

# SynField\*

PRESICION AGRICULTURE SYSTEM

SYNELIXIS\*

2025





SynField  
automates your crop!

With many years of experience in automation and information technology, building on partnerships with agricultural universities and research centers, Synelixix presents SynField.

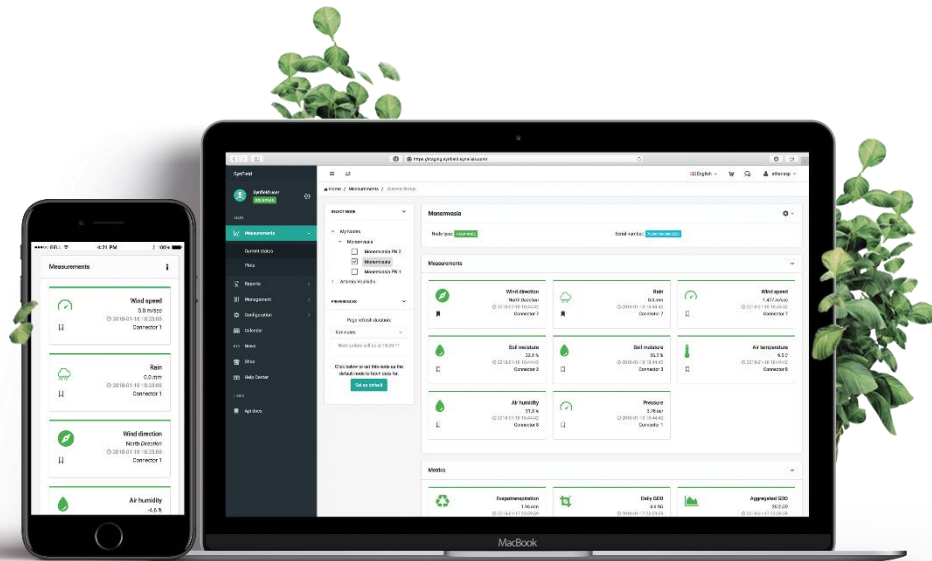


## SynField Precision Agriculture

**SynField** is **Synelixix**' flexible, vendor independent solution for smart irrigation and water management applications, such as advanced control and monitoring of small-medium sized farms and water pipelines network.

# The system to make your crop smart

**SynField** is a combination of software development and hardware engineering that offers innovative services to the modern farmer. SynField provides remote monitoring of climatic, environmental and soil conditions, while also providing remote control irrigation water management, pressure network management and prediction of diseases in different crops.





# SynField\*

## Monitor & Control your Crop

The SynField remote control of irrigation and water management. This control can be based on rules, either fully or partially automated, and can be extended to other switch-controlled systems, based on time parameters and sensor values.

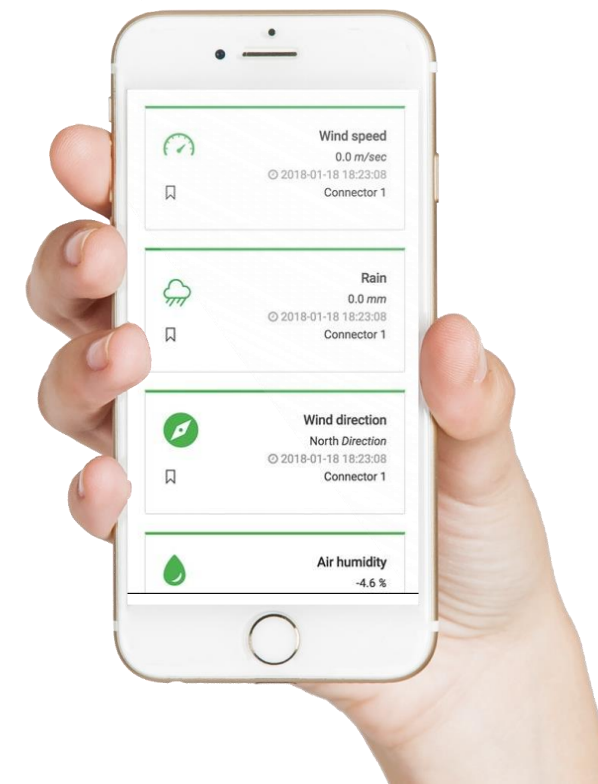


SynField Precision Agriculture

## Monitor your crop

**Access** real time data and **monitor** the climatic, environmental and soil conditions of the crop using his personal computer or mobile device.

