Carry out the crop scouting and geolocate your activities and the ones of your workers.

- ✓ **ISSUES AND DAMAGES**  
Crop damages and general issues concerning the farm
- ✓ **SOIL ANALYSIS**  
Geolocated sample of soil to carry out a deeper analysis
- ✓ **INSECT CATCHES**  
Survey and analysis of catches
- ✓ **PHENOLOGY**  
Registration of growth phases and ripening of crops








# Crops operations

Registering where, who, how and when crop operations such as irrigation, treatments and fertilization have been carried out.



Trattore  
**New Holland - T4050**  
Targa AB 123 C  
Acquistato il 03/02/2017

Attività	Campo	Ore	Data	Annotazioni
Aratura	Poggio 01	6,5	03/02/2018	 
Aratura	Poggio 02	5,0	04/02/2018	 
Semina	Poggio 01	3,0	12/05/2018	 



**Giuseppe Verdi** *Agronomo*

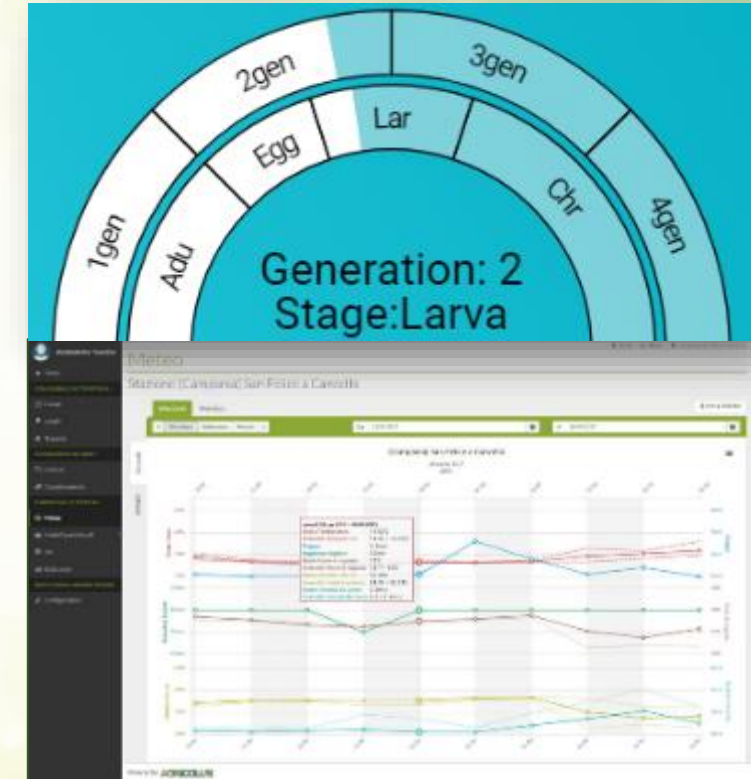
Patente/Autorizzazione	Rilascio	Scadenza	Annotazioni
Patentino fitosanitario	10/09/2016	10/09/2021	 
Patente di guida cat. B	16/04/1994	15/04/2024	 
Abilitazione all'uso di macchine agricole	23/07/2014	23/07/2019	 

# Forecast models

Forecast models provide farm entrepreneur with tools able to read and process environmental data in order to plan effective, efficient and targeted actions. Useful for:

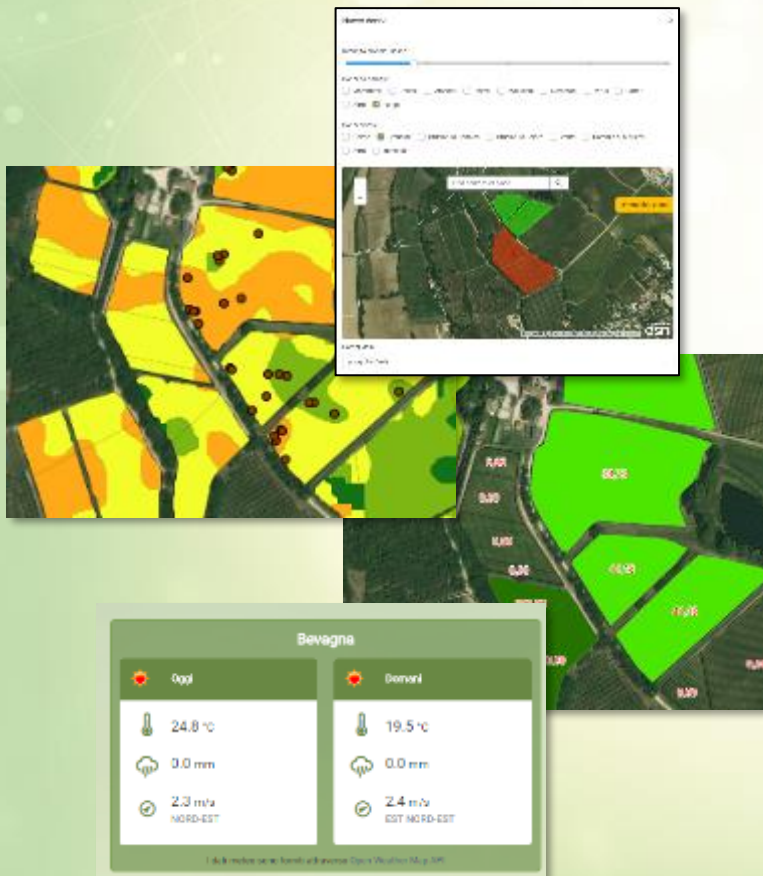
- Phenology of the crop (stage of crops development or stage of fruits ripening)
- Risk of infestation caused by specific pathogens or phytophagous at each stage of the crop cycle
- Crop nutritional requirements
- Crop water requirements

