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AFD
AGENCE FRANÇAISE
DE DEVELOPPEMENT

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“Technical aspects of the agrometeorological station and sensor systems”



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ABOUT US

SST is a consulting and technology provider specializing in agriculture. Our primary objective is to integrate smart technologies into agribusiness while introducing international knowledge and experience to promote sustainable agriculture practices, improve productivity, and reduce costs.

"SST in Georgia is the official representative of the world's leading manufacturers of sensors, agro-meteorological stations, hail **and** antifreeze systems: Pessl Instruments GmbH, Davis Instruments Corporation, Grupo Spag and Earth Network.

PORTFOLIO

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Technologies

- Deployed agricultural meteorological stations: **21 in total**
- Additional sensor systems implemented: **up to 120 units**
- Crops include blueberries, almonds, grapes, walnuts, strawberries, pistachios, apples, peaches, and more



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Sensor System Solutions

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Technologies



WEATHER FORECAST



WATER MANAGEMENT



DISEASE MODELS



INSECT MONITORING



YIELD PREDICTION



LOGISTICS &
RESOURCE
MANAGEMENT



NUTRITION MANAGEMENT



SPRAY QUALITY
ASSESSMENT



SATELLITE IMAGERY



REMOTE FIELD
MONITORING





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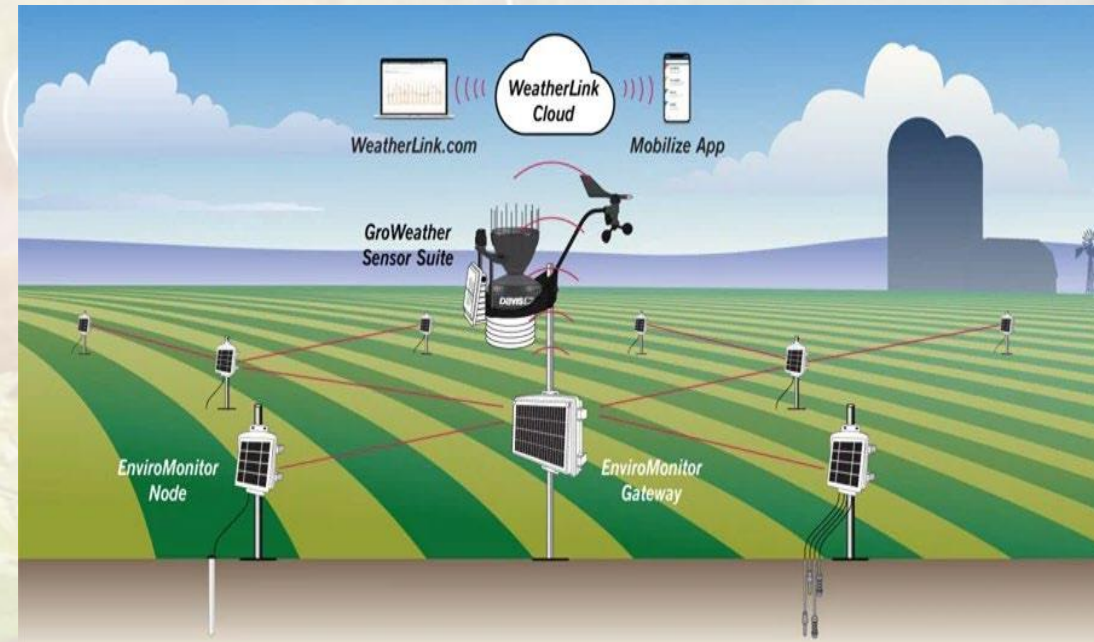


How does it work?



Using sensor systems, farmers and agronomists can access continuous and remote insights about pests in their gardens through a dedicated **application** and **web platform**. This technology provides detailed information and data, empowering users to stay informed about their agricultural surroundings.

