



van den borne
aardappelen



The company

VAN DEN BORNE AARDAPPELEN



- Arable farming , Sandy soil



- Reusel, Noord-Brabant – The Netherlands



- 4 co-workers



- 160 fields, average size 3ha , average of 6 corners for each field = 13%
- Precisiontechnology since 2006, Precisionfarming since 2009





What is the definition of precision Farming ?



Time (interval)



Location (GPS)



Application (VRA)

Precision Farming

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How old is precision farming?

Precision Farming

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JULI 1959

13

Maandag

Hooi GEPERST AAN HUIS EN
BINNEN PEDAAN (84 PALJES).
Hooi ON GETROKKEN MOER.
ROSGRAAN SCHAAIT POLDER.

9 V. HERK 10 MUX.

14

Dinsdag

HAAVER AAN GEHAAIT VOORSTE HEIDE
ROSGE AANGEHAAIT MOER.
Hooi GEPERST EN BINNEN PEDAAN.

9 V. HERK 9 MUX.

15

Woensdag

VOORM. DAG HAAVER GEHAAIT VOORSTE
HEIDE
NACHTAG ROSGE GEHAAIT POLDER.

9 V. HERK 10 MUX.

16

Donderdag

ROSGE GEHAAIT POLDER.

JULI 1959

17

Vrijdag

VOORM. DAG ROSGE GEHAAIT AAN
HUIS
NACHTAG ROSGE OP REIJT POLDER.

18

Zaterdag

HAAVER AANGEHAAIT POLDER
THUIS GEWERKE
J. V. LOY STIER GEHAAIT

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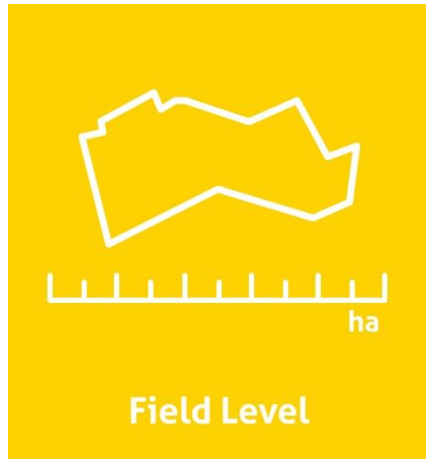
Zondag

BEE 9 V. HERK 10000 FL.

Nota's

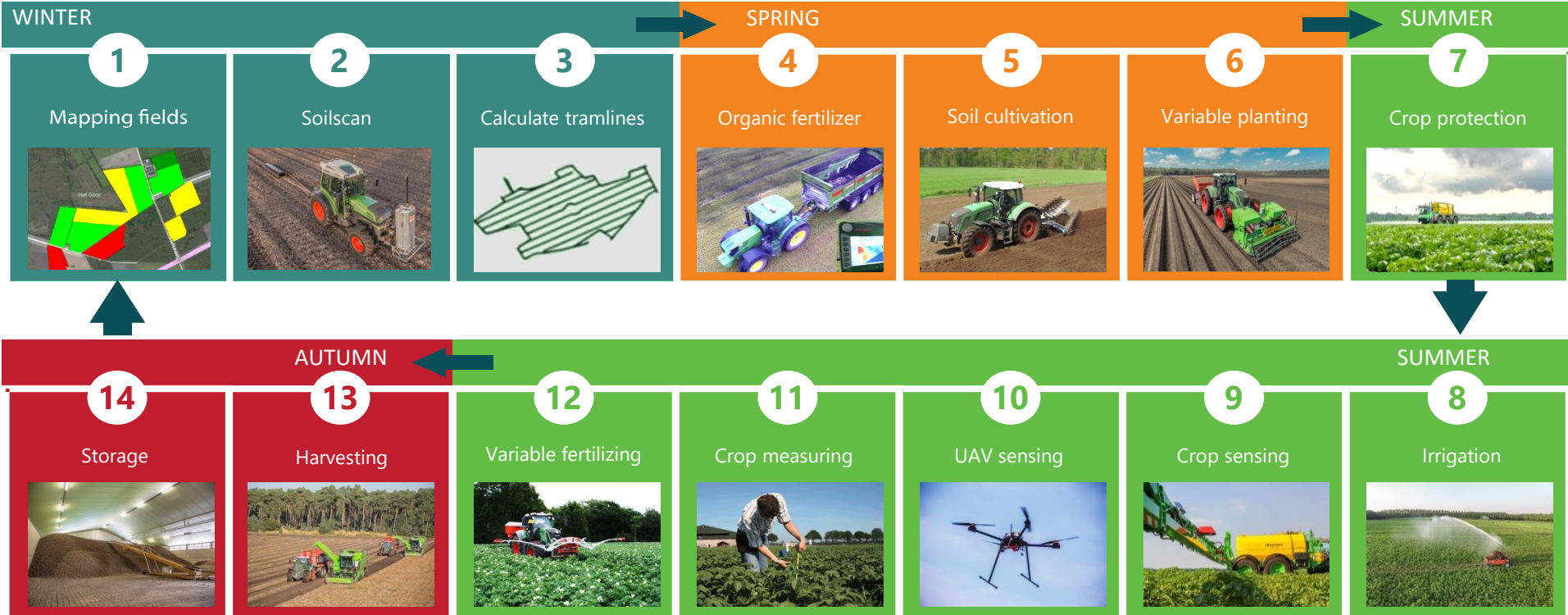


Accuracy of Precisionfarming ?



Precisionfarmingcyclus

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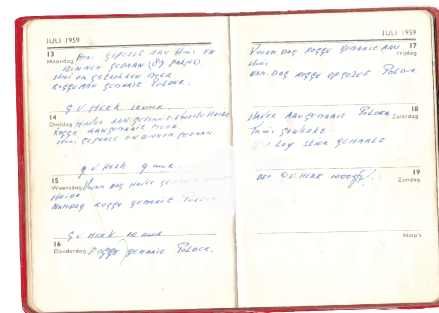
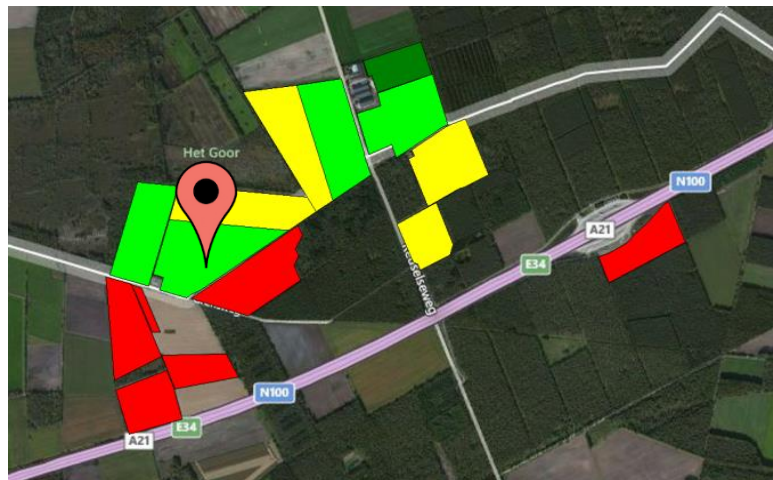
Mapping fields

