

# TELEMATIC SOLUTION FOR THE CONTROL AND MANAGEMENT OF FIELD, PRODUCTION BUILDINGS AND OFF-HIGHWAY VEHICLES

*in*Station

ama





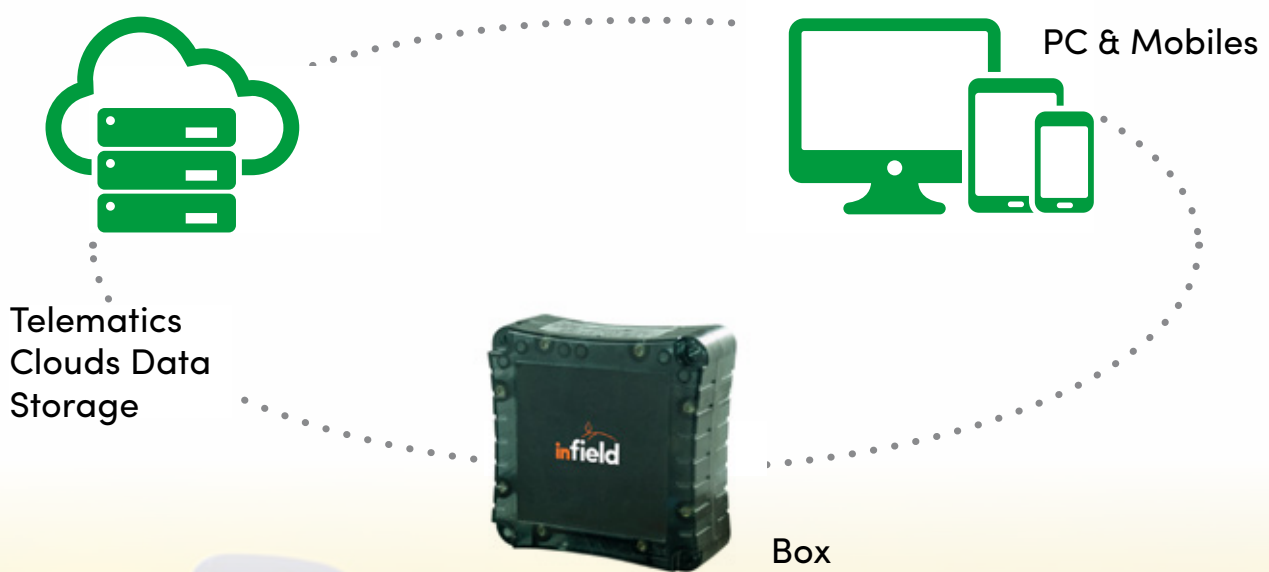
## ONLINE SOLUTION FOR THE CONTROL AND MANAGEMENT OF OFF-HIGHWAY FIELD AND VEHICLES.

InPulse is an advanced OpenPlatform modular system that collects and processes a high amount of data for advanced management of the agricultural, construction and industry and goods handling sectors.

Greater security, greater efficiency and lower costs.

InPulse is composed of a comprehensive suite of intelligent sensors that collect data from fields, vehicles and tools, transmitting it to the Box control units, from which it is immediately sent by modem to the data centre for analysis.

The information, processed by the Box units, is accessible via the InPulse platform or on-board instrumentation.