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LTE

LORA

GPRS



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Commonly used sensor systems in agriculture

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Agro-meteorological
stations



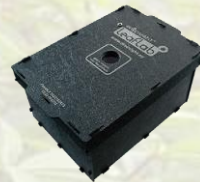
Irrigation
monitoring sensors



iSCOUT



CropView



DropSight



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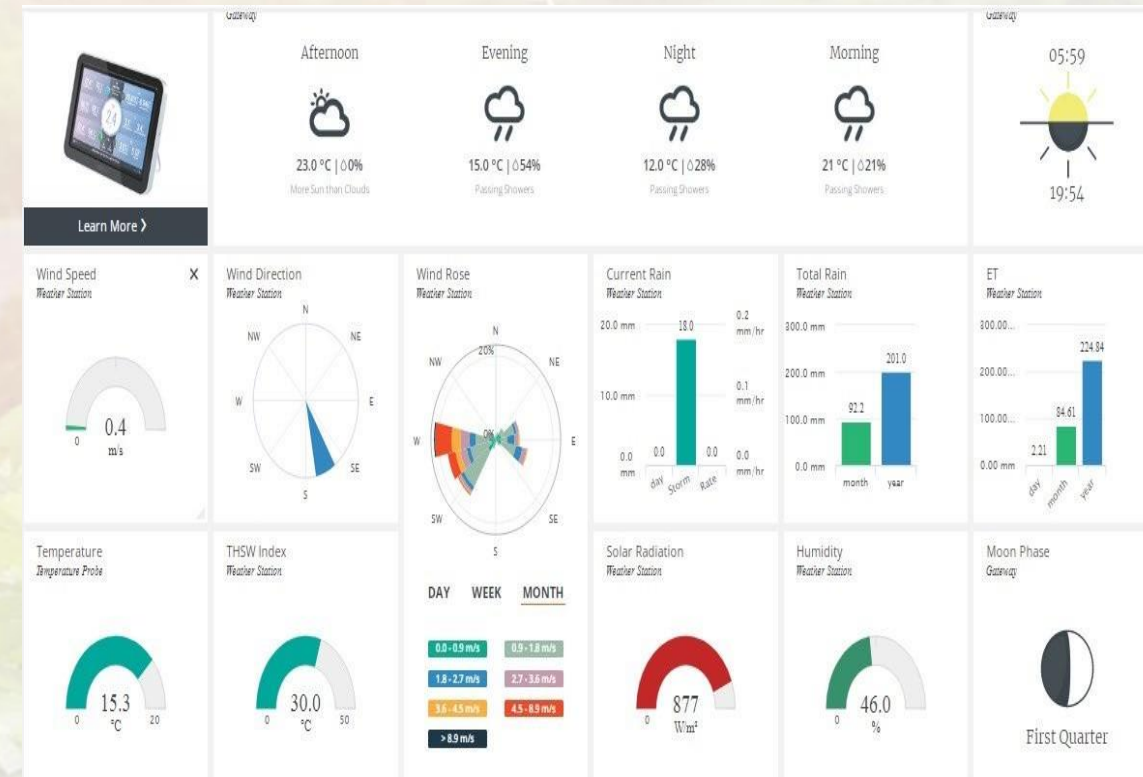
The data obtained from the agro meteostation

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Climatic data:

(a total of 23 types of data)

- Air temperature;
- Air humidity;
- Solar radiation and energy;
- Wind speed and direction;
- Speed and direction of prevailing winds;
- Evapotranspiration;
- Rain rate (within a specified time period);
- VPD (Vapor Pressure Deficit) - the quantity of steam needed to fully saturate the air;
- Chilling hours;
- Growing degree days (GDD);
- Dew point - the temperature at which moisture in the air condenses into dew, fog, or frost;
- Delta T.

