



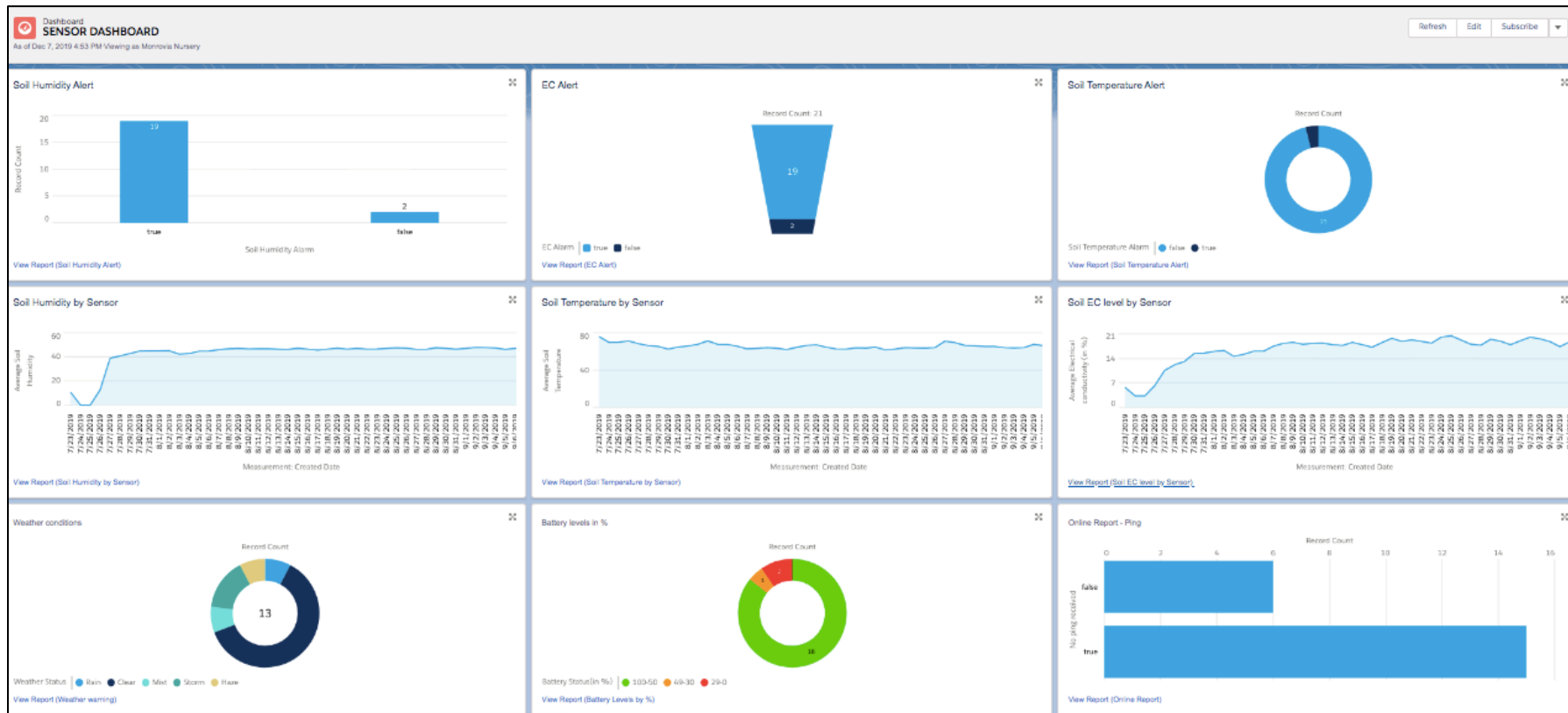
Overview

Production

CONFIDENTIAL – DO NOT DISTRIBUTE WITHOUT PRIOR CONSENT



Production Dashboard

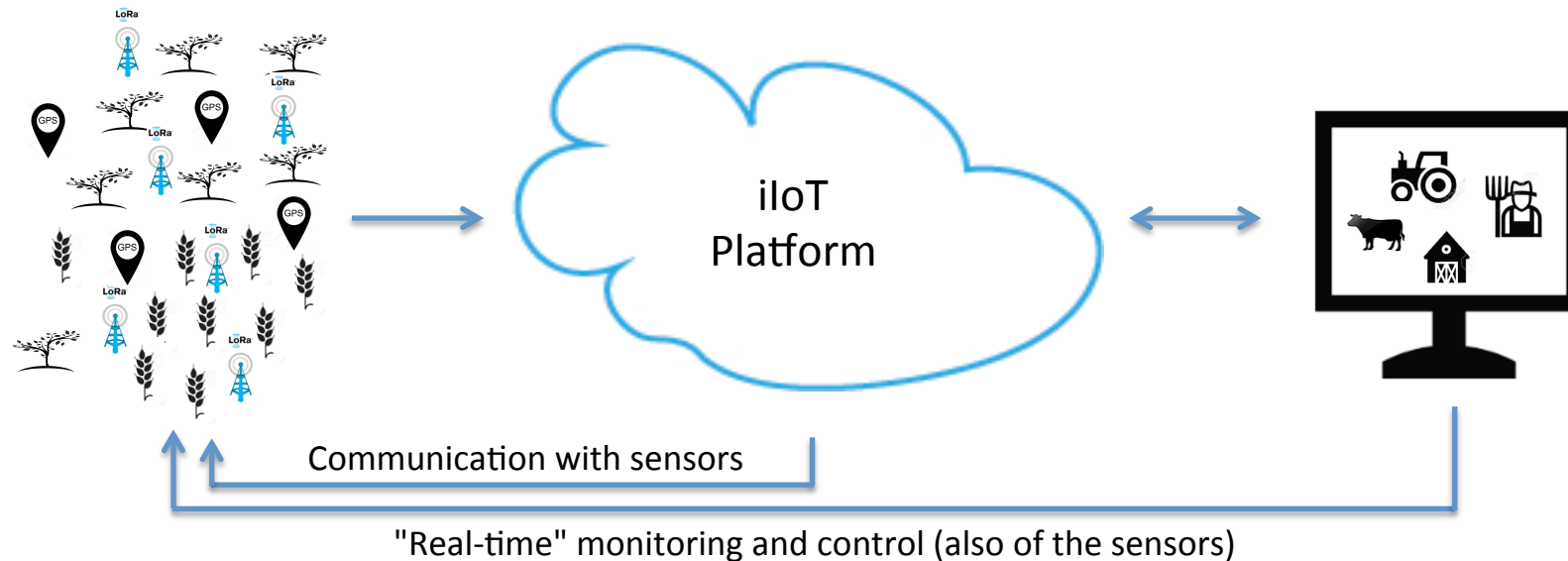


Production Process with Florja

Sensors are distributed across growing areas (range up to 10km)

Platform takes over location, rules and other data from sensor (external information can be integrated)

User can combine any data and business processes (manual or automated)



EXAMPLES

By combining the location (GPS), the measured values and external data, "intelligent" decisions can be made as to whether, when or how much irrigation really makes sense.

