

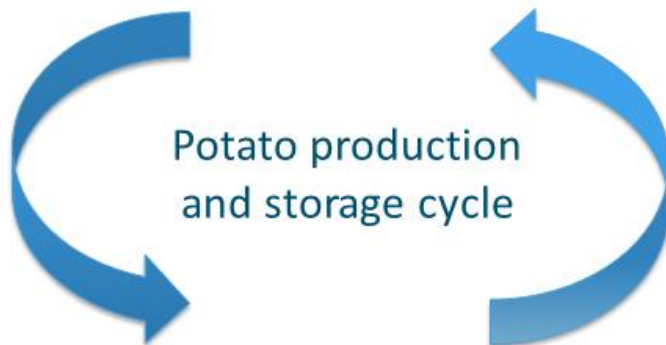


20  
20

# USE CASE 1.1: WITHIN FIELD MANAGEMENT ZONING (POTATO)

- ~~Diessie Donkers~~  
2 arable farms: on sandy soil (Reusel) and clay soil (Abbenes)
- ~~Arable Trail~~  
4 IoT demonstrators (wireless transmission of data, yield prediction and mapping, actuation in management zones, quality in storage)
- ~~5 week Aarhus: June 19th 2019~~  
Demonstrations of IoT devices, integration and equipment





# Our vision and approach in the use case

Integration of sensors, **data**, platforms, interfaces, models, tools ,equipment

Soil data: type,  
O.M., CEC, pH,  
nutrients,  
parameters .....

Crop data: stage,  
biomass, yield, quality,  
abiotic stress,  
model para-meters  
.....

Biotic stresses:  
Diseases, pests,  
weeds

Climate data:  
radiation, temp.,  
r.h., rain, etc., .....

Water:  
soil  
water  
balance  
parameters,  
water  
table,  
....

Management  
data: from  
tillage to  
harvest .....

Agronomic models (climate, crop, soil, water, biotic stresses, etc.)  
and/or other tools that give management information