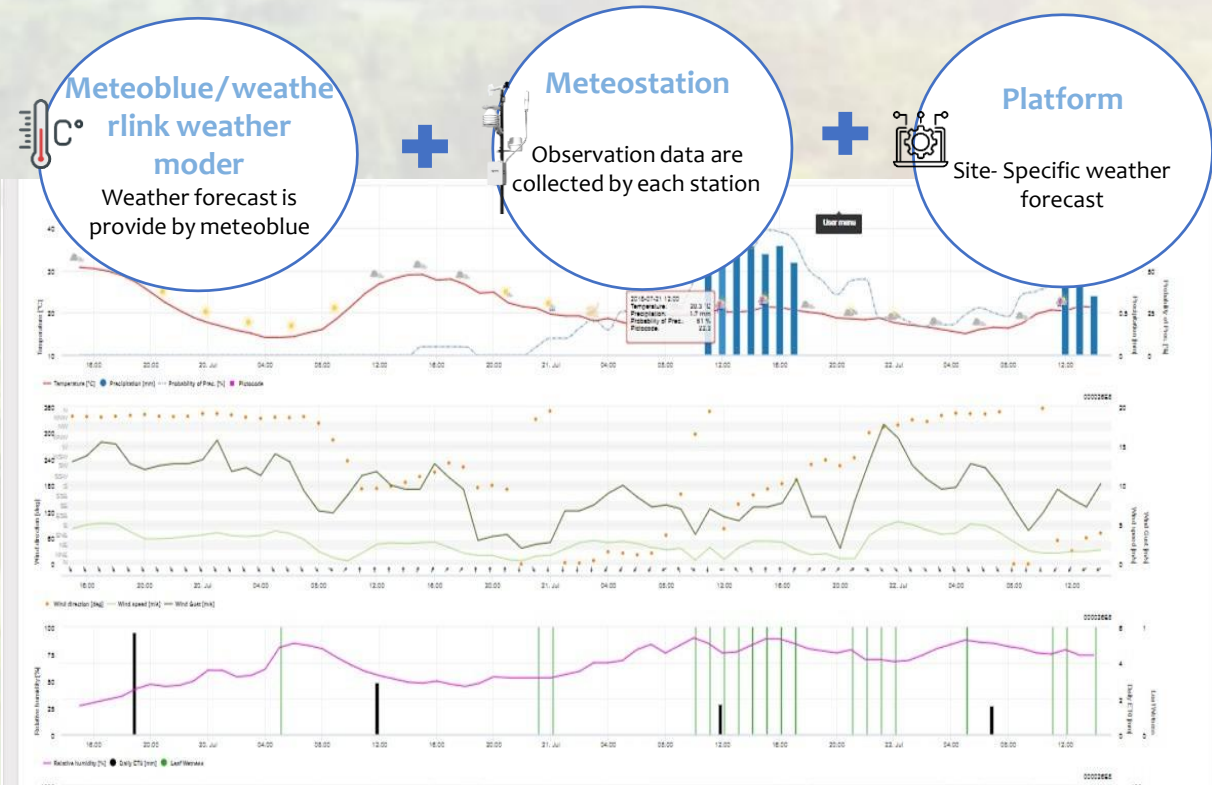




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Weather Forecast



Weather forecast: (3-7-14 days)

- Minimum temperature (frost): predicted start time, duration of frost, maximum temperature;
- Estimated precipitation amount: millimeters of rain, probability of precipitation (%), probability of snow (%) and depth (cm);
- Cloud cover (%), cloud base height;
- Wind direction, speed, and gust speed;
- Air humidity (%), daily evapotranspiration;
- Solar radiation intensity;
- Recommended day and time for optimal orchard treatment;
- Ideal harvesting window.



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Irrigation monitoring sensors



Sentek Drill & Drop
probe



PI54-D



The Watermark
Sensor



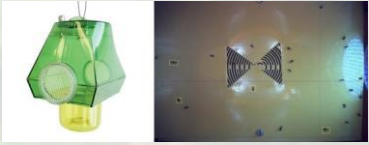
- Soil moisture accessible to the plant;
- Degree of soil dryness and excess moisture;
- Soil water content level;
- Timing and schedule for irrigation.



