



# SinaSens Smart Agri



# About Sinafis



Launched in 2016, Sinafis offers solutions to real-world problems related to irrigation, pest control, soil composition, and pesticide reduction. We help you achieve your sustainable development goals.



**More than 100 plots in France are equipped with Sinafis's solutions, including the following applications:**



**Arboriculture**



**Vegetable Growing**



**Field crops**



*“The agricultural sector is undergoing a transformation, and **data** is already the farmer's new tool!”*



*Ari, co-founder of Sinafis*

Our mission is to provide farmers with a global solution to equip themselves to face **environmental challenges** through **reliable and inexpensive technology**.

## THE SOLUTION

**A set of sensors connected to an online application - easy to use and intuitive. We worked with farmers to develop it!**

# Our solution SinaSens Smart Agri

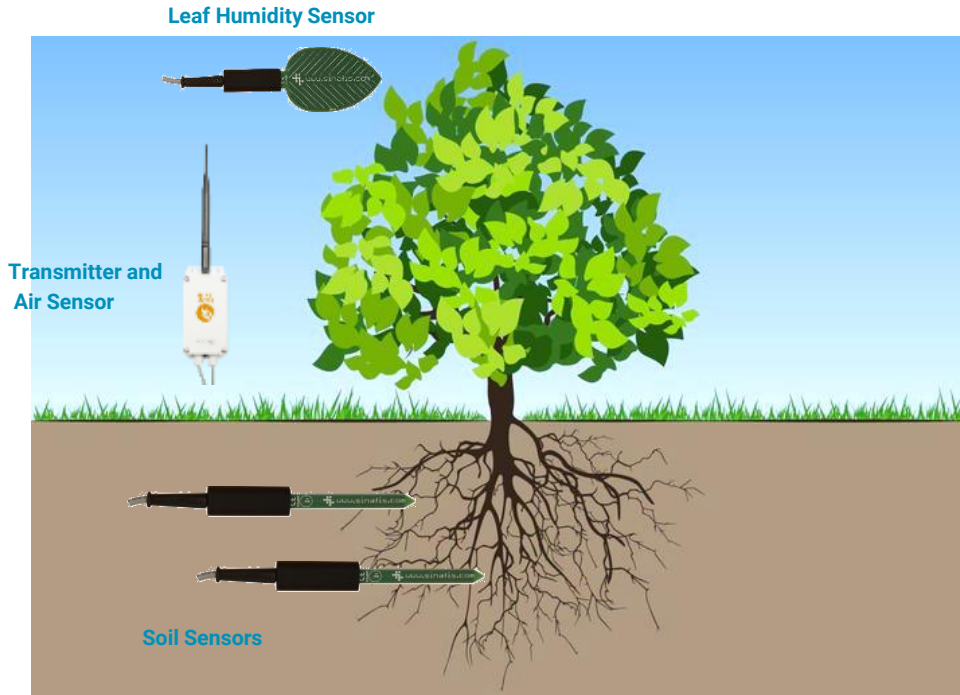


**A connected sensor**  
to collect field data

**A long-range network**  
to transmit the data collected

**An online application**  
to monitor and analyze the data  
collected

# Usage Example



## Measure the leaf surface humidity to:

- Anticipate diseases related to leaf moisture
- Optimize treatments and reduce the consumption of phytosanitary products

## Measure the humidity and temperature of the air to:

- Anticipate and detect frost
- Anticipate the life cycle of insects
- Anticipate diseases and risks

## Measure the humidity and temperature of the soil at 2 different depths to :

- Control root irrigation by monitoring the Available Water Content (AWC)
- Manage ground cover (mowing, crushing, or shredding)

# The Advantages



SinaSens Smart Agri responds to 4 specific issues, **identified by farmers** vis-à-vis the growing lack of water resources and unpredictable climatic disturbances :



## **Optimization of water resources**

by irrigating crops only when necessary



## **Improving the quality and quantity of production**

by anticipating known risks (diseases, pests)



## **Refining annual predictions by tracing the evolution of climatic cycles**

by accurately logging the data collected



## **Manage budget constraints**

by equipping yourself with high-performance and low-cost technology

# Feedback # 1: Walnut Trees



## Anticipate Diseases

Clément Touzouli equipped his parcels with the [SinaSens Smart Agri](#) solution in order to anticipate **frost** and the **arrival of diseases** on 40 ha of walnut trees.