- Air Temperature
- Relative humidity
- Wind speed & direction
- Rainfall
- Leaf wetness
- Soil moisture
- Soil temperature
- Soil electrical conductivity
- Water flow/pressure
- Irrigation control
- Automated/rule-based irrigation
- Remote –on demand- Irrigation
- GPS tracking
- Power autonomy
- integrated solar panel
- Solar radiation
- Remote water drill control
- Water content
- Photosynthetic activity
- Solenoid valves/ relays
- SMS/Email Alerts
- Robust and waterproof design
- Crop/Soil-type irrigation rules
- Pipeline leakage detection



Wind speed  
0.0 m/sec  
2018-01-18 18:23:08  
Connector 1

Rain  
0.0 mm  
2018-01-18 18:23:08  
Connector 1

Wind direction  
North Direction  
2018-01-18 18:23:08  
Connector 1

Air humidity  
-4.6 %

SynField Precision Agriculture

## Remote Control Irrigation

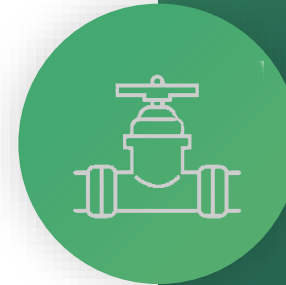
**SynField offers automated irrigation services. Therefore, it will water when and as much as needed, depending on the type and stage of growth of your crop.**

Take control over your field, by managing relays and solenoid valves remotely. SynField provides manual or automatic irrigation control, based on calendar, crop growth or environmental conditions (i.e. soil-moisture levels and low-temperatures/ice prevention). In addition, SynField can monitor pressure at pipelines, Start/ stop water pumps and measure water level in tanks.



### Monitor & Control

Monitor and control your crop remotely from your computer or mobile device, wherever you are.



### Remote Irrigation

Enable automated irrigation, based on preset rules or irrigate on demand whenever you want, wherever you are.



### Water management

Monitor the pressure at pipelines, water level in tanks and waterflow.

SynField Precision Agriculture

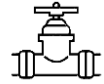
## Full control at your fingertips

Monitor all your fields, regardless of number, wherever you are. Get alerts and notifications, set automation rules, irrigate and manage your crop at will. **Save time, effort and money.**

SynField\*

### Smart Agriculture Solution

- ✓ Monitor
- ✓ Control
- ✓ Irrigate
- ✓ 24/7



Remote control smart irrigation



Time savings / Reduction in labor



Reduction in water waste up to 55%



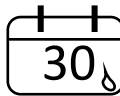
Reduction in fuel consumption



Efficient use of fertilizers and pesticides



Real time information and alert notification



Recording and scheduling

# Your crop is one click away



HARDWARE

# SynField Head nodes

Meet the SynField product Family

The SynField product family was developed to meet all the needs of the modern farmer



The SynField Head-nodes are:

- ✓ Robust
- ✓ Waterproof
- ✓ Fully autonomous devices with integrated solar panel
- ✓ Easy to install

The SynField Head-nodes can support:

- ✓ Up to 8 sensors
  - ✓ Up to 8 actuators
- To collect data from the field and enable automations

The SynField Head-nodes offer flexibility:

- ✓ The device support a plethora of off-the-self sensors (vendor independent) and actuators (valves, relays).

