



Nested Approach To IoT Agriculture

Agriculture has changed drastically in the last two decades. And fast developing technology will continue to have a tremendous effect on the farming in the upcoming years. IoT in agriculture is gaining importance since it helps monitor multiple assets at once. But how does it work?

Nested or Holistic approach means connecting many different equipment/solutions that are strategically placed on your fields. It connects all the dots, makes it easier to control your farm, so you don't have to worry about one aspect being overlooked. This way you avoid unnecessary trips to the field, know exactly what are the conditions at any given time, make timely decision about irrigation, fertilizing, pesticide application, harvesting, and more.



weather station cannot provide enough data to respond to everything your crops need.

What more does nested approach give compared to having only a basic weather station in the field?

- · You can check the disease pressure in your fields, see if insects are increasing, respond before the damage occurs
- You know your soil moisture for irrigation and yields
- Have a pin point forecasts for multiple work planning tools
- In field devices and sensors increase your bottom line or a higher return of investment

Farm management systems are complex but it doesn't mean they should be hard to understand and manage. Not only do they help you control several aspects, since they are all connected, they make every step of the way more efficient.

Nested approach results in:

- Saved resources (water, fertilizers, soil)
- Lowered impact on the environment
- Saved time and money
- · Better and bigger yield
- Avoiding unnecessary losses
- Optimized agricultural processes
- · More efficiently done business

Nested Approach

WEATHER DATA SYSTEMS

- Weather maps
- · Weather forecasting
- · Weather data Application

Weather stations, virtual weather stations, meteorological sensors (hygroclip, air temperature, relative humidity), virtual sesnors (delta T, VPD, ...)

FARM EQUIPMENT SYSTEMS

- · Conditions in breeding facilities
- · Conditions in green houses
- Tracking of equipment
- · Theft control

Data loggers, tracking (GPS) systems

FARM MANAGEMENT SYSTEM

IRRIGATION SYSTEMS

- Irrigation application
- · Water stess detection and alarm
- · integration with other irrigation systems

Soil moisture sensors, leaf wetness, field sensors, irrigation nodes

PLANT PROTECTION SYSTEMS

- Insect monitoring
- · Plant disease monitoring
- Disease models
- Disease prediction
- Historical data
- · Remote field monitoring

Al based cameras, insect detection tools, detailed images...

(SOIL) NUTRITION SYSTEMS

- Soil analysis
- SAP analysis
- Fast & reliable results

Mobile soil lab, data analysis programme

ONLY WITH THE NESTED IOT APPROACH YOU COVER ALL AT ONCE:

Weather monitoring: monitor environmental parameters, such as precipitation, air temperature, leaf wetness, solar radiation and more (iMETOS 3.3, LoRAIN, μΜΕΤΟS)

Water management: improve water management by closely monitoring the status of your crop in the field (iMETOS ECO D3, µMETOS CLIMA, LoRAIN soil, soil moisture sensors)

 $\begin{tabular}{ll} \textbf{Crop health management:} & disease modelling, insect monitoring, frost warning, field scouting and more (iSCOUT, CropVIEW, <math>\mu METOS$)

Nutrition management: use your lab-on-a-chip to know exactly what your crop needs and optimize fertilizer use (iMETOS MobiLab)

Weather forecasting: high precision, localised weather forecast (iMETOS 3.3)

Logistic resource management: avoid empty tanks, monitor storage, plan farm logistic and manage labour (iMETOS Active tracker, iMETOS Object tracker, iMETOS ECO D3)