"Open" IoT devices (e.g. irrigation systems) can be controlled and positioned and switched on or off as required.

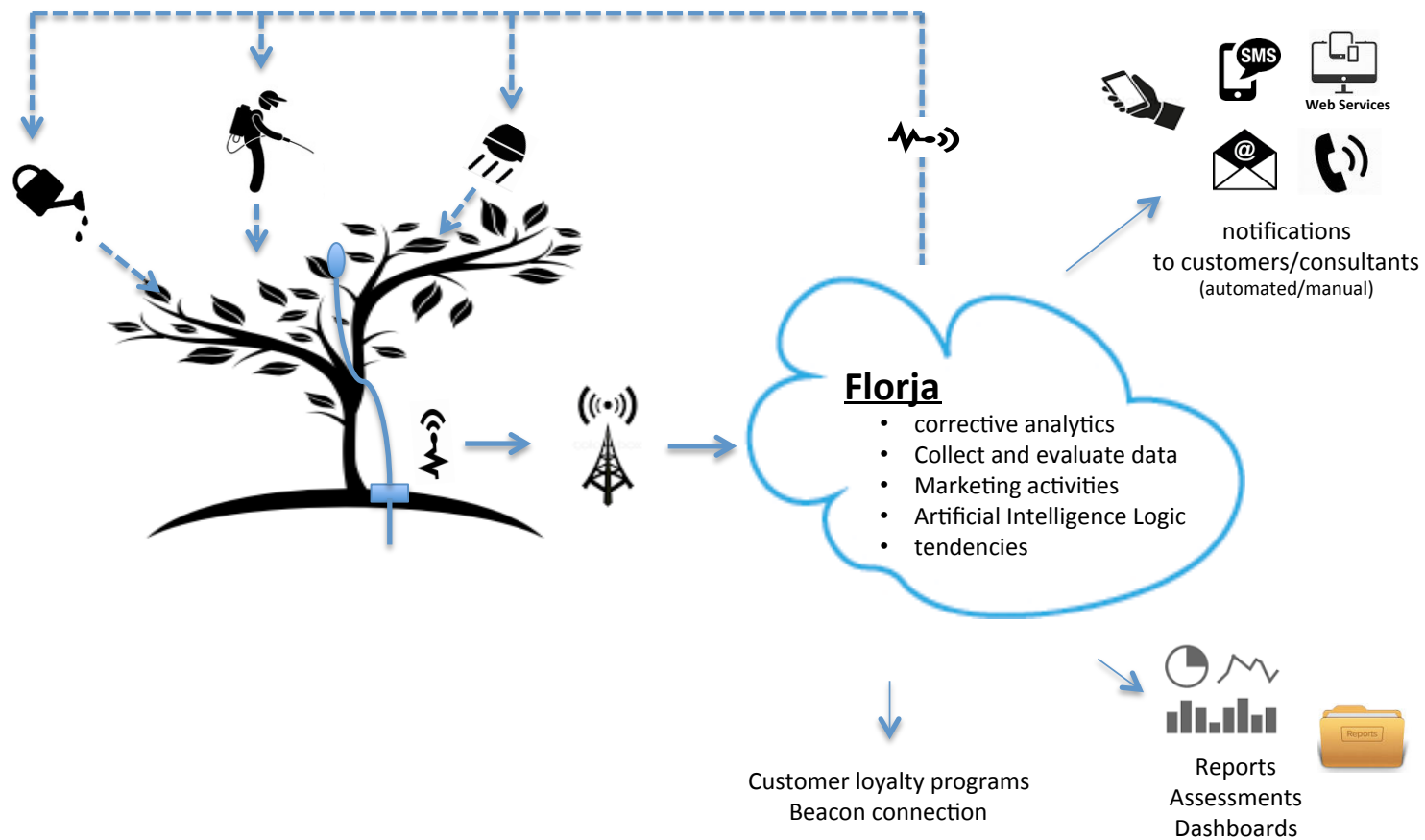
Current and historical data can be viewed at any time, planning decisions are based on real data.



Production components

- WLAN Sensors
- NB-IoT Sensors
- Intelligent Irrigation Module
- Imminent Business Cases
 - Intelligent Irrigation
 - Relay Switch Module (I/O)
 - Range 5
 - Propagation Glasshouse
 - Artificial Intelligence platform
 - Predictive Production
 - Plant Health Dashboard

ONE system





Smart Plant Care

Numerous use cases

Support watering teams

Avoid over- AND under watering by implementing an “irrigation traffic light”
i.e. plant care in retail shops, office buildings...

