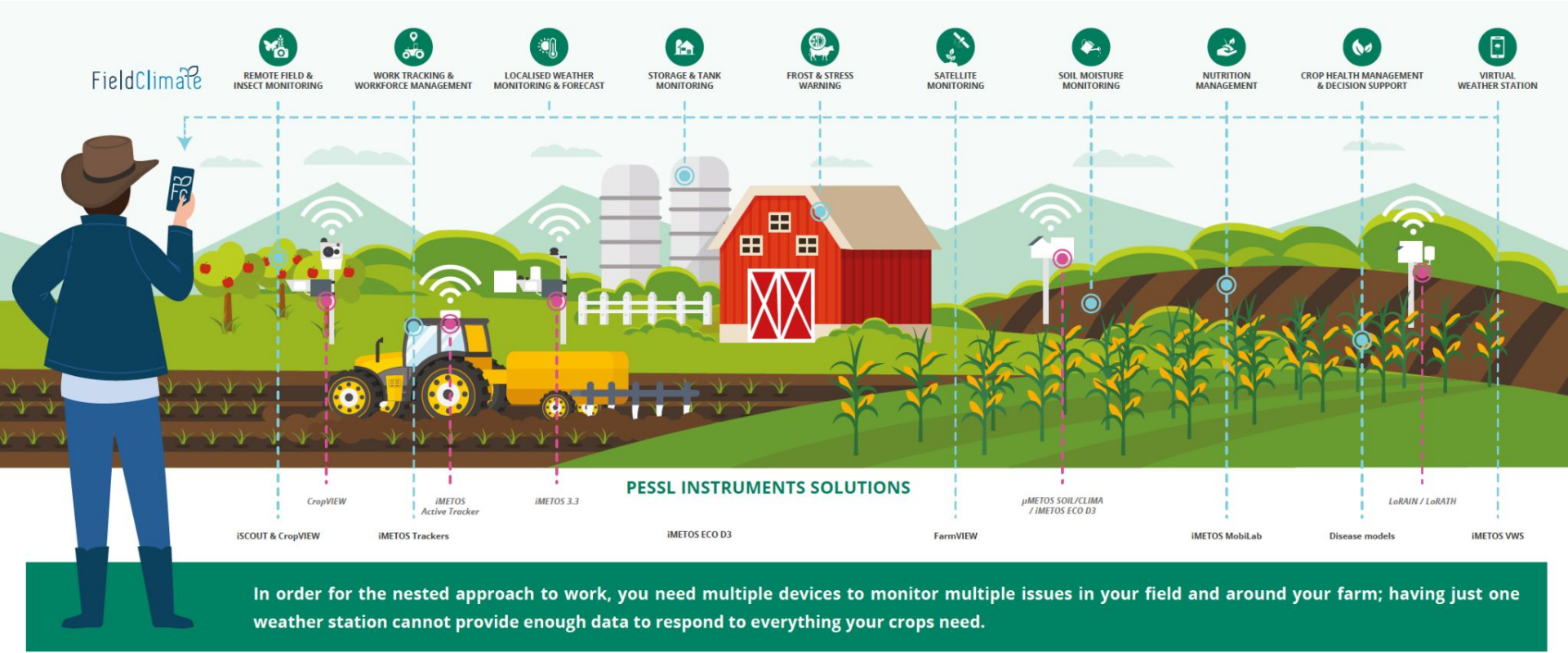
TURNING INFORMATION INTO PROFITS

Disease and Pest Forecast with Artificial Intelligence

Pessl INSTRUMENTS

SEP 2021

NESTED APPROACH TO IOT IN AGRICULTURE

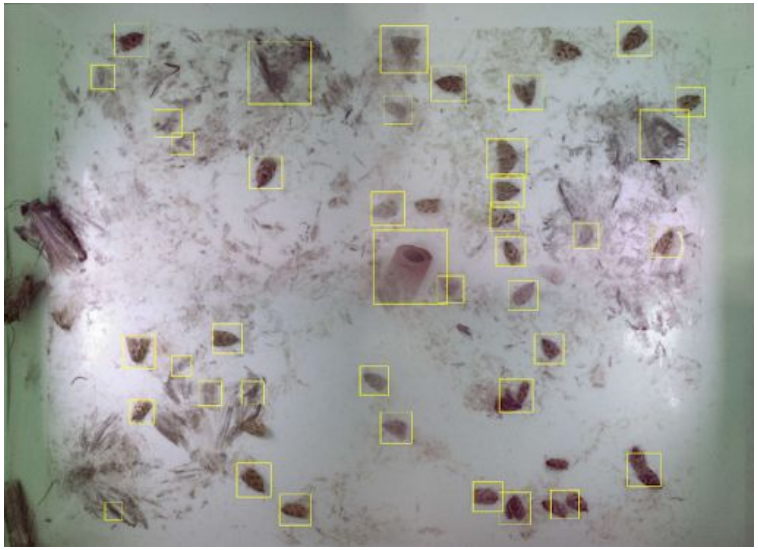


In order for the nested approach to work, you need multiple devices to monitor multiple issues in your field and around your farm; having just one weather station cannot provide enough data to respond to everything your crops need.

Disease and Pest Forecast with Artificial Intelligence

Agriculture and farming are no strangers to the AI revolution. Precision farming equipment, backed with artificial intelligence, goes down in the dirt and makes abundant harvests possible in all corners of the world.

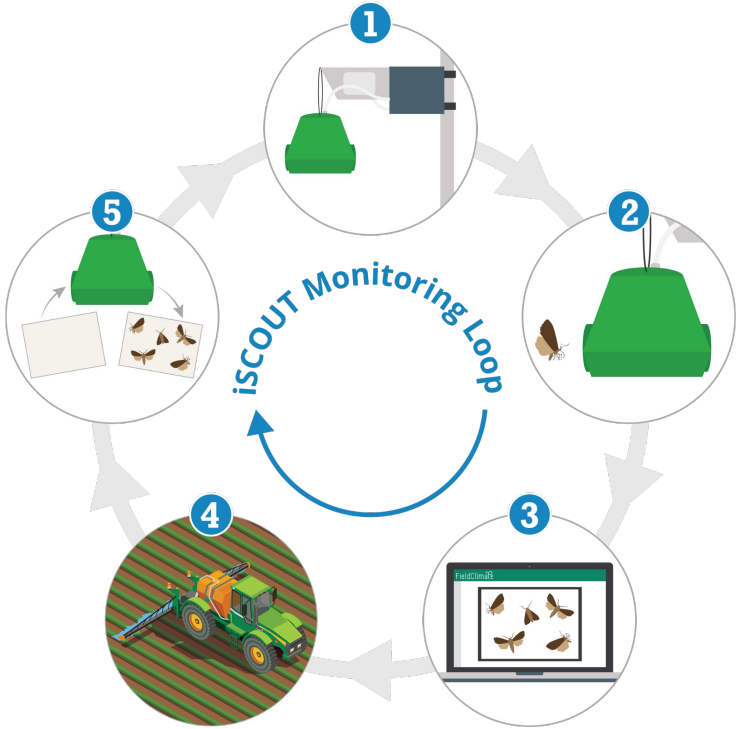
- It **helps farmers** make **higher profit** and **pollute less**.
- Can be **applied** in **orchards, vineyards**, any **type of arable crops**, anywhere **were pest insects must be monitored** or where **properly timed spray applications are crucial**
- It **helps us understand** what is **happening in the field** in more detail.
- Possible to use in **biodiversity studies**



! iSCOUT® uses automatic recognition algorithm for recognizing pests.

THE AI BEHIND

- Remote insect monitoring system with an integrated camera system, powered by solar panel and battery takes daily pictures
- Pictures are sent to server, processed and analyzed by deep learning system (ML methods), that marks recognized insects
- Every user sees those markings and has the possibility to adjust the common name of the insect or correct the labels



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SCALABILITY

Great potential through building networks, monitoring insect pests locally, and also following migration routes. Insect monitoring can be upgraded with plant disease prediction by expanding the hardware with temperature, relative humidity and rain sensors, which can be mounted directly on the trap device. This improves the dynamic models and gives an insight into different pest stages, which makes the device useful for complex biodiversity studies.