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Mapping fields



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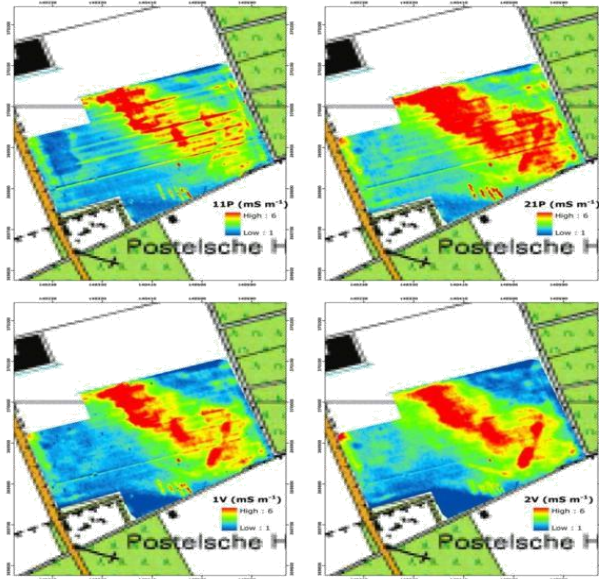
Soil scan

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Soil scan



ORBit
www.orbit.ugent.be



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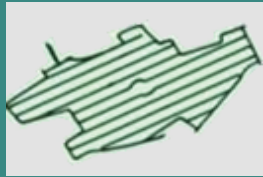
Calculate tramlines

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Calculate tramlines



- Optimal partitioning field
- Cost reduction by less cultivation distance
- No need for manual measuring and marking tramlines
- Combining working width of planting/sowing, crop protection, fertilization and irrigation.



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Controlled traffic farming

- Controlled traffic farming has an average of 7% more yield



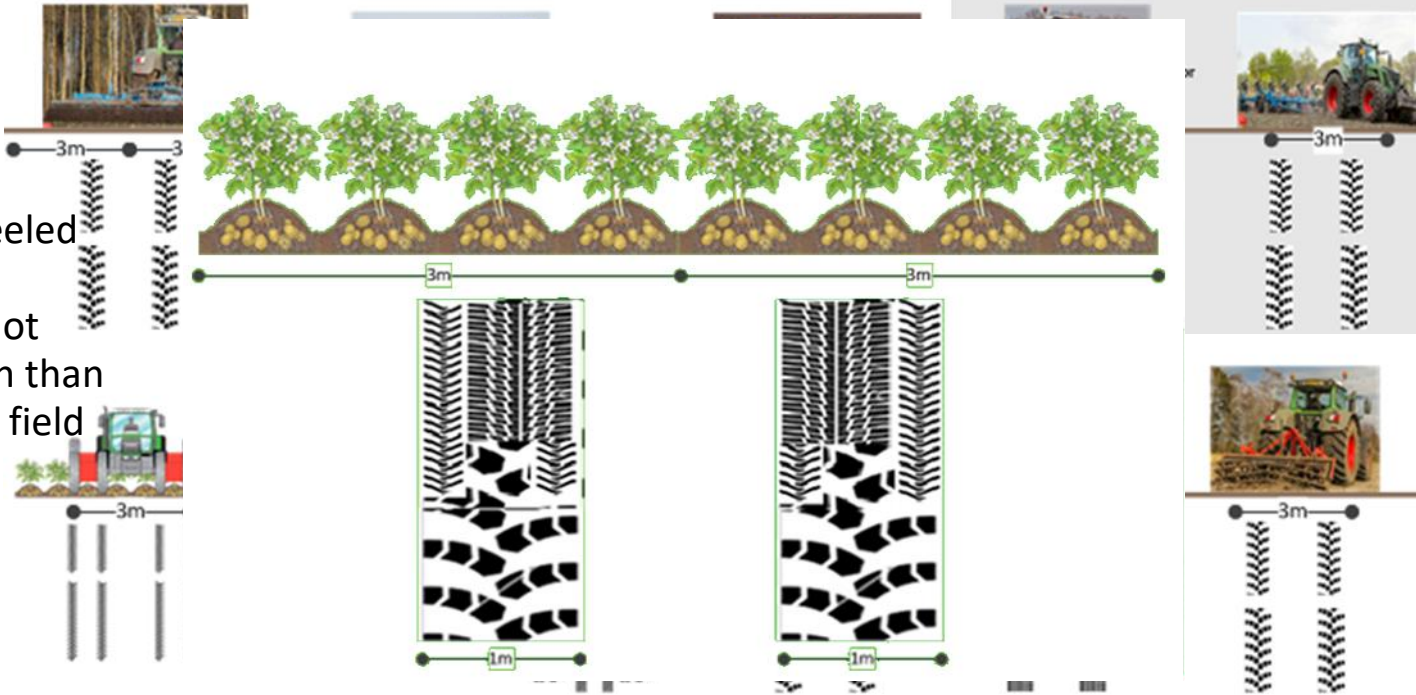
Calculate tramlines

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Current situation
Desired Situation
In desired situation

- At least 2/3 non-wheeled
- On the traffic lanes not more soil compaction than applied to the whole field in current situation