HARDWARE

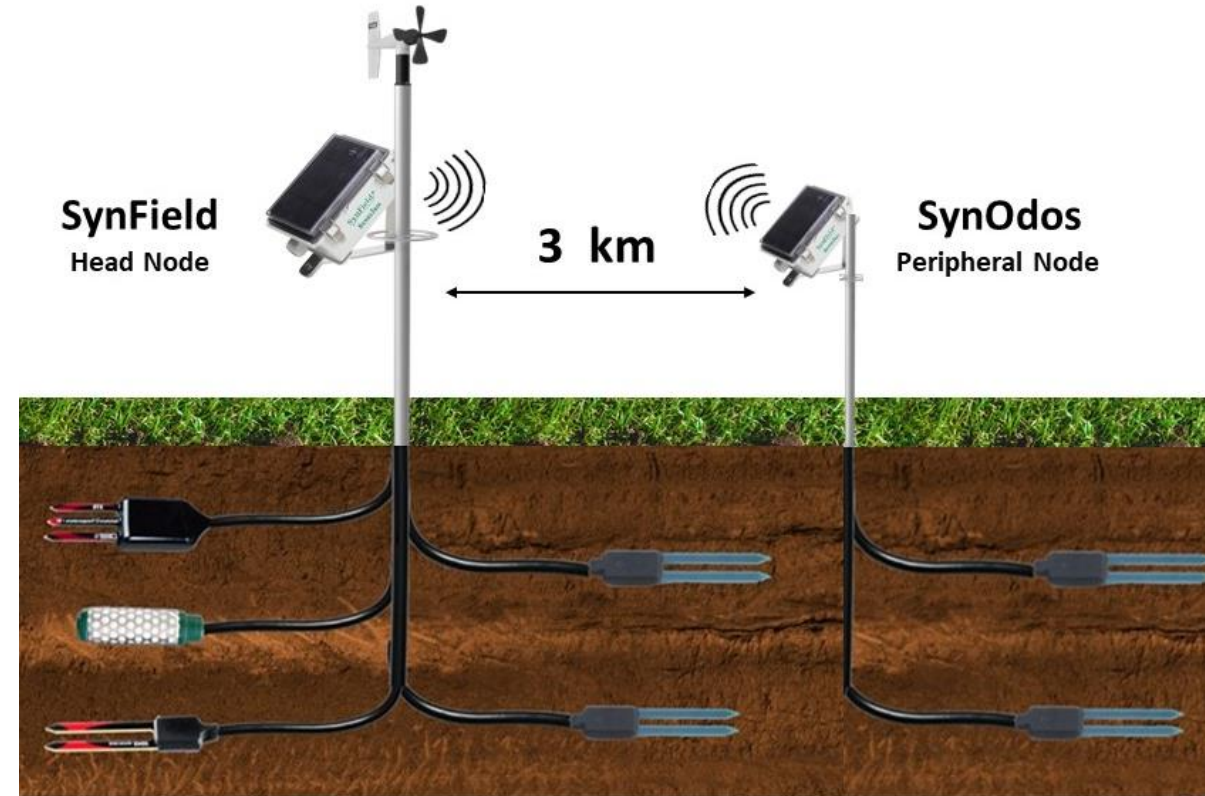
# SynOdos

## Wireless Peripheral Node



The **SynOdos** is a wireless peripheral monitoring and control device which **connects wirelessly** to a SynField head-node (that acts as a gateway, irrigation etc).

The device is autonomous with integrated solar panel and large rechargeable battery and supports up to **2 sensors** and **2 actuators**.



The interconnection between SynField and SynOdos device is based on the LoRa wireless technology. The distance between **SynField** head node and **SynOdos** peripheral node can reach up to **3 km**.