Our forecast models are **developed by Agricolus R&D team**, which is inside the University of Sant'Anna Pisa.




# DSS – Decision Support System

A Decision Support System (DSS) is a computer architecture able to support farmers and technicians in the analysis of decisions.




- Satellite Data
- Water Models
- Weather Data
- Phenology
- Other Data

**IRRIGATION**




- NPK Models
- Vigour Maps
- Weather Data
- Phenology
- Other Data

**FERTILIZATION**



- Pest prediction models
- Weather Forecast
- On the field Observations
- Phenology
- Vigour
- Other Data

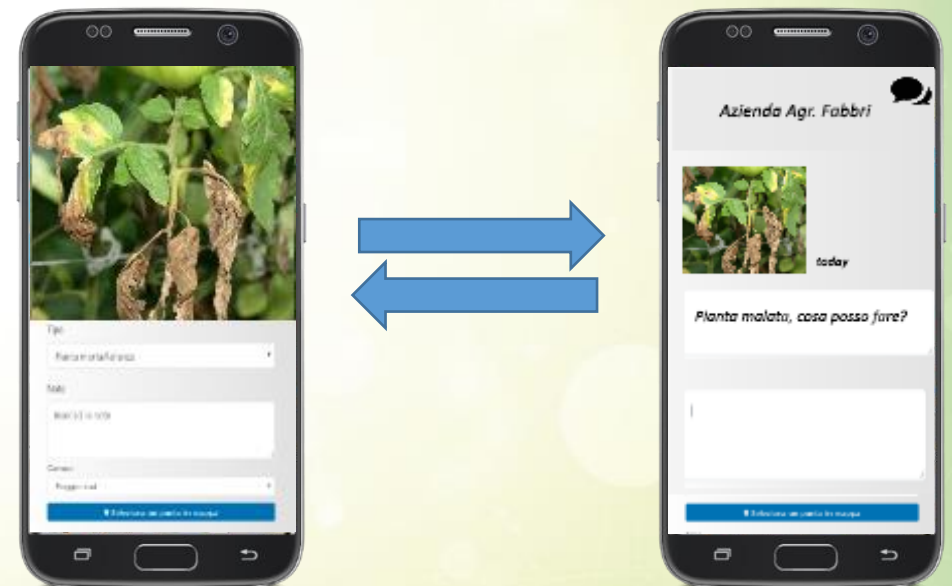
**DEFENSE**



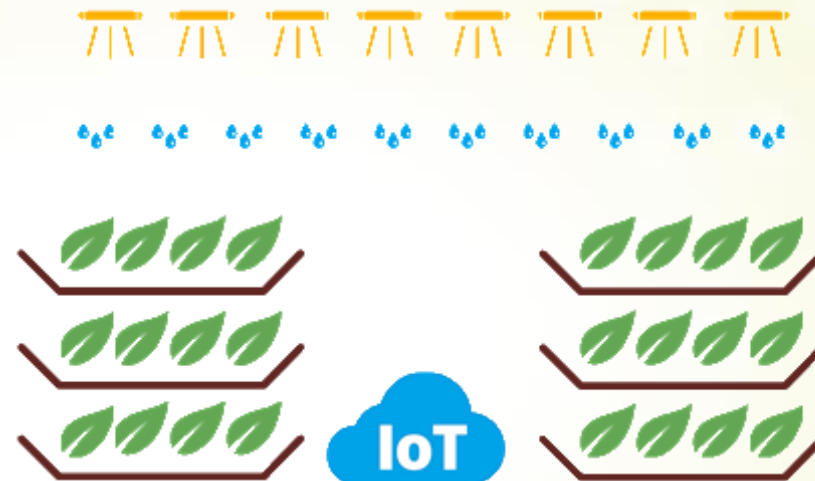
# Agronomic advice

Agricolus Professional Dashboard is a platform designed for agronomists, agricultural engineers and technicians.