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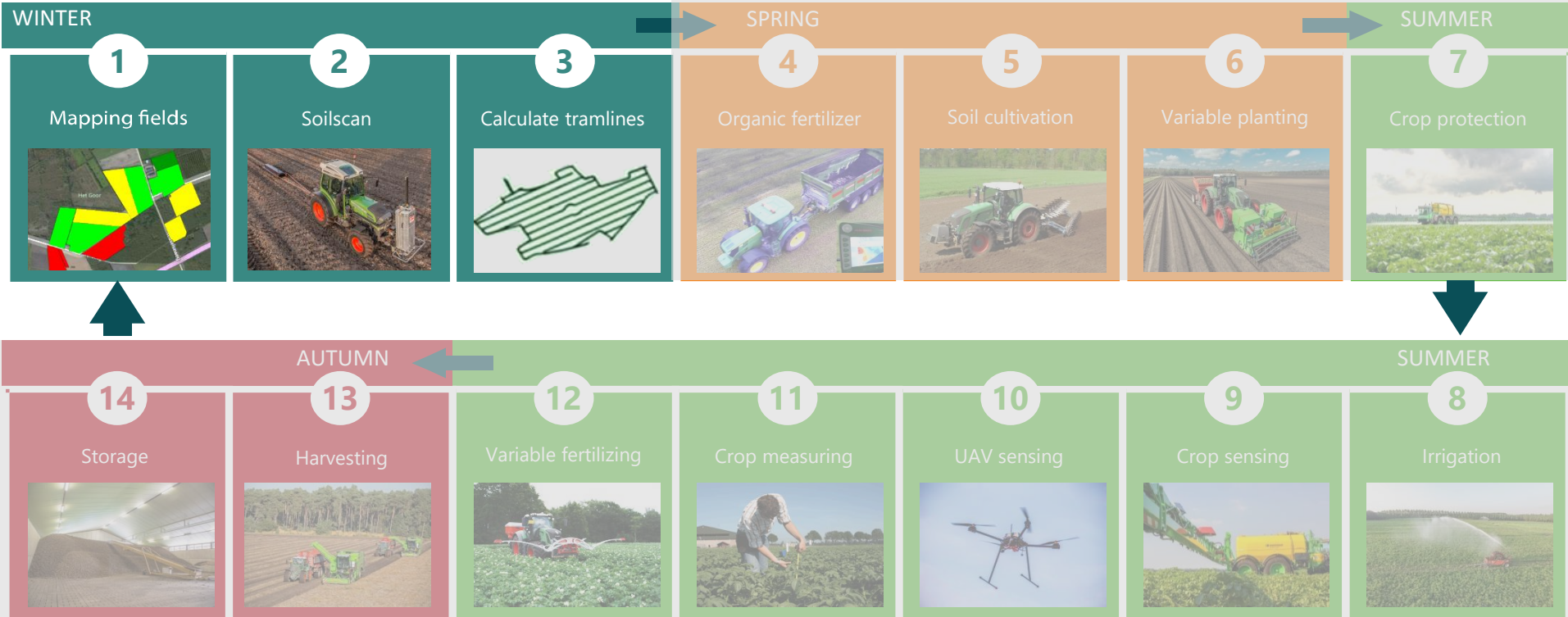
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Precisionfarmingcyclus

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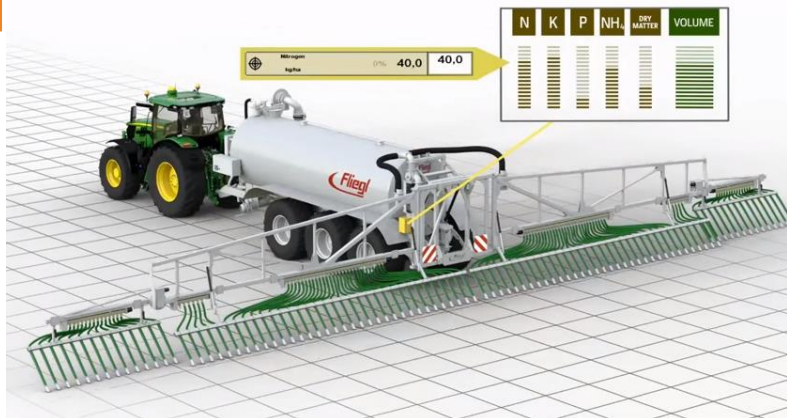
Organic fertilizer

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Organic fertilizer



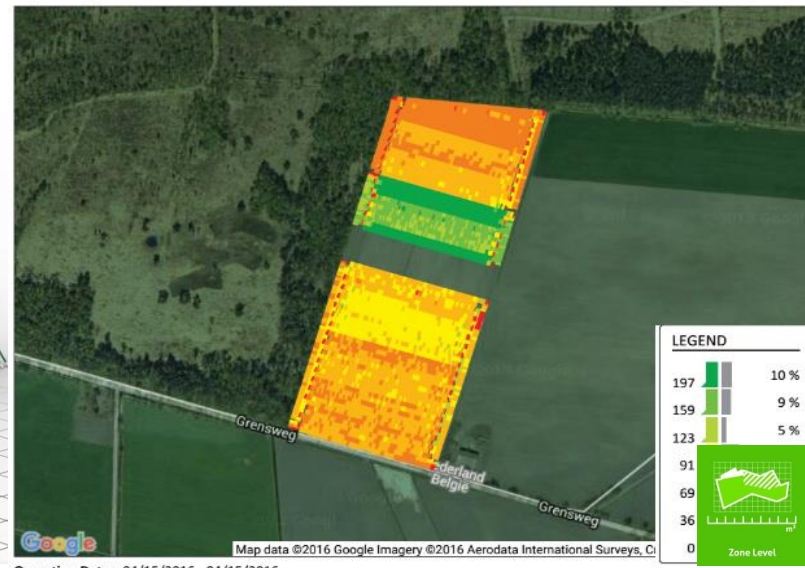
Operations Center

2016 N: Application

Layer: As Applied Rate

Blokschuur tegen m

van eijk borne | Vd Borne



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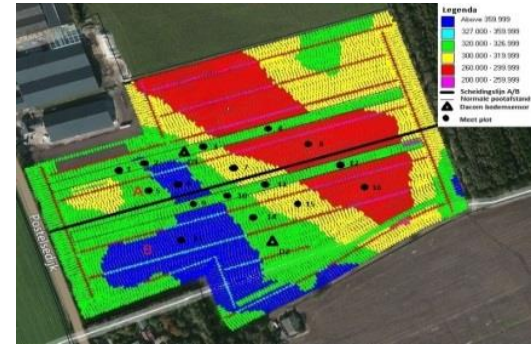
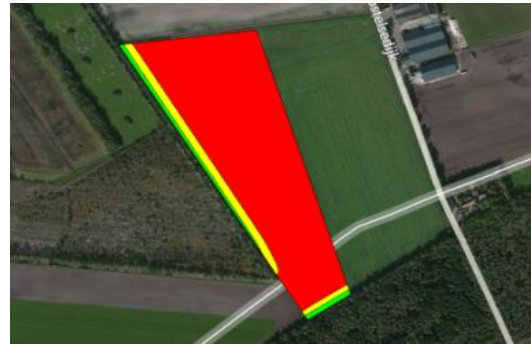
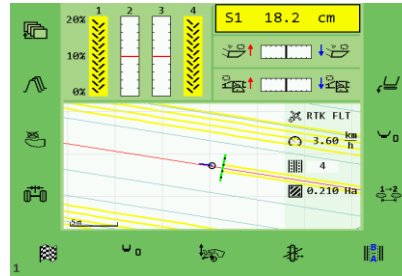
Variable planting