HARDWARE

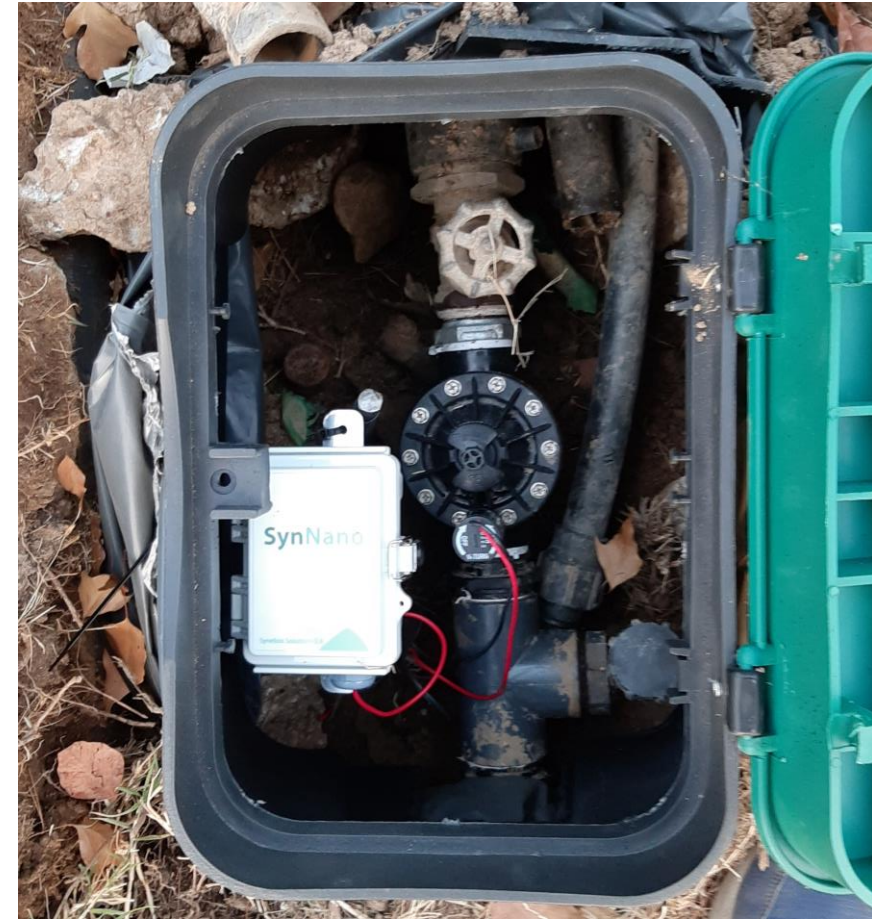
# SynNano

## Wireless Peripheral Node



SynNano incorporates innovative technologies to be **extremely energy efficient**. The device operates exclusively on battery power, without the need for a direct connection to an external power source.

The integrated high-capacity  $\text{LiSOCl}_2$  battery allows the device to operate for more than **5 years** without a battery change. The device can support up to **2 sensors** and up to **2 actuators**