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iSCOUT



iSCOUT® PHEROMONE



iSCOUT® FRUIT FLY



iSCOUT® COLOR TRAP

iScout offers the following information:

- When the potential for pest propagation arises;
- In the online mode, you will be provided with a representative photo of the pest;
- An opportunity to observe pests and their breeding live, the extent of their proliferation, the identification of the specific pest, and the quantity of their distribution.



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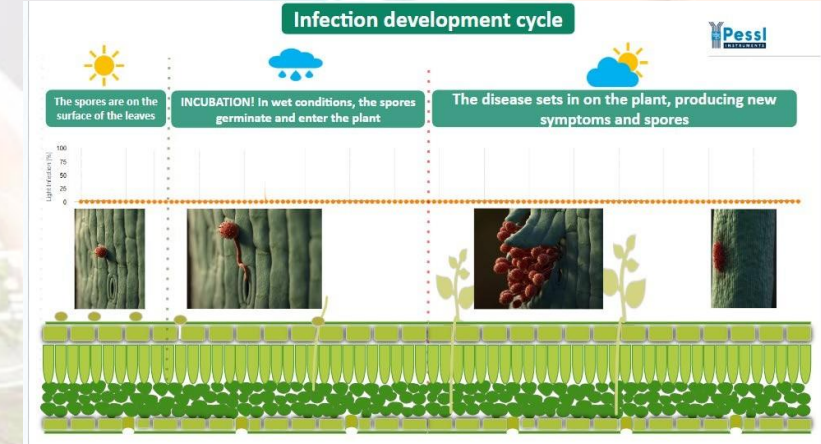
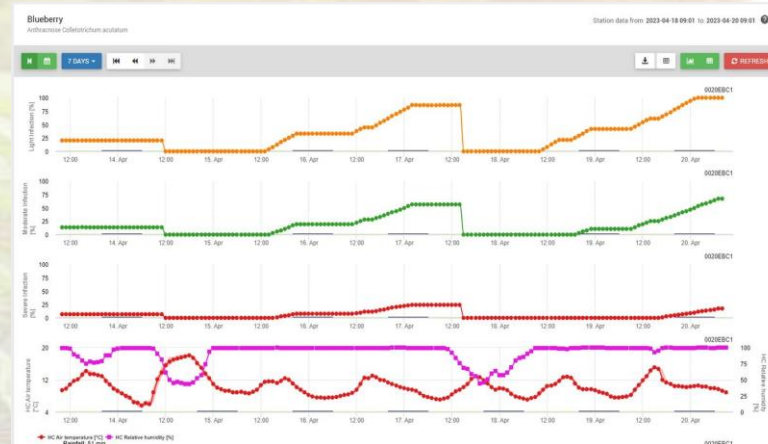
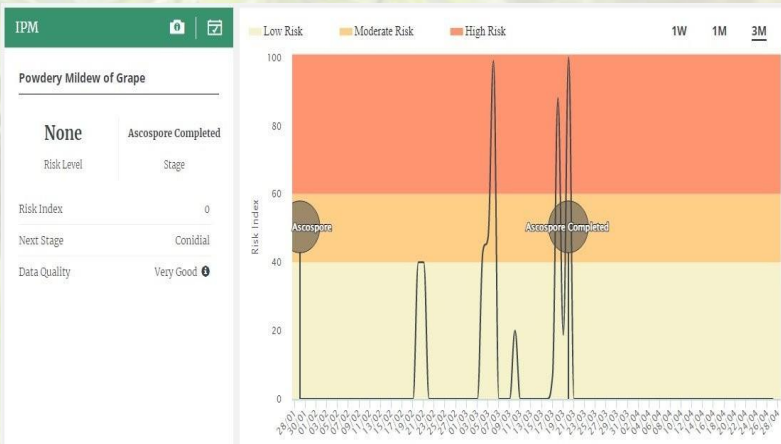


The information obtained from IPM



The system offers the following information:

- Timing of potential disease spread (likely phase);
- Appropriate timings for garden operations.