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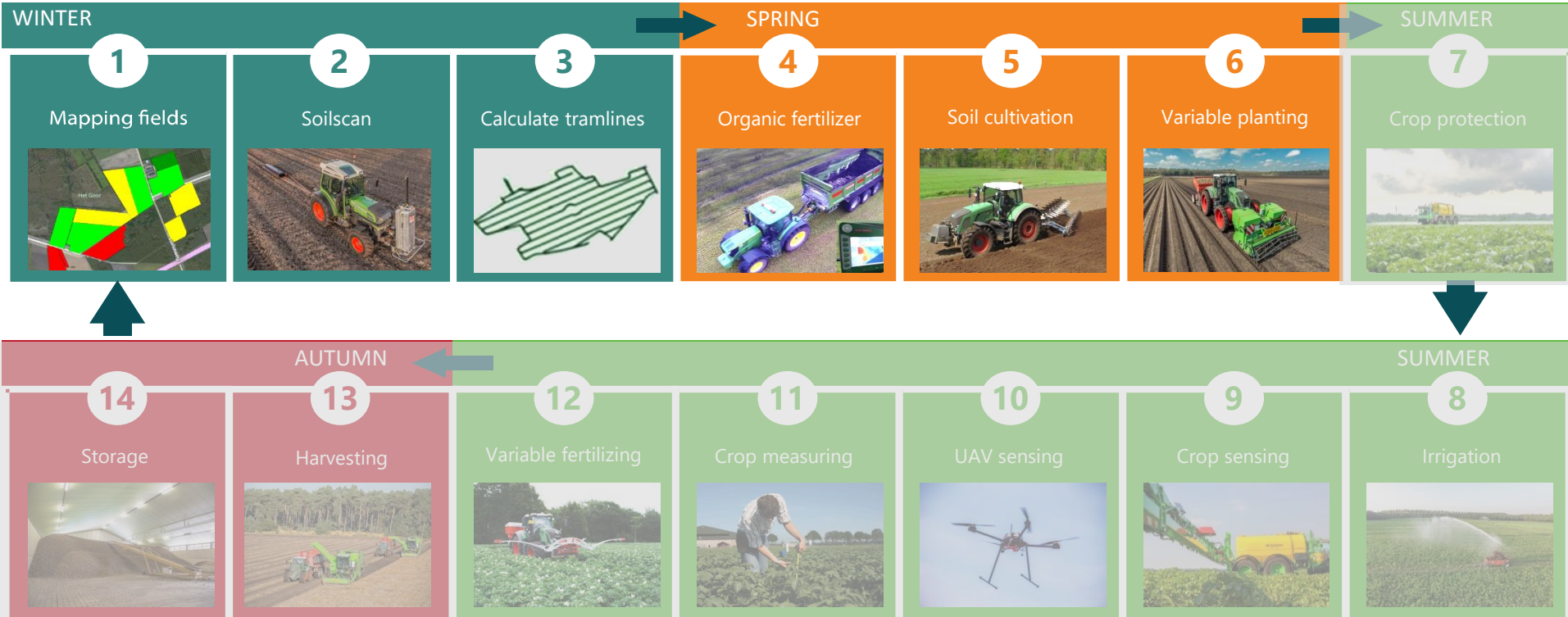
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Variable planting



Precisionfarmingcyclus

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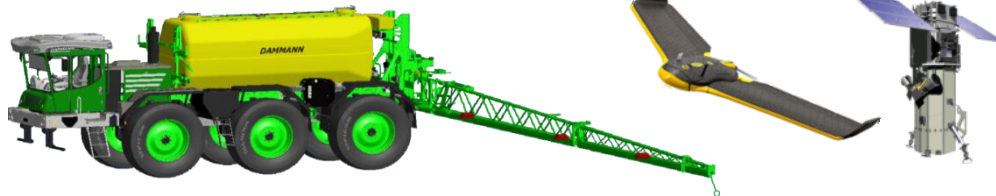
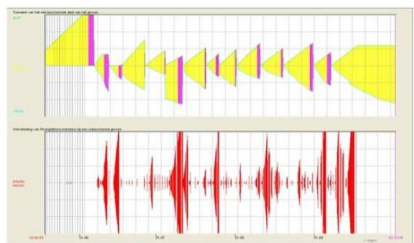
Crop protection

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Crop protection

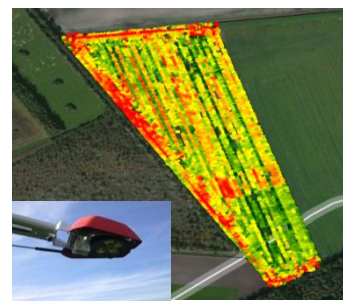
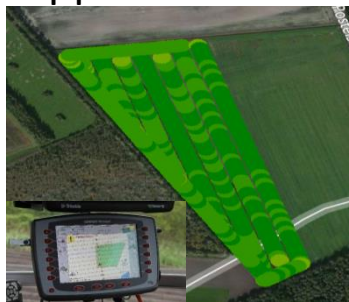


Advice

Application data

Sensor data

Remote sensing



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Irrigation

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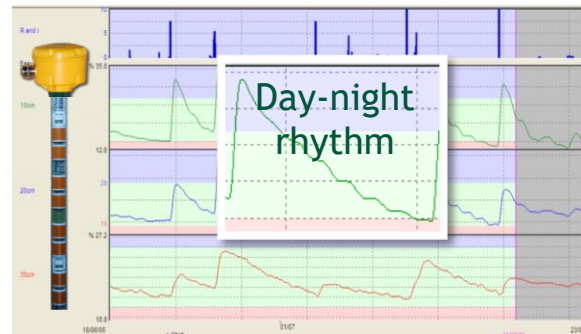
Irrigation