### FIELDS OF APPLICATION



**AGRICULTURE**



**OEM VEHICLE**  
Management of  
earth logistic



**RENTAL & FLEET**



**PRODUCTION  
BUILDING**





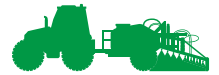
## FIELD MONITORING



Data collection  
and analysis



Agronomic  
advice



Quick and effective  
intervention



## VEHICLE MONITORING



Vehicle check



Maintenance



Remote  
management



Critical  
data Analyses



Process  
optimization



Waste  
reduction



## FARM MONITORING



Structure and  
installation check



Alerts



Quick interventions  
for efficiency



Prevention  
and securing





**inStation**

**GSM e GPS**

**WIRELESS CONNECTION**

**PHOTOVOLTAIC PANELS 10W**

**AIR TEMPERATURE & HUMIDITY**

**3 SOIL MOISTURE SENSORS (60 CM-40 CM-20 CM)**

**RAIN GAUGE**

**LEAF WETNESS SENSOR**

**PAR**

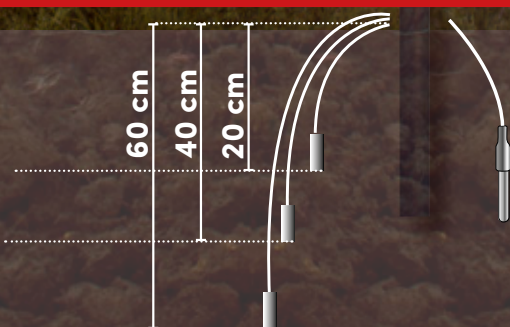
**ANEMOMETER**

INSTATION IS A FULLY AUTOMATED MONITORING SYSTEM (NO POWER LINE REQUIRED) WITH WEATHER AND FIELD PARAMETERS, THAT READS THE WIRED SENSOR DATA FROM THE FIELD VIA WIRELESS RECEIVER. ALL THE DATA ARE SENT TO THE CLOUD VIA INTEGRATED GSM MODEM.

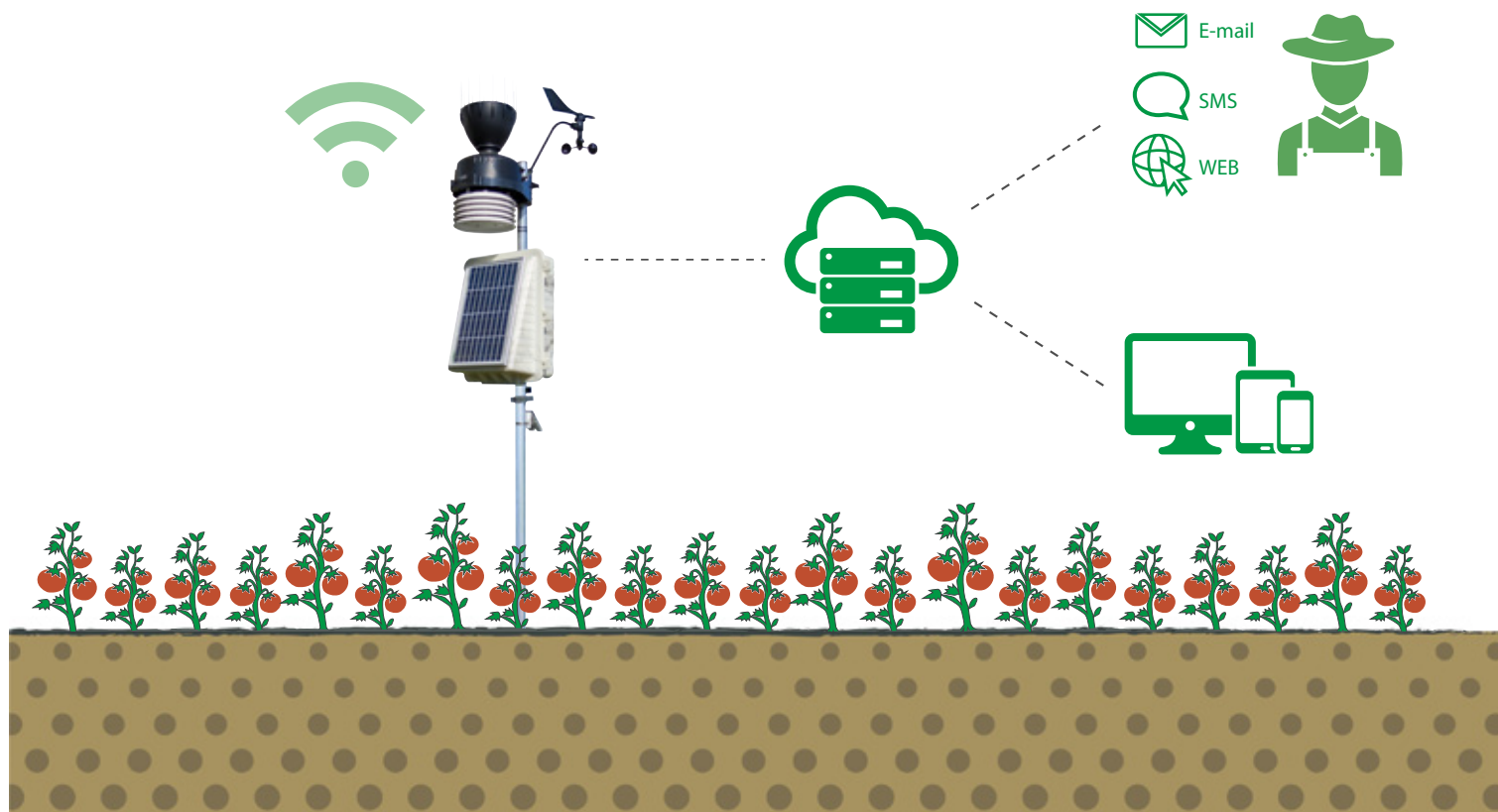
60 cm

40 cm

20 cm



## HOW IT WORKS (OPERATING MODE)



## THE ADVANTAGES



### ENVIRONMENTAL

The national policy objective is to increase by 10 percent the areas cultivated with conservative principles by 2021.