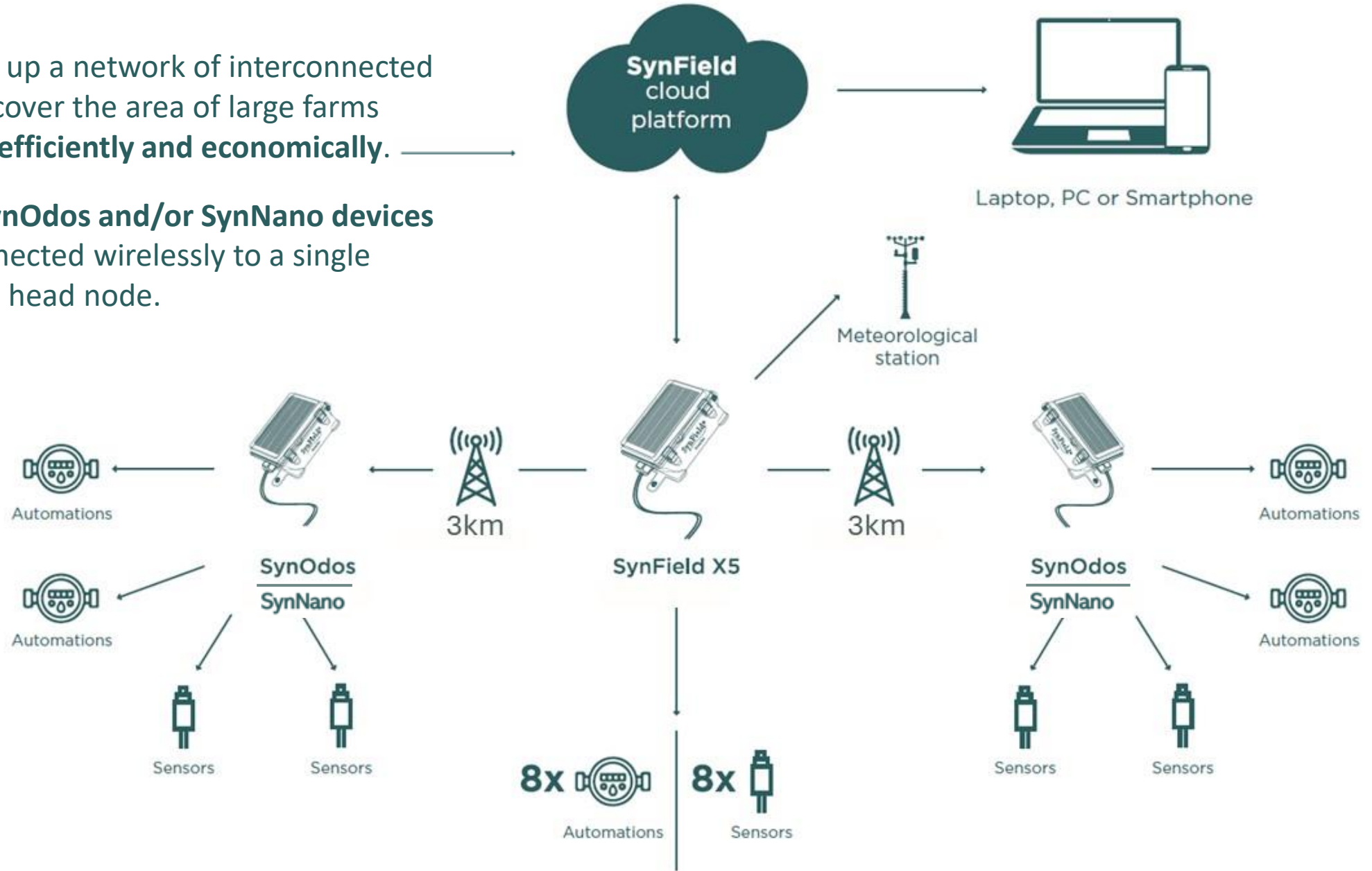


The interconnection between SynField and SynNano device is based on the LoRa wireless technology. The distance between **SynField** head node and **SynNano peripheral** node can reach up to **3 km**.



You can set up a network of interconnected devices to cover the area of large farms **wirelessly, efficiently and economically.**

Up to **16 SynOdos and/or SynNano devices** can be connected wirelessly to a single SynField X5 head node.



Hardware



## SynAir Air Quality Monitoring System

**SynAir** is equipped with sensors for measuring air quality characteristics, such as temperature, relative humidity, barometric pressure, suspended particles (PM1.0, PM2.5, PM4, PM10), total volatile organic compounds (VOC), CO, CO<sub>2</sub>, O<sub>2</sub>, ozone, and NO<sub>2</sub>. SynAir can also detect ethanol.

Hardware



## SynWater Water Quality Monitoring System

**SynWater** is a water quality monitoring system that supports sensors measuring, water temperature, PH, Oxidation Reduction Potential (ORP), Dissolved Oxygen (DO), Electrical Conductivity (EC)