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CropView



The optical high-resolution camera system is installed in the field to remotely monitor the field, crop or fruit. All of the photos and data from computer vision software are displayed online, on a web portal called FieldClimate.

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Technologies



CropView offers the following information:

- Remote fruit monitoring – AI system for fruit measurement;
- Remote field monitoring - check the growth of your crop;
- Remote crop monitoring – check the phenophase of your crop;
- CropVIEW® – your field under full control.



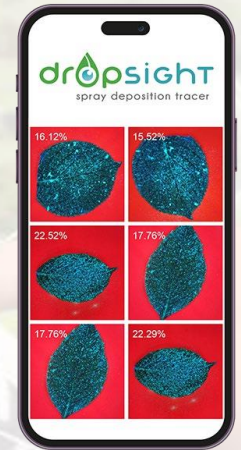
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DropSight®

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- Reduce the risk of poor biological control outcomes due to poor sprayer set-up and spray deposition;
- Reduce the risk of unacceptable residue levels due to accumulation and runoff resulting from too high volume and/or too large droplet spectrum used;
- Reduce the chemical losses due to runoff resulting from excessive spray volumes;
- Reduce the risk of soil and groundwater contamination due to excessive spray volumes;
- Evaluate and quantify the risk of drift on neighboring crops;
- Optimize the use of chemical formulations preventing over- and under-application, minimizing crop loss and potential resistance development;
- Optimize the selection and use of adjuvants and additives to improve deposition efficiency.
- Optimize the design of sprayer performance.





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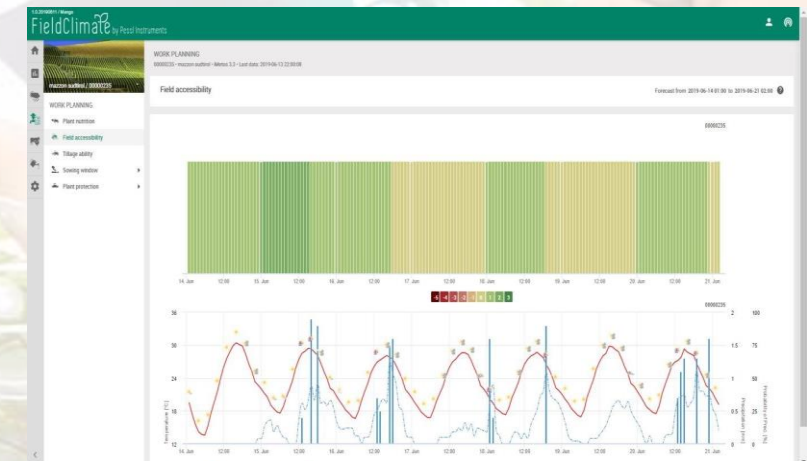
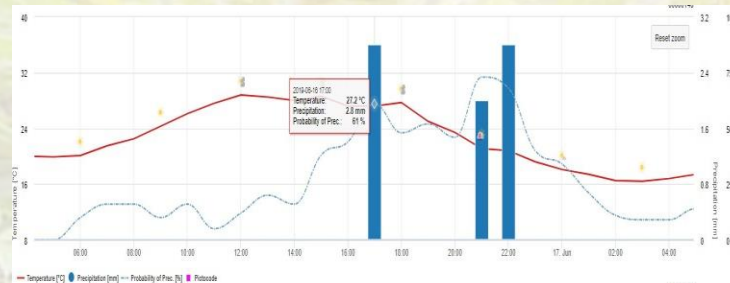
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Work Planning Benefits for farmers and agronomists

- Plan the workweek
- Better organize your workday
- Plan your fertilization application
- Plan your irrigation
- Know the best hours to access your fields





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THANK YOU FOR YOUR PARTICIPATION!
გმადლობთ მონაწილეობისთვის!