### ECONOMIC

Financial incentives (rdp), average annual saving of 15% on cultivation costs



### TECHNICAL EFFICIENCY

Savings from 10% to 30% on working hours, fertilisers, seed, herbicides and fuel.  
Increase of annual operating margin by 5,5%



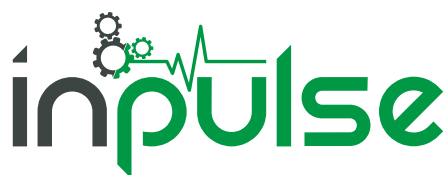
Carbon dioxide emissions

**-14%**



Fuel and time

**-20%**



Productivity

**+15%**



Treatments

**-10%**





## MANAGEMENT OF EARTH MOVING MACHINERY AND LOGISTICS VEHICLES

InPulse is a complete platform that is ideal for the management of Off-Highway vehicles, especially earth moving machinery and logistics vehicles.

Designed to be installed on OEM vehicles and for retrofit applications, Inpulse is aimed at the biggest manufacturers of slow-moving vehicles, with the aim of improving quality standards and developing technological innovation through process integration.

Inpulse offers a modular solution that adapts to every type of requirement, offering the utmost flexibility.

- Remote vehicle management
- Analyses critical data
- The ideal solution for new demands within the industry



## DATA MONITORING



Geolocalization



Geofencing



Vehicle Tracking



Fuel Level



Fuel anti-theft



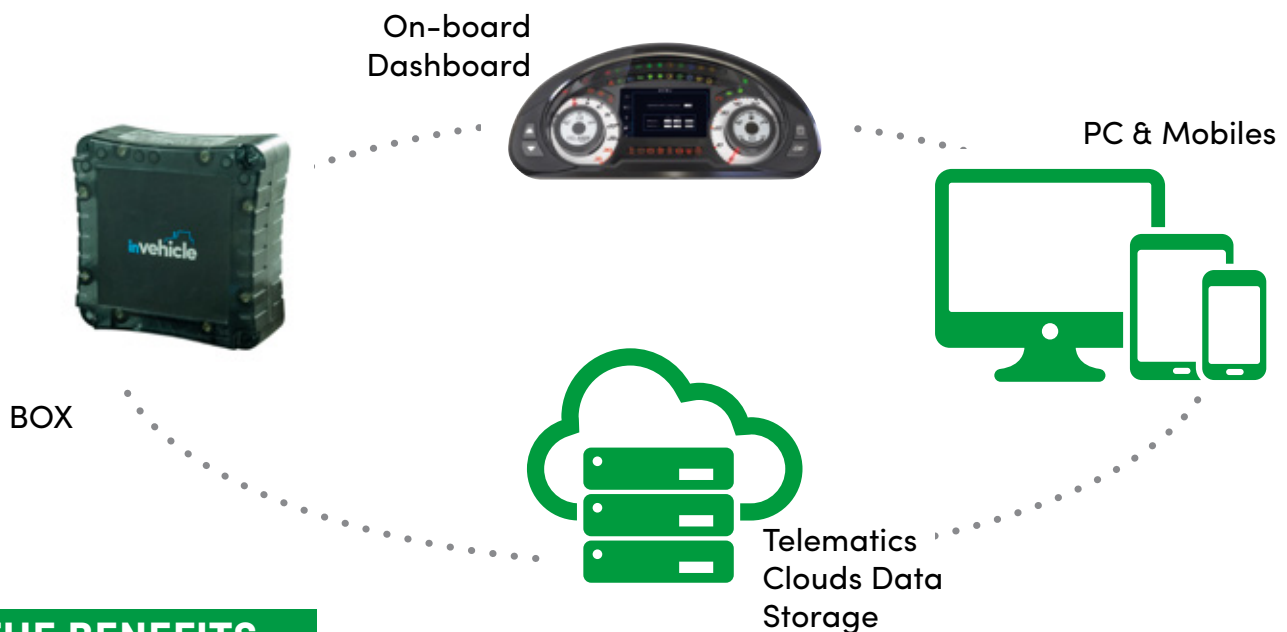
Consumption control



Inpulse BOXES are control units that read and process data from wired and wireless sensors, which they then transmit via CANBUS to the control unit and screen of the vehicle on which the box is mounted and via a mobile network with integrated modem to the cloud.