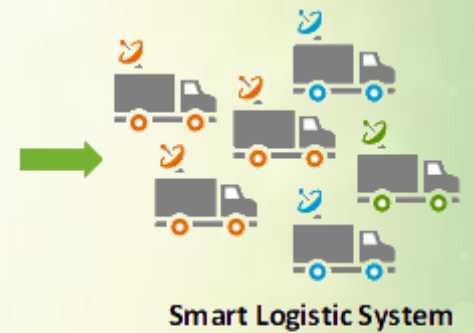
It is possible to view in a single interface the data of all the farms to which the agronomist offer advice and services, even remotely; monitoring the activities carried out; sharing decisions with the farmer for an efficient crop management.



# Agriplug e traceability

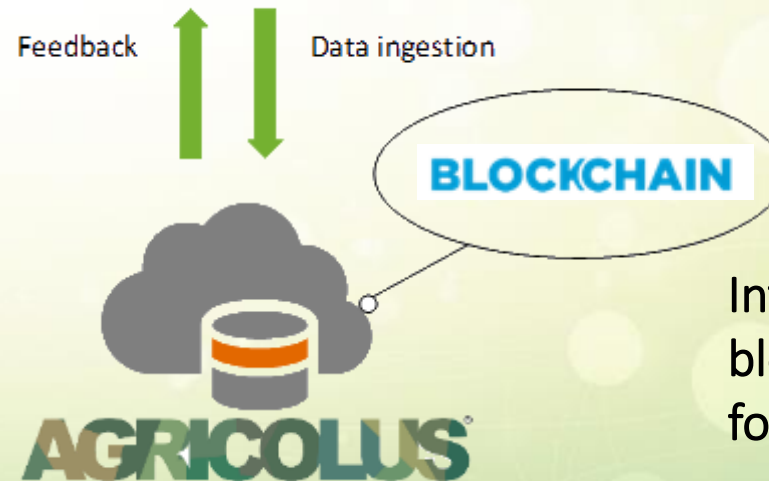


Agriplug is fully compatible hardware to monitor field data



Feedback

Data ingestion



Integration of blockchain technology for traceability

## TOBACCO DSS

- ✓ Nutritional and water needs
- ✓ Treatments optimization
- ✓ Inputs reduction

## OLIVES <sup>®</sup>

- ✓ Olive fly monitoring and prevention
- ✓ Traps and weather monitoring
- ✓ Increase in productivity

## GRAPE DSS

- ✓ Mildew, botrytis, powdery mildew, prevention
- ✓ Crop phenology and ripening
- ✓ Management per variety and zones
- ✓ Increase in quality

**Who we are**



# Multidisciplinary team

*board of directors*



Andrea Cruciani  
CEO



Antonio Natale  
COO



Diego Guidotti  
R&D

Data Analysts  
GIS & Software Development  
R&D - Agronomi  
Marketing & Sales  
Helpdesk

## Technical partners



Università degli  
Studi di Perugia



**Sant'Anna**  
Scuola Universitaria Superiore Pisa



Central Institute for  
Decision Support Systems  
in Crop Protection



**esri**



## Supporters



**Microsoft**



**Rising  
Food  
Stars**



FONDO EUROPEO AGRICOLA  
PER LO SVILUPPO RURALE:  
L'EUROPA INVESTE NELLE  
ZONE RURALI



H2020 - Phase 1

Phase 2 - 3 seal of excellence

# Our mission

Agricolus s.r.l. is an innovative startup which develops solutions for Smart Agriculture.

We want to support farmers and agricultural operators in optimizing agronomic practices by making AgTech tools, data collection and analysis technologies easier.



- ✓ Simplify Agritech complexity
- ✓ Up to 20 % fertilizers and treatment savings
- ✓ Improve and certify trasparence on production quality
- ✓ Connect farm machineries, IoT, satellites, drones and open data



# AGRICOLLUS<sup>®</sup>

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# PROFESSIONAL

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# ACADEMY

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Agricollus Professional Academy aims to train **agricultural professionals in optimizing the daily work** on the field by integrating specific skills and innovative technologies.

Classes provide an overview on **smart farming techniques, innovative technologies for agriculture** and on the optimization of the yield.



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