Schedule work assignments

Efficient resource allocation based on real-time measurements and external data
i.e. tree care within municipalities

Offer additional services

Value added services based on season and weather monitoring.
i.e. landscapers offer pruning in spring, additional care in heat waves

Customer Loyalty Program

Create a platform for existing customers with expert advice.
i.e. garden centers reach out via an app and communicate

and many more....


Intelligent Irrigation


Process:


1. Florjas measure in defined Intervals and send data to platform
2. Based on defined rules platform switches irrigation on/off

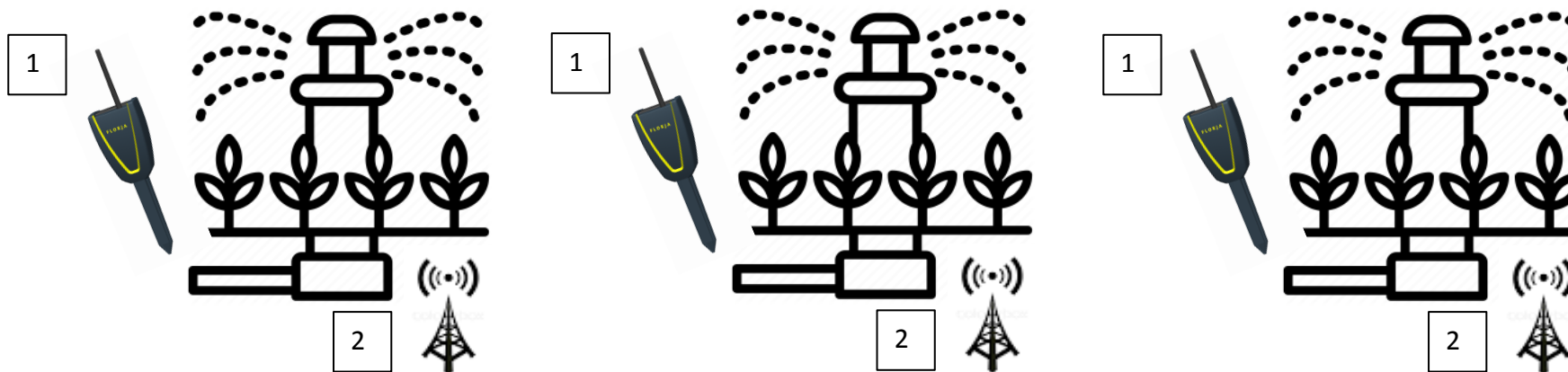
Requirements:

1. Rules can be adjusted and if needed "overwritten"
2. "Security Loop" – if sensors don't report in defined intervals alerts are issued to system owner

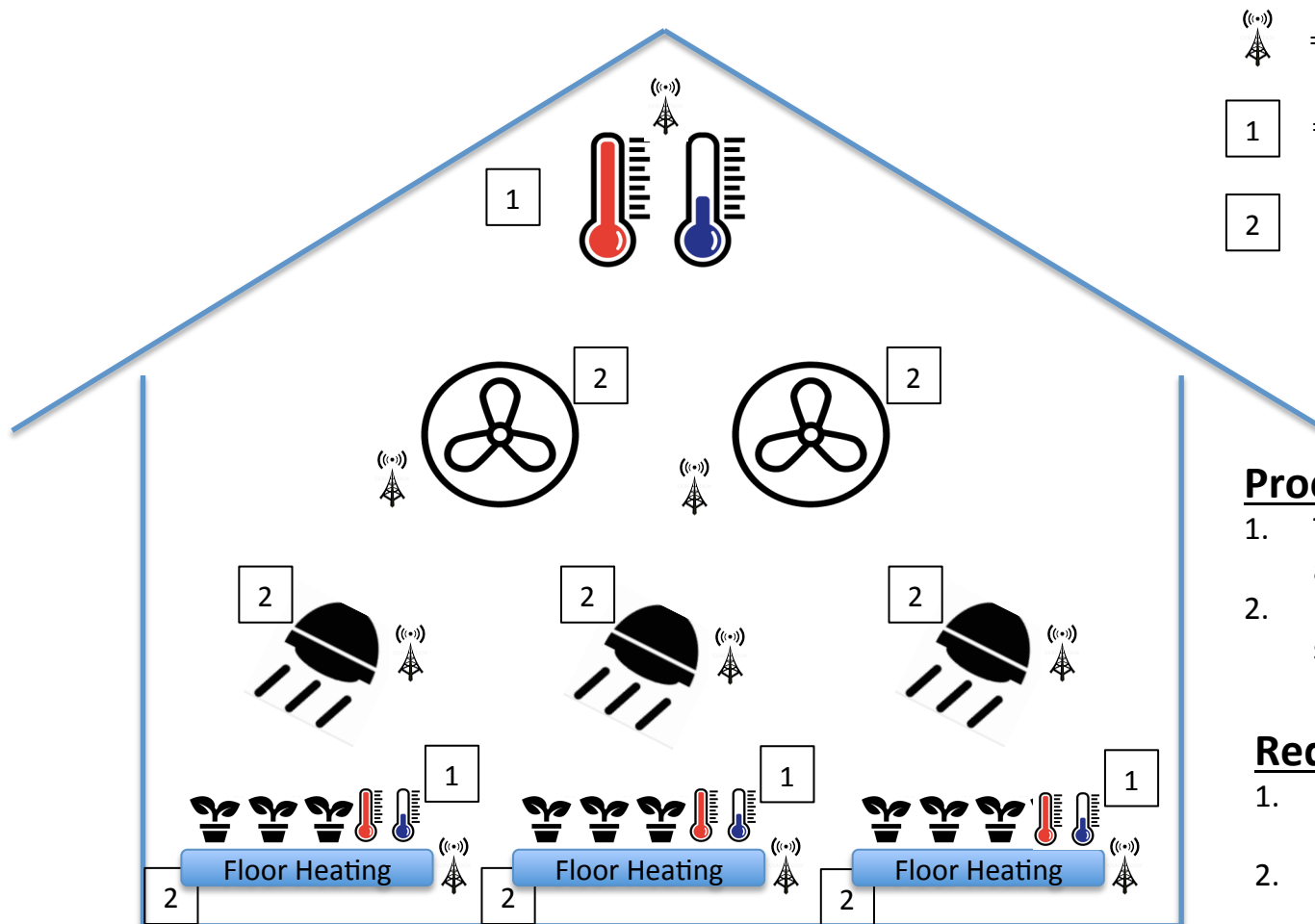
 = wireless LoRa irrigation switch

 = wireless LoRa sensor (Florja)