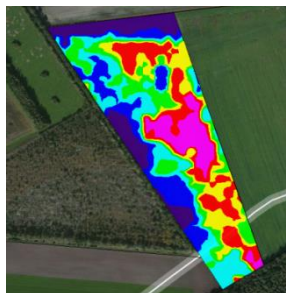
Weather data



Soilmoister



Soilconductivity



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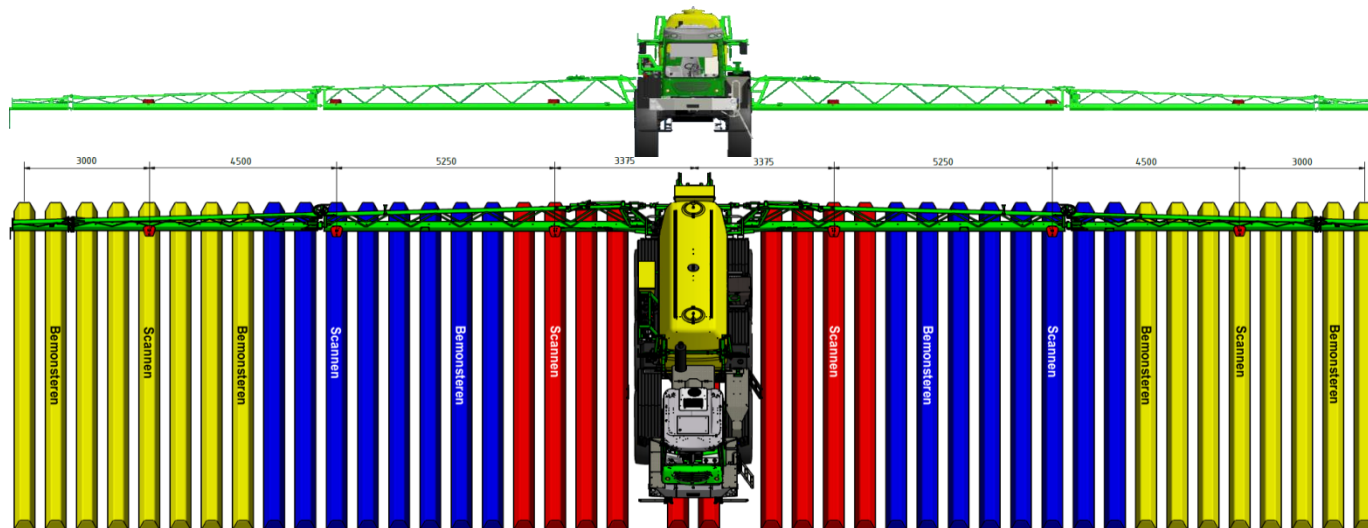
Crop sensing

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Crop sensing



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Crop sensing

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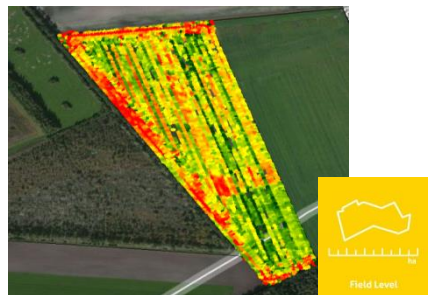


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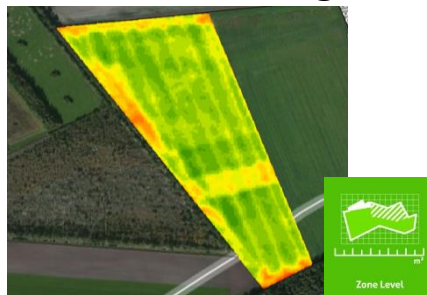
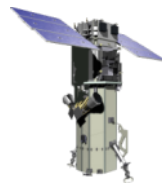
Crop sensing



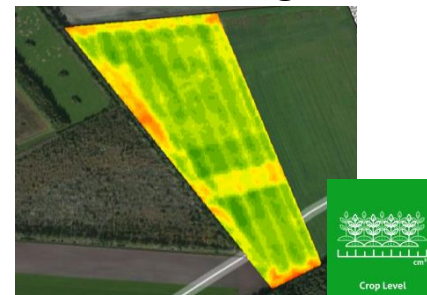
Sensor data



Remote sensing



UAV sensing



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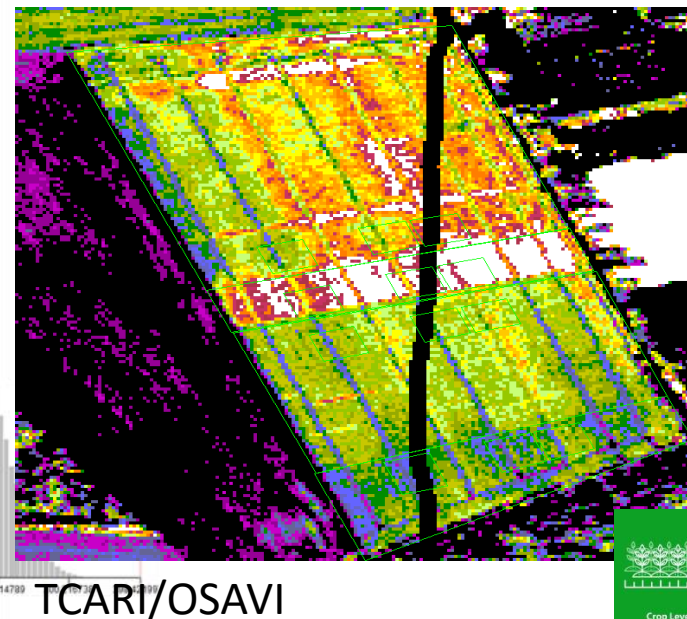
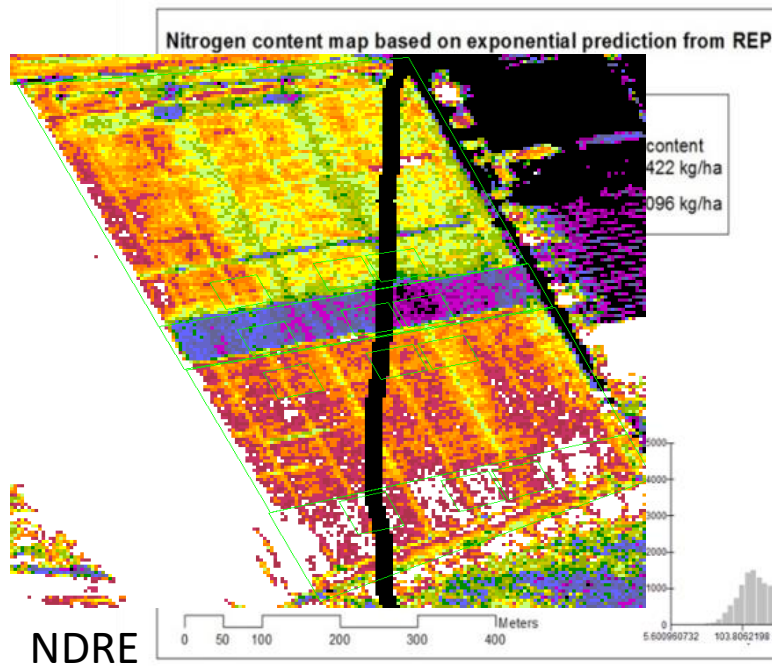
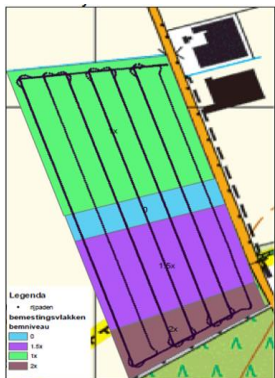
UAV Sensing