Hardwearing case, two CANBUS ports and integrated aerials.

Equipped with universal Sim-on-chip. Instant, easy installation. Can be connected to a smartphone, tablet or PC.



## THE BENEFITS



### ENVIRONMENTAL

- **Drastic reduction** in expensive machine downtimes.
- **Greater work** cycle efficiency, thanks to constant monitoring of the activity of the vehicle.
- A global solution for **easy management, facilitated by remote connectivity**: Thanks to the universal SIM-on-Chip, the operator does not need to use different providers based on the country where the system is being implemented.



### FINANCIAL

- **Reduction in fuel** consumption.
- **Cost savings** related to vehicle **maintenance and servicing**.



### TECHNICAL EFFICIENCY

- **Possibility to read machine parameters and measurements** on parts that are difficult to reach using wired equipment.
- The Sim-on-Chip solution offers **greater reliability for applications** affected by vibration and mechanical shocks.





## FARM MONITORING

Farms become intelligent. A green revolution is in progress in the world of agriculture and smart farms are taking a leading role: efficient, innovative, dynamic and eco-friendly farms.

Thanks to technology such as GPS services, sensors and big data and a platform with sophisticated algorithms and IT tools, Inpulse offers a monitoring system designed to diagnose the condition of the farm's buildings and systems.



With this data, Inpulse helps farmers increase the safety of their buildings (cellars, barns, animal shelters, silos, residential buildings, greenhouses, etc.) and create a benefit for their farm, collecting detailed data, which becomes an important asset for the farmer and those working in the agricultural and food sectors.

Offers new short-term earning and saving opportunities and contributes towards achieving sustainable agriculture.

The In.Farm platform makes it possible to monitor the farm constantly, measuring data such as smoke, flooding, air temperature and humidity, the temperature of liquids and power cuts originating from cellars, barns, stables, silos, residential buildings and greenhouses.



CELLAR



BARN



ANIMAL  
SHELTER



SILOS



RESIDENTIAL  
BUILDING



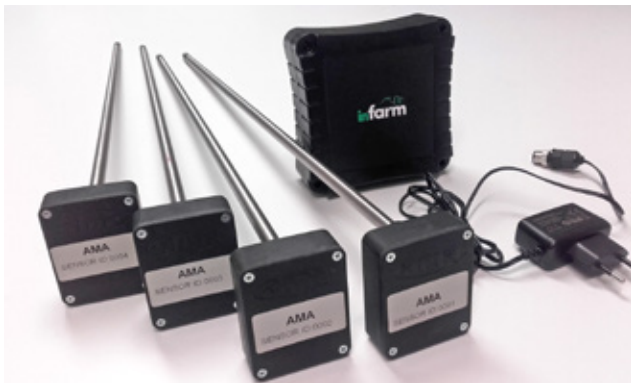
GREENHOUSE



**InFarm** is the tool that improves the quality of fodder and helps to prevent risk.

Thanks to its wireless sensors, **Ago** tells you when the temperature becomes a danger for the self-combustion of packaged fodder. In addition, the internal humidity of the bale is detected, to meet the quality requirements during storage.

The data send the data back to the control unit in the room, which takes care of sending the data to the portal via the integrated GSM control unit, from which they will be processed and returned to the end customer.

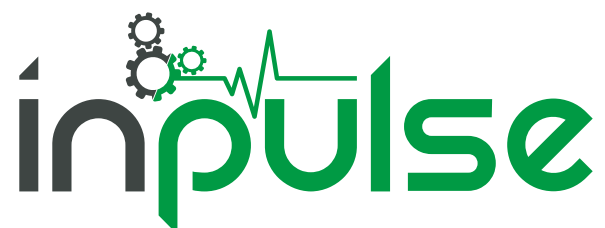


InFarm is equipped with a completely independent control unit (no power line required) that can read all the data coming from the wired sensors and send them to the cloud via an integrated GSM modem.

- **Ago-gateway:** low energy bluetooth mesh network
- **Gateway-cloud:** lte cat m1
- **Long lasting batteries** (up to 1 years)
- **Temperature sensor**
- **Moisture sensor**







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