 = existing irrigation valve, simple on/off switch logic, AC powered



Glasshouse Control (I/O)



= wireless LoRa relay switch



= wireless LoRa thermometers for glasshouse and floor heating



= existing machinery, simple on/off switch logic, AC powered

Process:

1. Thermometers measure continuously and send data to platform
2. Based on defined rules platform switches existing machinery on/off

Requirements:

1. Rules can be adjusted and if needed "overwritten"
2. "Security Loop" – if sensors don't report in defined intervals alerts are issued to system owner

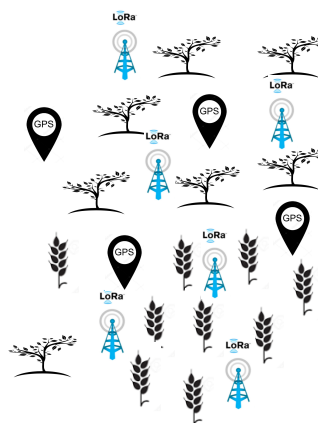


Plant Health Dashboard

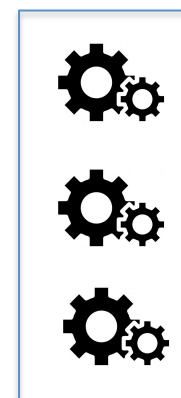
Setup system, define diseases and pests including indicators and parameters

Plant Tomatoes			
Zone		2	
Seasons			
Spring start	01.03.2020	Autumn start	30.09.2020
Spring end	15.05.2020	Autumn end	30.11.2020
Summer start	15.06.2020	Winter start	16.12.2019
Summer end	05.09.2020	Winter end	31.01.2020
Plant Care			
Pruning Season	Spring;Autumn	Earthing Season	Spring;Winter
Propagation Season	Summer	Cleaning Season	Spring;Autumn
Pest and Disease Information			
Frost resistant	<input type="checkbox"/>	Vulnerable to	Bacteria;Rodents;Weather Extremes
Treatment Biological	<input checked="" type="checkbox"/>	Threatening Insects;Rodents	Ahids;Cockroaches;Flys
Treatment Spray	<input type="checkbox"/>	Treatment resources	Apply fungicide;Extend spacing;Prune infected areas
Lunar Calendar			
Sow Month(s)	Feb;Jun	Plant and Repot Month(s)	Jul;Aug;Sep
Prick Period from	01.05.2020	Prick Period to	08.05.2020
Prune Period from	26.06.2020	Prune Period to	01.06.2020

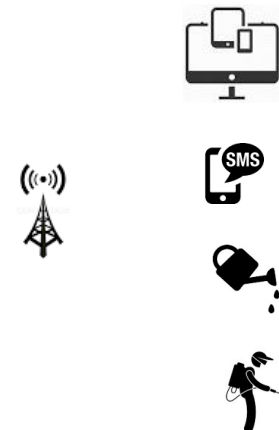
Receive data from sensors and internal/external sources



Process workflows, combine values



Set alerts, initiate connected systems



Any logic that needs to be monitored and considered to receive meaningful warnings from the system can be included within Florja. Complex “if...then” scenarios running continuously ensuring timely action.

Real-time measurements, calculated values (over time), forecasts as well as experience of senior staff will deliver a regional real-time early warning system - by plant.

The results can be visualized on the dashboard or used for immediate action or long-term research.

Predictive Production

Requirements

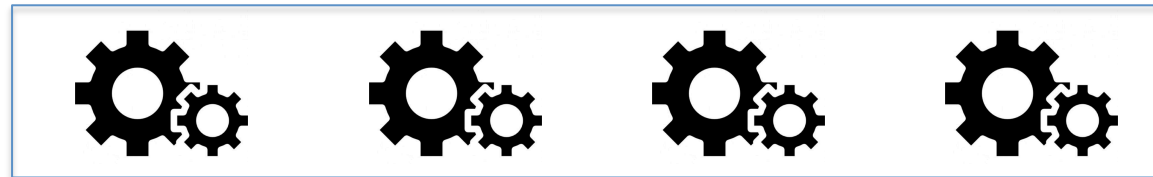
- Access to data
- Knowledge “transfer” to VA
- Results documentation
- “ongoing” feed



Virtual Assistant (VA)

Expected Results (6+ months)