*"I export the data from the application to cross and compare it with global observations!"*

**Clément Touzouli**

Cultivation of walnut trees in the Gers (32)

Diseases	Anthraco <sup>n</sup> ose	Bacteriosis
Favorable Temperature	15°C - 21°C	16°C - 29°C
Favorable Humidity	High (96-100%)	Air : High Humectation : High
Source	CA Nouvelle-Aquitaine (2018)	Giraud & al. (2011)

The results tell the tale:

✓ **Decrease in affected trees**

✓ **Increase in production**

# Feedback #2 : Olive Groves



The **CODC** has been using **SinaSens Smart Agri** for 3 years on **9 parcels of olive groves** in 3 départements (Aude, Hérault, Pyrénées Orientales) with 4 objectives:

	OBJECTIVE	METHODOLOGY
1	Control irrigation according to the needs of the root system and prevent disease	By monitoring soil moisture conditions
2	Anticipate water-borne diseases and monitor the development of bacteria impacting buds, leaves and young shoots (Peacock spots, canker, die-back, Bacteriosis, etc.)	By monitoring the conditions related to the moisture on the leaves
3	To detect the larvae of insect pests which emerge from the ground and migrate towards their areas of proliferation, in order to limit the pesticides and react as soon as possible	By monitoring conditions related to soil humidity and temperature. <i>Bactrocera Oleae</i> emerge en masse from the ground at 12 ° C and persist 8 to 15 days.
4	Increase the number of perfect flowers while promoting the elongation of the one-year shoots for perfect reiterations and thus improve pollination	By monitoring the conditions relating to humidity and air temperature as well as leaf humidity



**RESULTS : 30-40% INCREASE IN YIELD OVER A 2 YEAR CYCLE**



# Feedback #3 : Vegetable Growers



## Reduce water consumption

Olivier Plessis equipped his parcels with **SinaSens Smart Agri** with the objective of **optimizing his irrigation use in 6000 m<sup>2</sup> of cultivation in 12 greenhouses** and **1.5 ha** of field cultivation.



*"This solution will allow farmers of various crops to solve water-related problems - a real ecological advance!"*

**Olivier Plessis**

Vegetable farmer in the Tarn-et-Garonne (82)

	2018	2019 (with SinaSens Smart Agri)	Delta
Volume (in m <sup>3</sup> )	7 200	5 700	-20%
Average cost of irrigation	11 160 €	8 835 €	-20%
Average electricity cost	300 €	250 €	-16%

The results tell the tale:

- ✓ **Reduction in water consumption by 20%**
- ✓ **Better quality and shelf-life of the produce**
- ✓ **Optimization of work organization**

# Feedback #4 : Viticulture



## Reduce the consumption of phyto treatments and improve the soil

Sebastien Feral has equipped his plots with the **SinaSens Smart Agri** solution in order to **optimize his irrigation, improve his soil** and **reduce his use of phyto-sanitary products**



*"I couldn't do without my Sinafis sensors"*

**Sébastien Feral**

Winegrower in the Tarn (81)

Diseases	Mildew (Plasmopara Viticola)	Oidium (Uncinul necator)
Favorable Temperature	> 11°C	~ 25°C
Favorable Humidity	High (96-100%)	Air : High Humectation : High
Source	Bio Pays de la Loire (2017)	Bio Pays de la Loire (2017)

The results tell the tale:

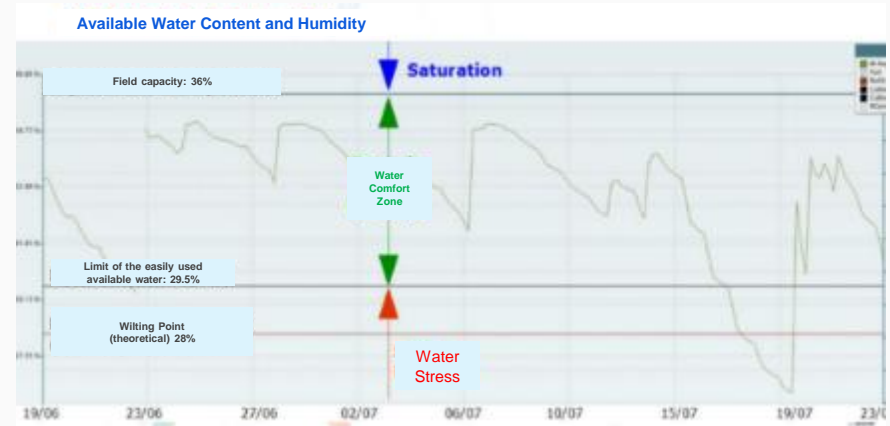
- ✓ **Better soil drainage after reworking**
- ✓ **25% reduction in phyto treatments**
- ✓ **Optimization of irrigation**

# Feedback #5 : Field Crops



## Obtain more vigorous and rapid seed emergence and better yield

By sowing when the soil temperature reaches 10 ° and using SinaSens Smart Agri to control the Available Water Content by monitoring soil moisture



The results tell the tale:

- ✓ Mastery of water consumption
- ✓ Yield improvement between 10 and 15%
- ✓ Less water stress

# Feedback #6 : Biocontrols



## Promote biocontrol agents

**Koppert Biological Systems** uses the **SinaSens Smart Agri** on experimental plots to **improve the efficiency** of the management of auxiliaries (bumble bees, mini wasps, ladybugs, etc.) and the application of biotreatments.



*“We note an increased effectiveness of the application of auxiliaries (larvae, mini wasps, bumblebees, etc.) by looking at the correlation between the life cycle of the plant and the various measured values of the environment.”*

OBJECTIVE	METHODOLOGY
Optimize the deployment of auxiliaries, prevent diseases and optimize bio-phyto treatments	By monitoring the temperature and humidity of the soil and air as well as leaf moisture

The results tell the tale:

- ✓ **Increased efficiency of the application of auxiliaries**
- ✓ **Better disease prevention**
- ✓ **Optimization of biocontrol treatments**

# Value Proposition



OPPORTUNITIES	BENEFITS
Optimization of water resources	<ul style="list-style-type: none"><li>• environmental</li><li>• financial</li></ul>
Optimization of quality and productivity: <ul style="list-style-type: none"><li>• Increased shelf-life of produce for vegetable farmers</li><li>• Better management of ground cover between the vine rows</li><li>• Improved fruit production</li></ul>	<ul style="list-style-type: none"><li>• financial</li><li>• organizational</li><li>• environmental</li></ul>
Remote and real-time monitoring of needs	<ul style="list-style-type: none"><li>• organizational</li><li>• financial</li></ul>
A flexible economic model adapted to different farmers	<ul style="list-style-type: none"><li>• financial</li></ul>
A reduction in phyto-sanitary treatments	<ul style="list-style-type: none"><li>• environmental</li><li>• financial</li></ul>
Anticipating the life cycle of insects and forecasting diseases and risks on vines, orchards, and aromatic plants	<ul style="list-style-type: none"><li>• financial</li></ul>

# Package SinaSens Smart Agri



## Field Equipment

1 transmitter + 2 sensors (soil + Leaf)

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## Data Transmission


Annual Sigfox network subscription (up to 96 transmission / day)

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## Web Application

Data logging, e-mail alerts, API

 The offer is available for purchase (subscriptions included) or as an annual rental.



## Your contact for further information:

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