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UAV sensing



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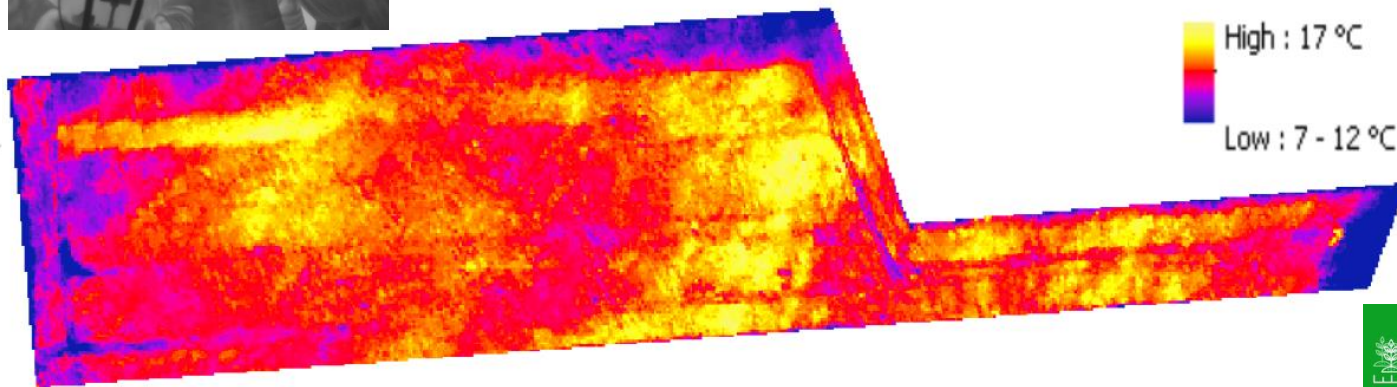
UAV Sensing

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UAV sensing



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Crop measuring

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Crop measuring



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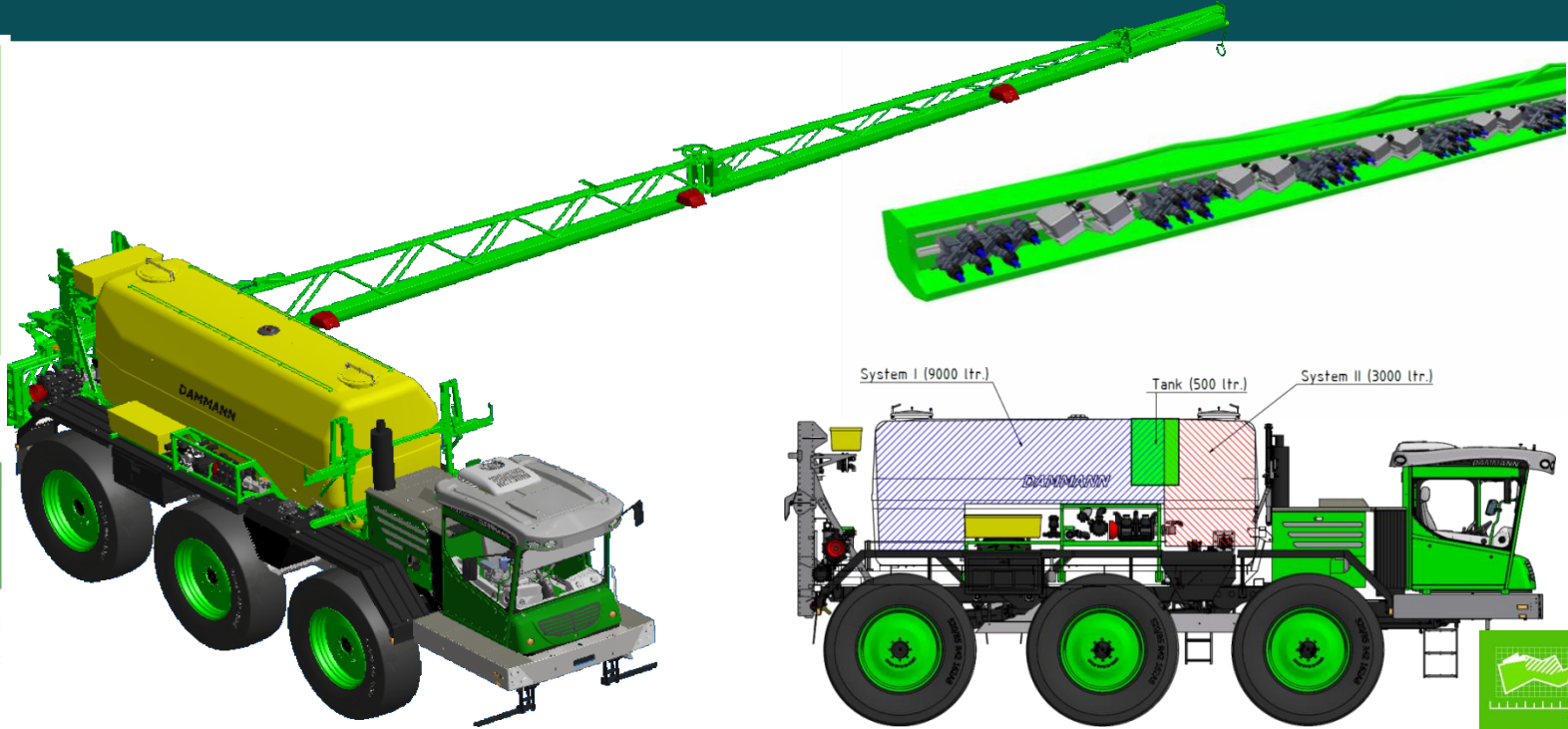
Variable fertilizing