- First sensible predictions
- “Learning System”
- Ease of use



Predictive Production

=>> Intelligent Checks

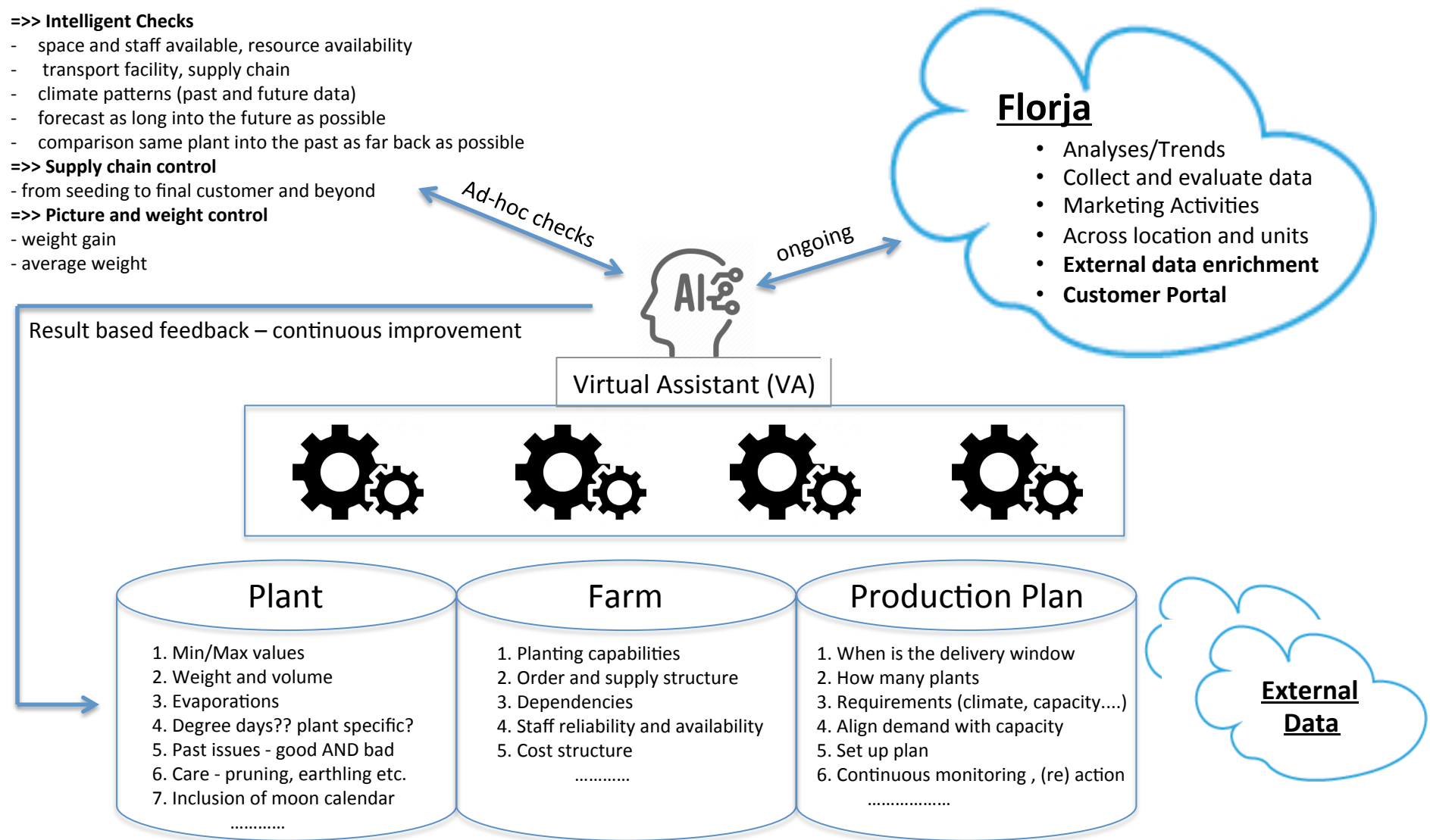
- space and staff available, resource availability
- transport facility, supply chain
- climate patterns (past and future data)
- forecast as long into the future as possible
- comparison same plant into the past as far back as possible