Anemometers

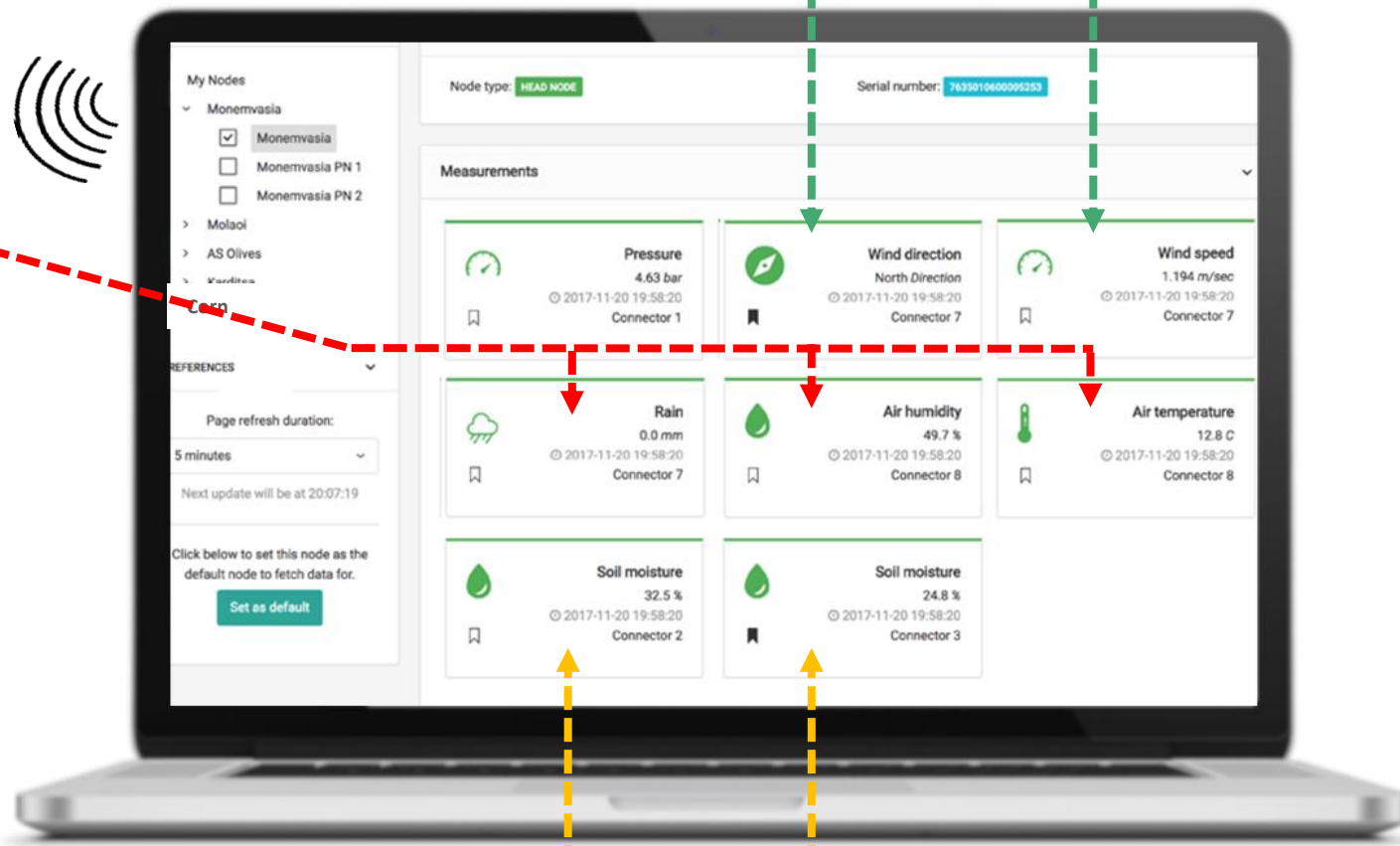
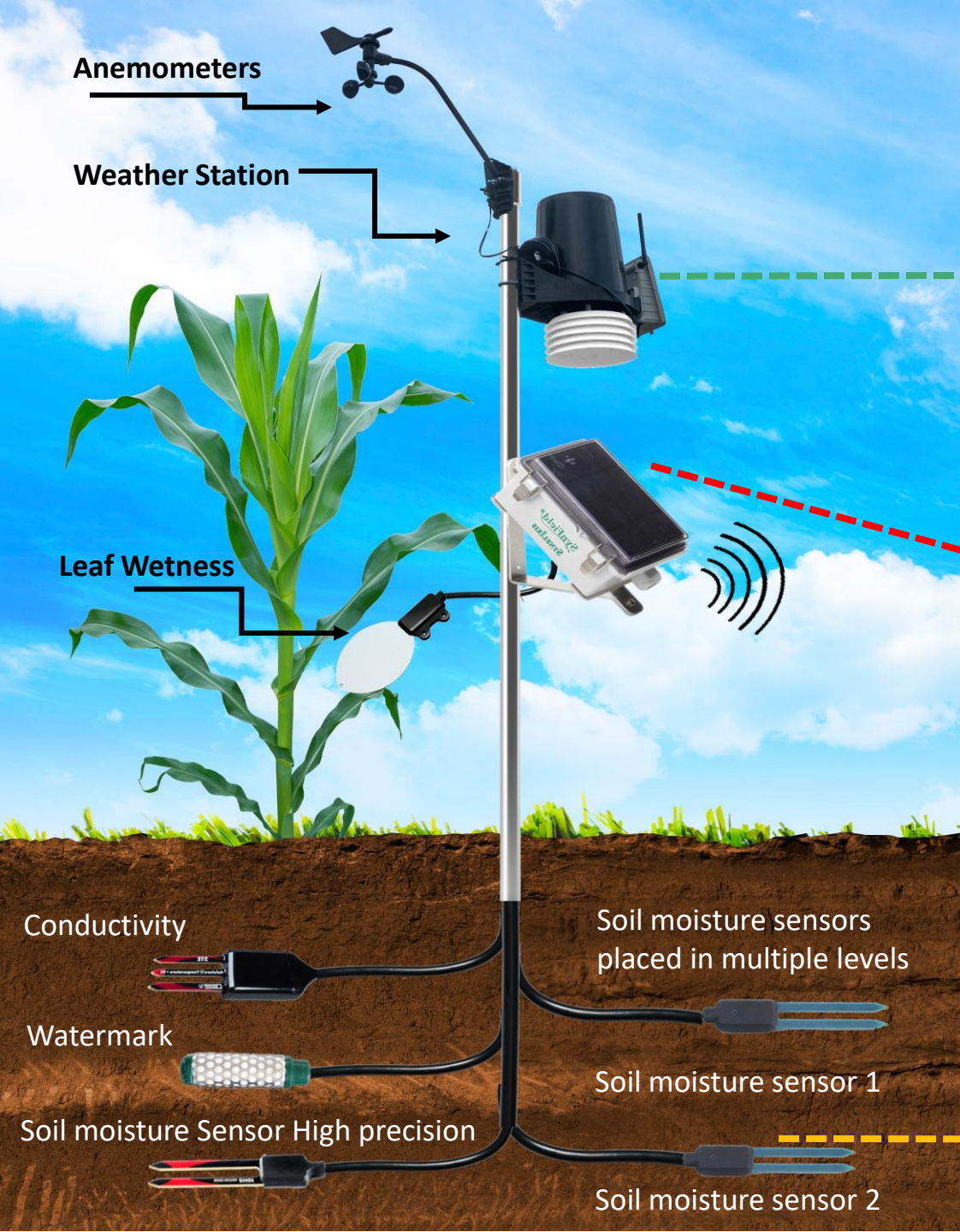
Weather Station