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Variable fertilizing



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Harvesting

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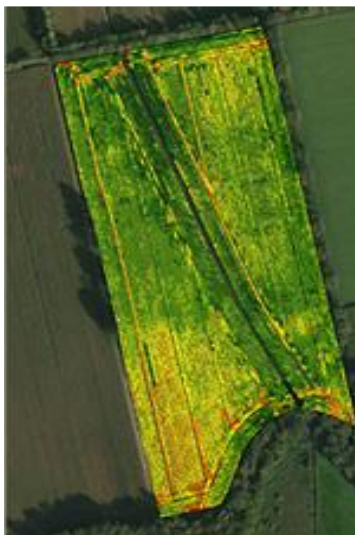


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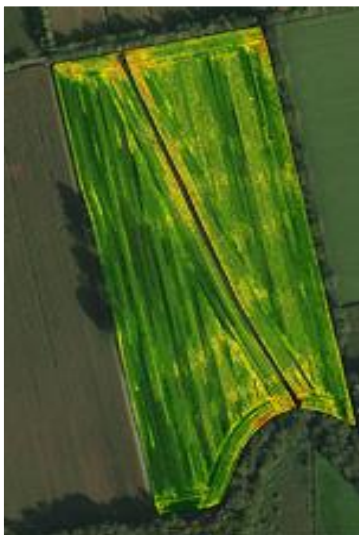
Harvesting



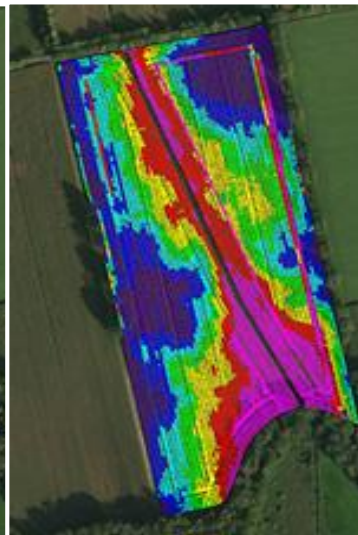
Yield



Speed



Elevation



Load nr.



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Harvesting

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Harvesting



Realtime tuber determination by hyperspectral cameras

- Measure
- there is
- Measure
- Commu
- that site
- May als



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Harvesting

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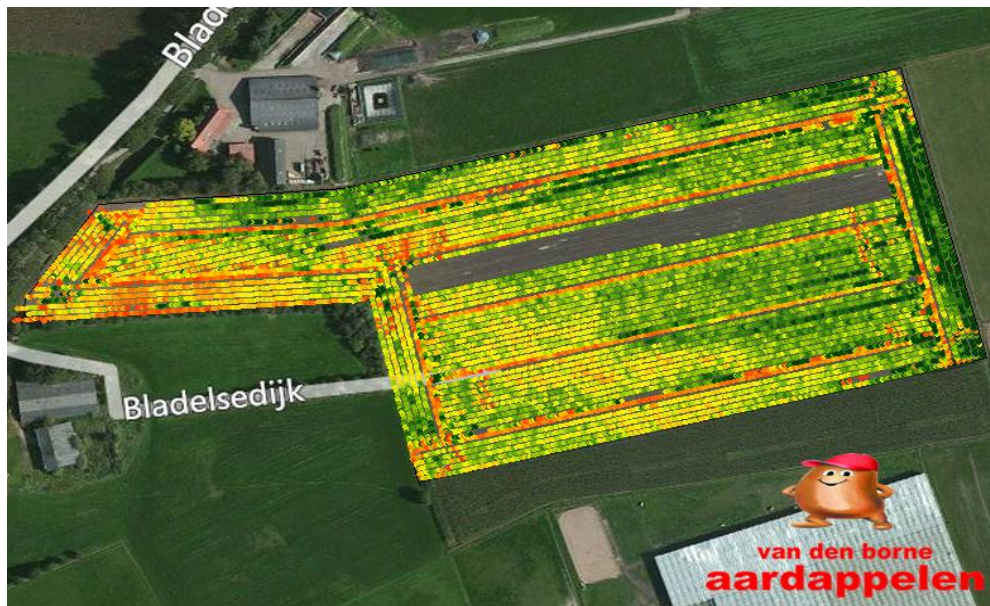


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Harvesting



Yieldpotential vs soilconductivity?



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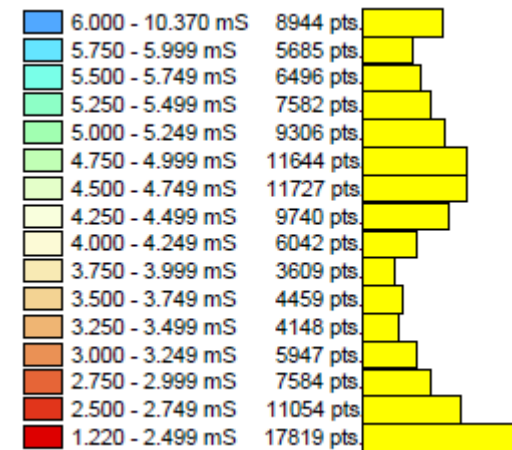
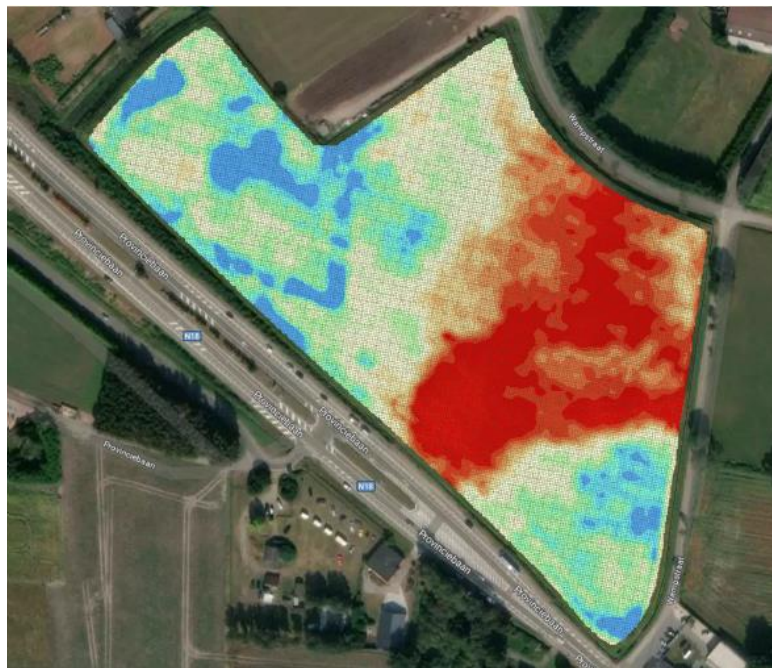
Harvesting