=>> Supply chain control

- from seeding to final customer and beyond

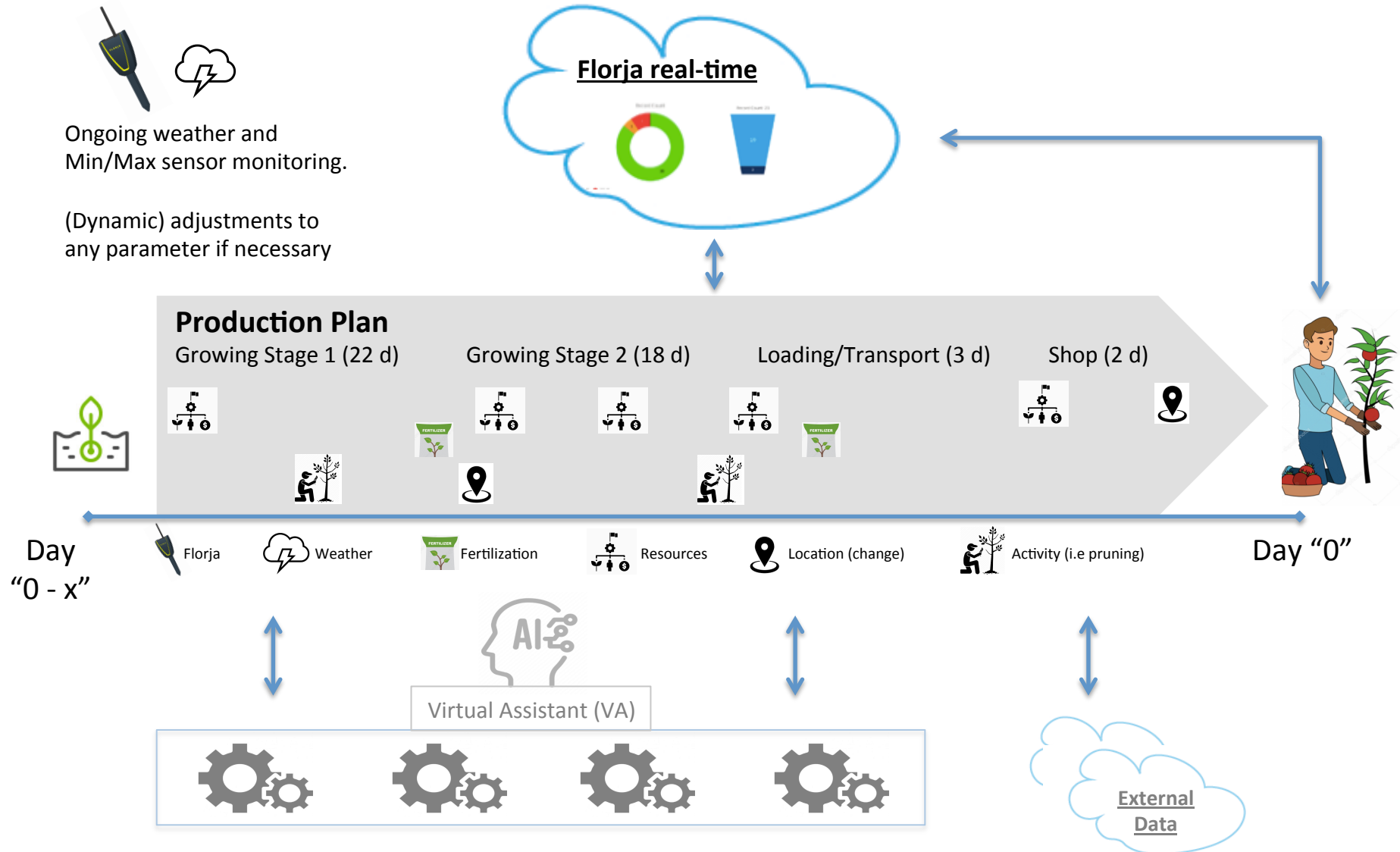
=>> Picture and weight control

- weight gain
- average weight





Predictive Production – Scenario by Plant





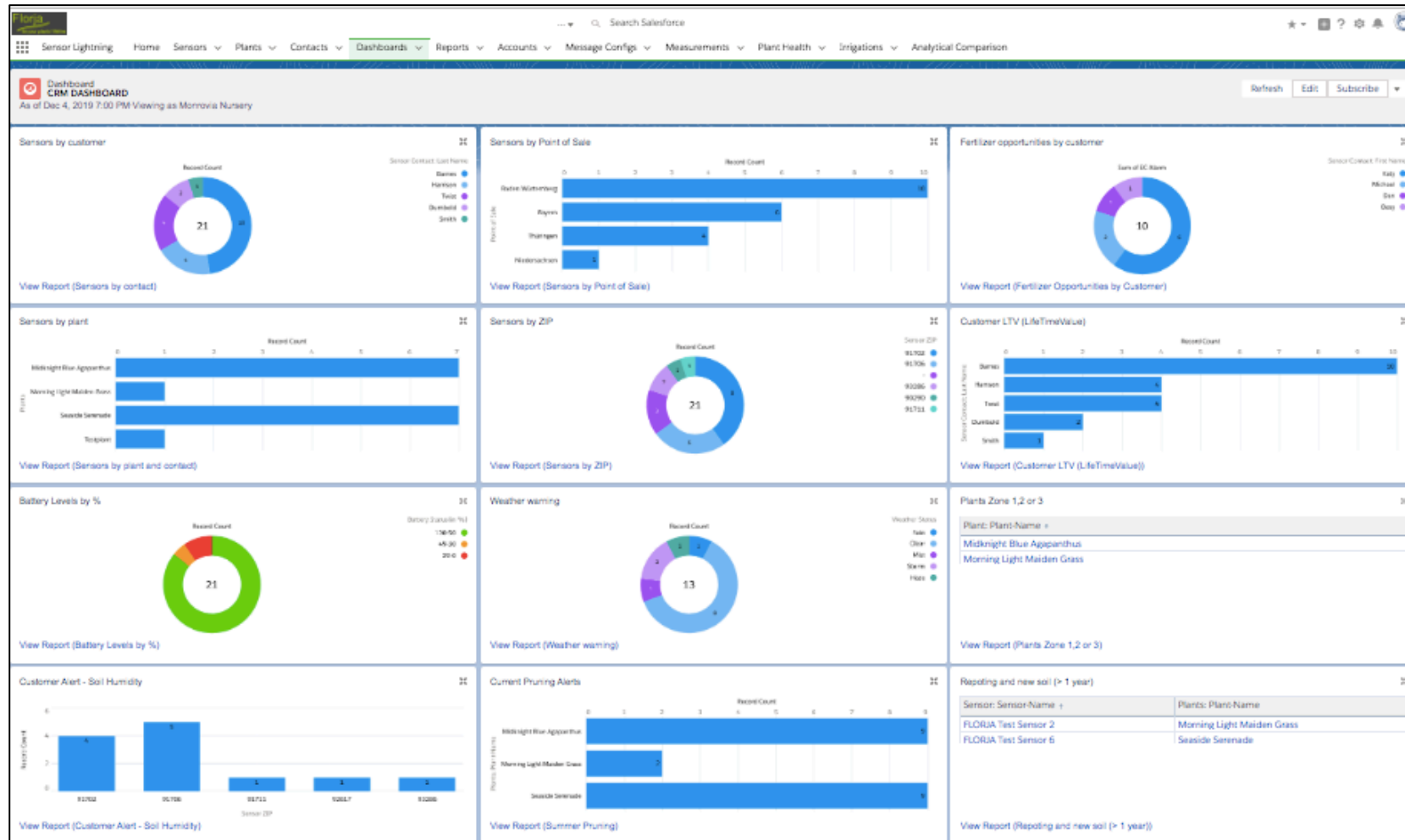
Overview

CRM

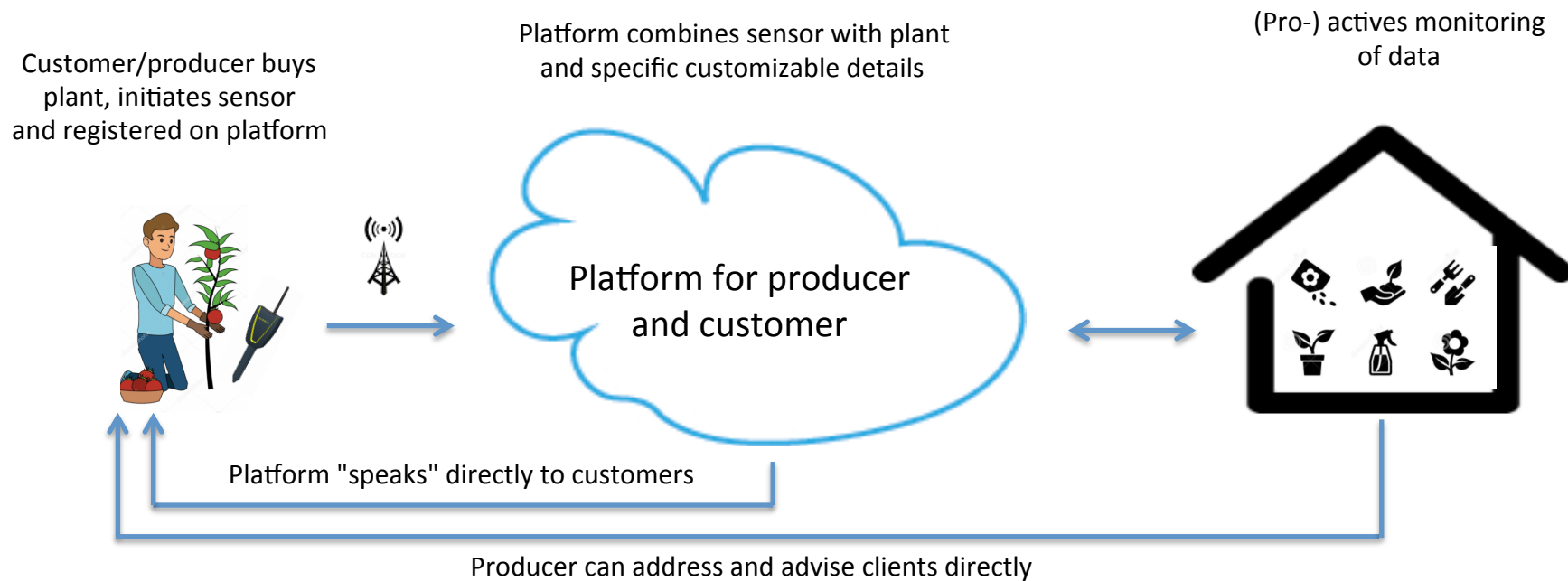
CONFIDENTIAL – DO NOT DISTRIBUTE WITHOUT PRIOR CONSENT



CRM Dashboard



CRM Process with Florja



EXAMPLES

Intelligent algorithms adapt the measurement behaviour, combine values with experience and specifications and trigger an alarm if necessary.

The network communicates "two-way"- in real time, e.g. expected extreme weather - adjustment of measurement intervals

Platform collects and uses ALL sensor and customer data => targeted value-added consulting up to 100% service offer