Leaf Wetness

SOFTWARE

# SynField platform

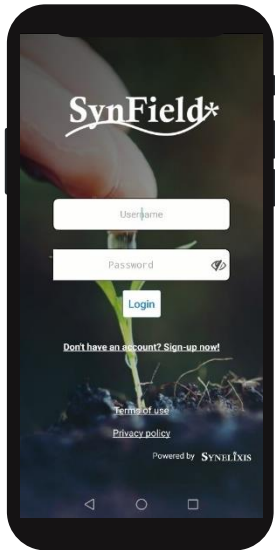
## Remote Monitoring and Control, 24/7!



SOFTWARE

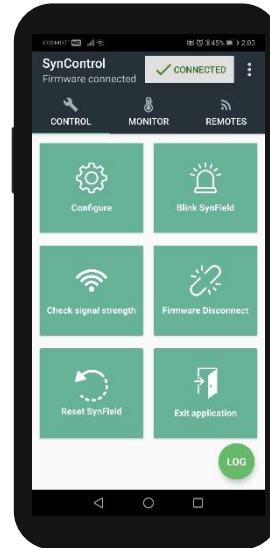
# SynField mobile applications

## SynField app



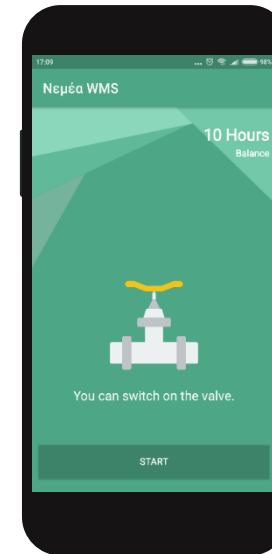
The SynField application is part of the SynField digital ecosystem and provides you with the SynField web platform features adjusted to your device.

## SynField Control app



The SynField Control application allows you to set and control your equipment directly on field through a mobile device.

## SynField Water Management app



The SynField Water Management application allows you to manage the water installation pump you participate in, remotely through a mobile device.

SynField provides a complete package of smart agricultural tools for the farmers. The SynField mobile applications have simple interfaces and are easy-to-use. Control your actuators remotely and monitor the conditions prevailing in your field in real time, wherever you are, 24/7!

# SYNELIXIS

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