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Harvesting



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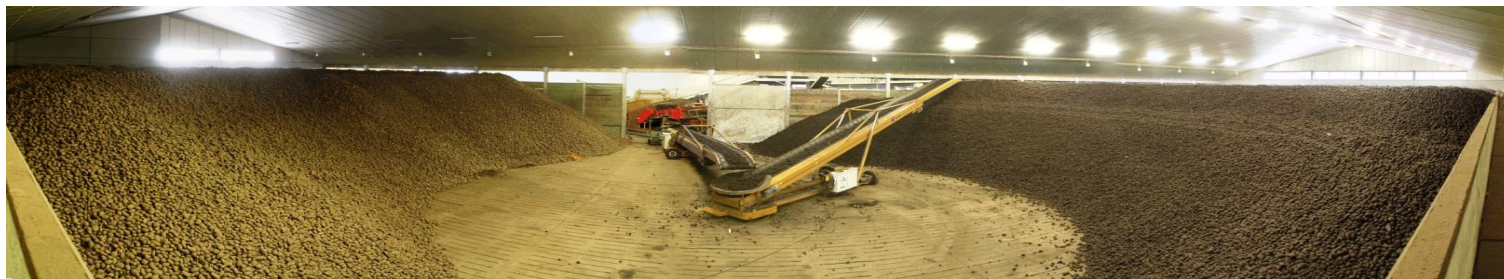
Storage

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Storage



Precision Storage

- Automated quality control and traceability
- Direct display of field positions in the storage room
- Climate control with weather forecast and electricity cost forecast for optimization on cost.
- Automated weight loss measuring in differed depths. in bulk storage.
- Indoor navigation for quality piking on demand



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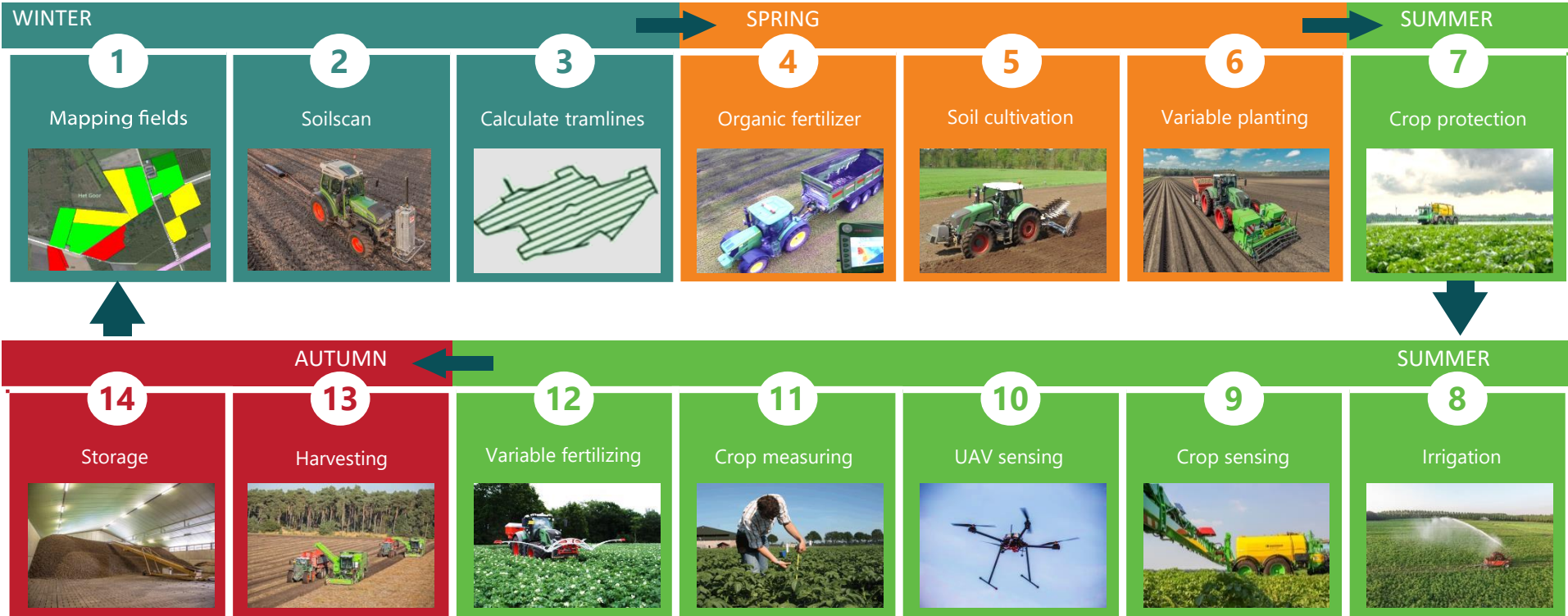
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Precision Farming

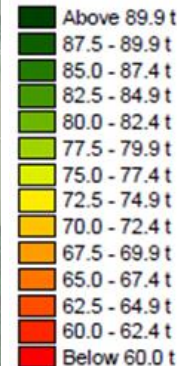
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Praktijk Centrum
Voor Precisie Landbouw



Vision High tech systems
toekomst big data
Drones open innovatie
People, Profit én Planet
State of the art
Cross-over
Sensoriek
Transparent
Systeem-integratie
Efficiëntie
Water, Mest, Gewasbescherming
Onafhankelijk Agro&Food
Technologie in verbinding en dialoog met de samenleving
Praktijkcentrum voor
Precisielandbouw



Precision Farming

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Precision Farming

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