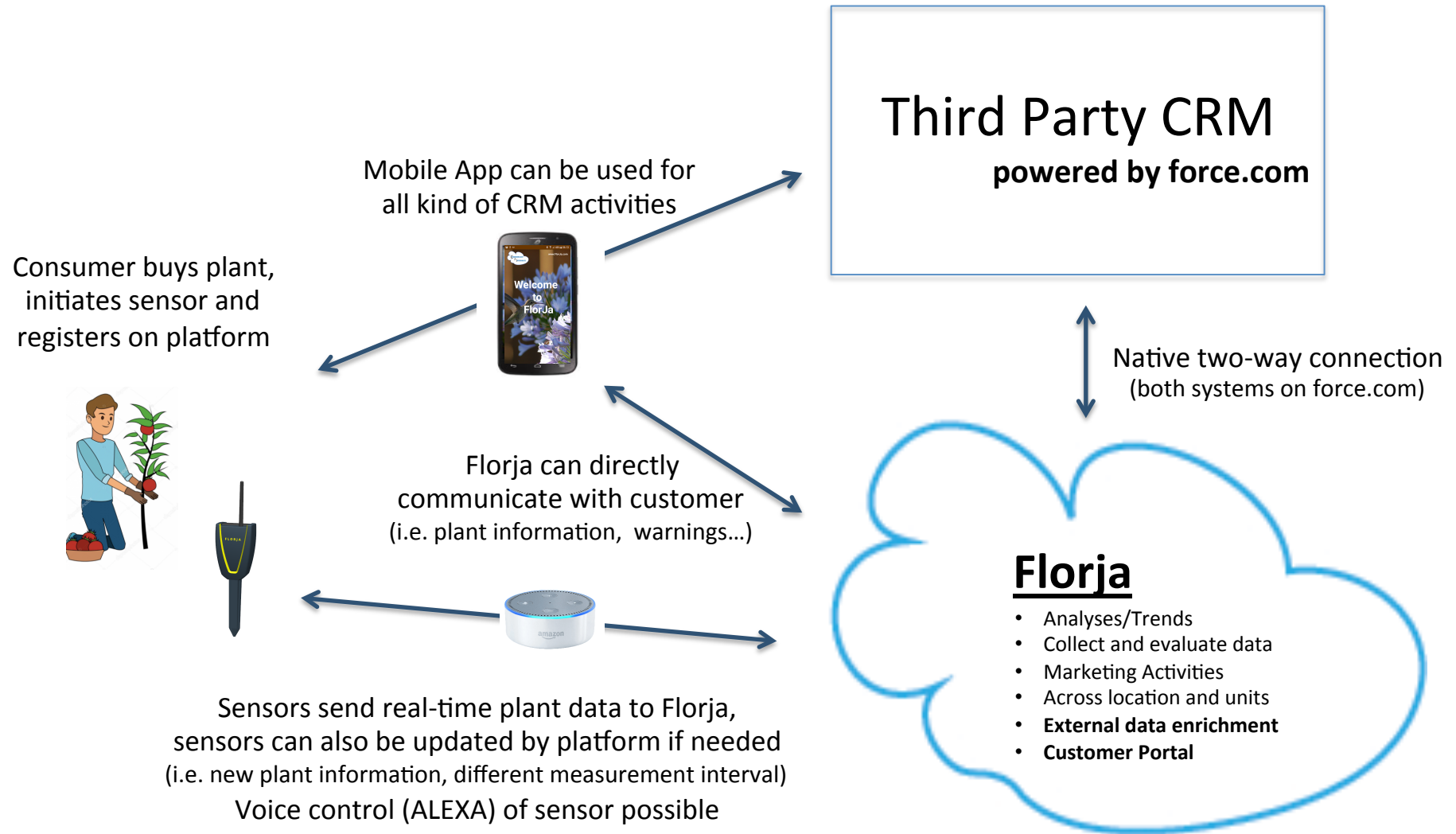


CRM components

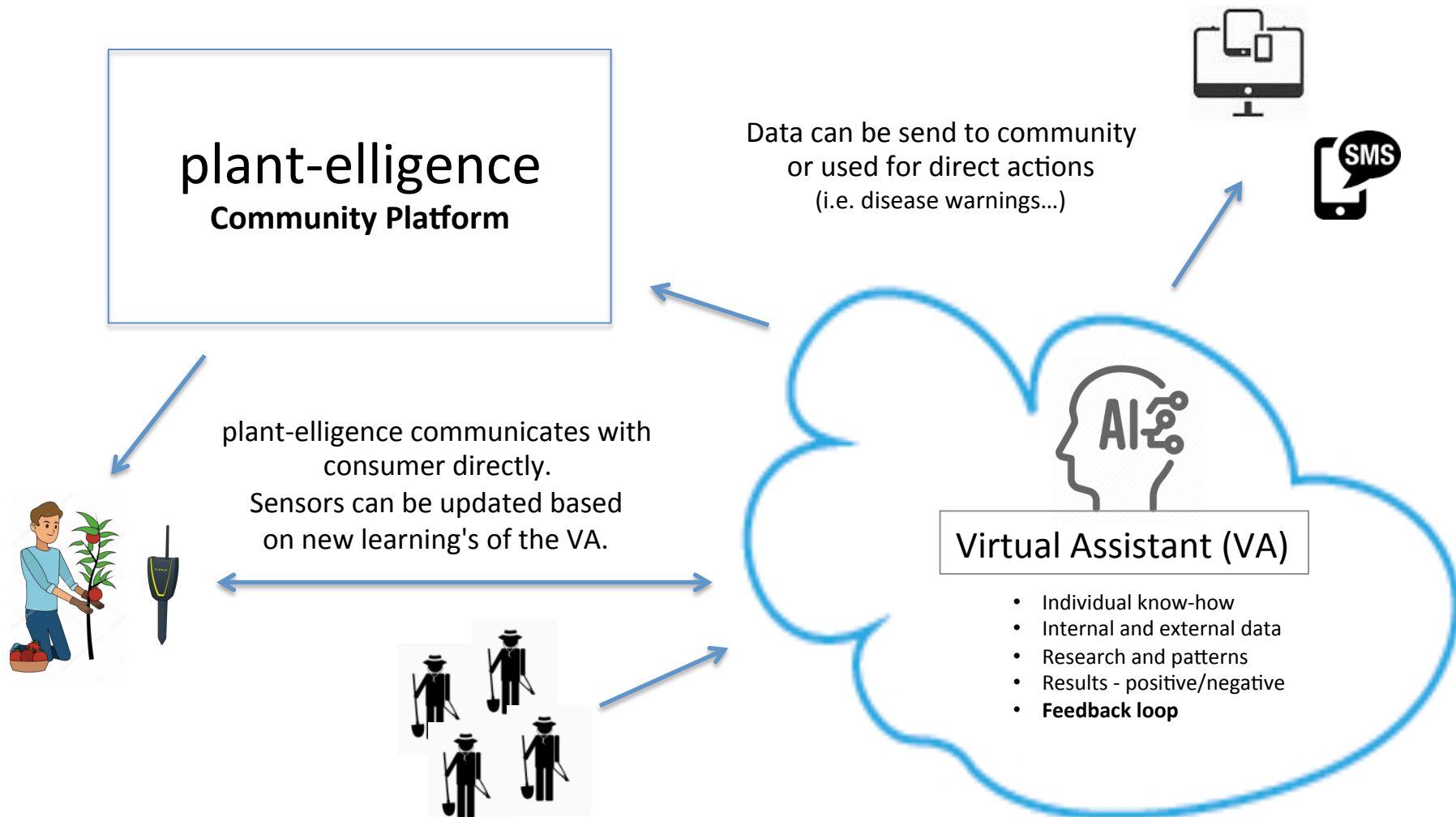
- WLAN Sensors
- NB-IoT Sensors
- Internal Sales data
- Online Shop
- Social Media Channels, Blog
- External Customer Zone data
- Imminent Business Cases
 - CRM Real-time with Florja
 - Customer Portal support with Florja (AI)



CRM Real-time with Florja



Customer Portal with Florja (AI)



Accumulated knowledge of experts gets fed into Florja (VA). Continuous learning ensures a rich and very well educated VA database – used to the benefit of consumer.



Plant-elligence 2.0

Open and expert led intelligent plant community

Supported by top horticultural companies

Contributing members will be professionals across the globe and from different horticultural focus areas and businesses.

University and research driven

New and ground breaking research results will be published in a timely manner so the community can benefit early stage.

Developing and learning system (AI)

Huge data volumes and complex content will require processing power and AI software in order to add real value to the community.

Open and value added community platform

The community's main driver is to add value to the members. Therefore there is no commercial goals associated to the open platform.



Contact Details

murban@florja.com

+49.171.4933.288

CONFIDENTIAL – DO NOT DISTRIBUTE WITHOUT PRIOR CONSENT