# The Cycle, growth and data

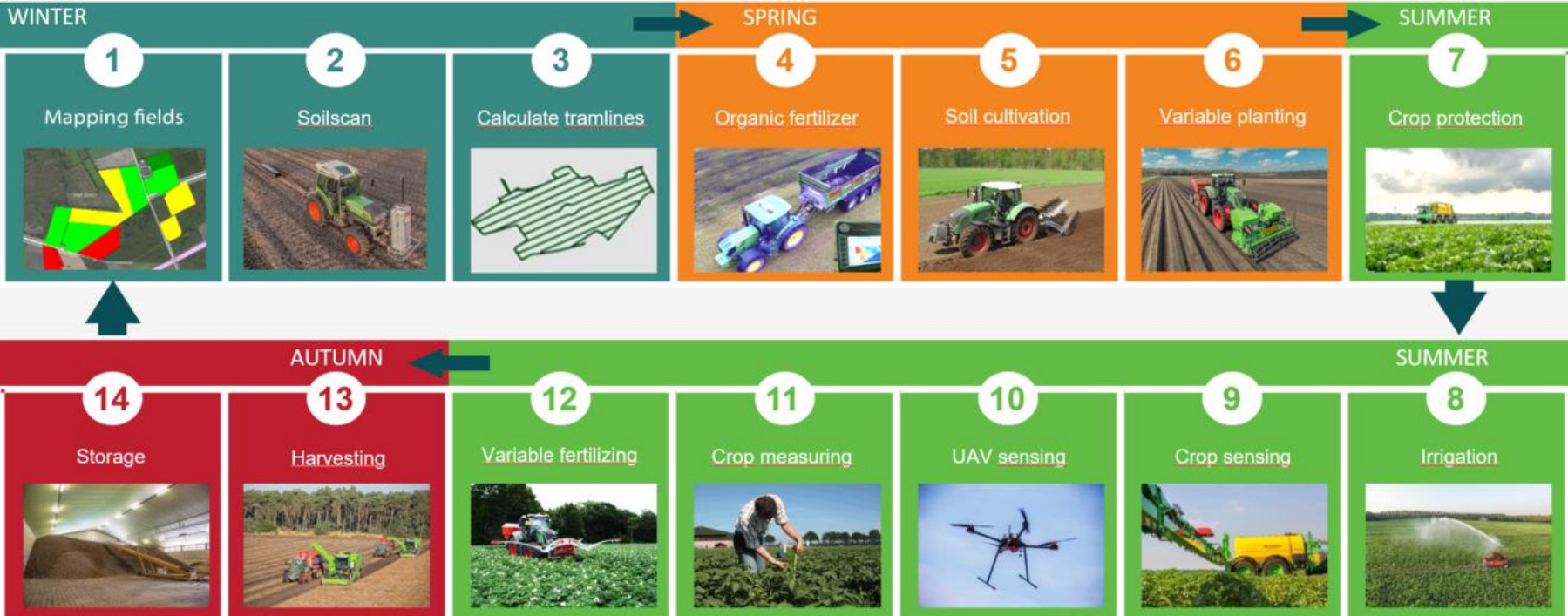


Sense

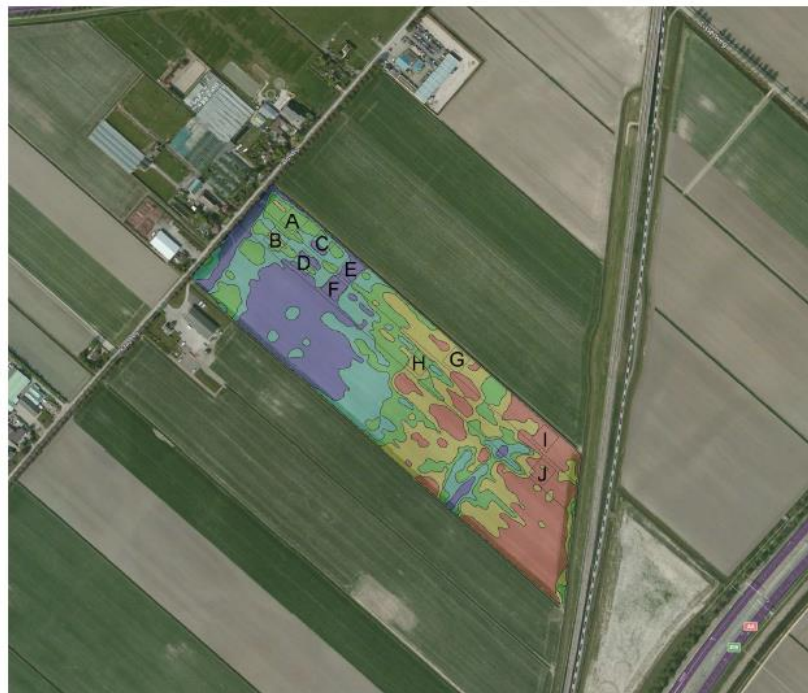
Interpret

Decide

Act



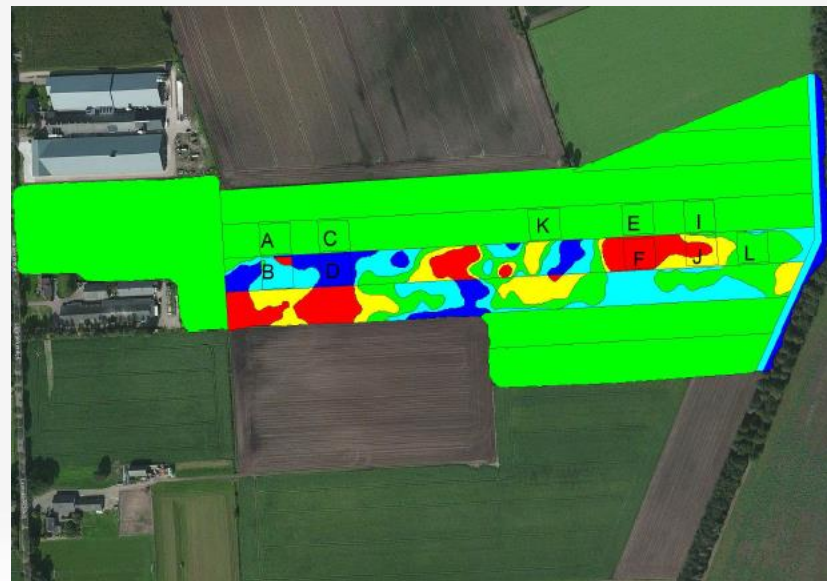
# Taskmaps



**Bayer - 2017 Aardappelen**  
Treatmentzone

Client: < Unassigned Client >  
Field: Bayer  
Crop: 2017 Aardappelen  
Name: plots

Variable Rate Application  
standard



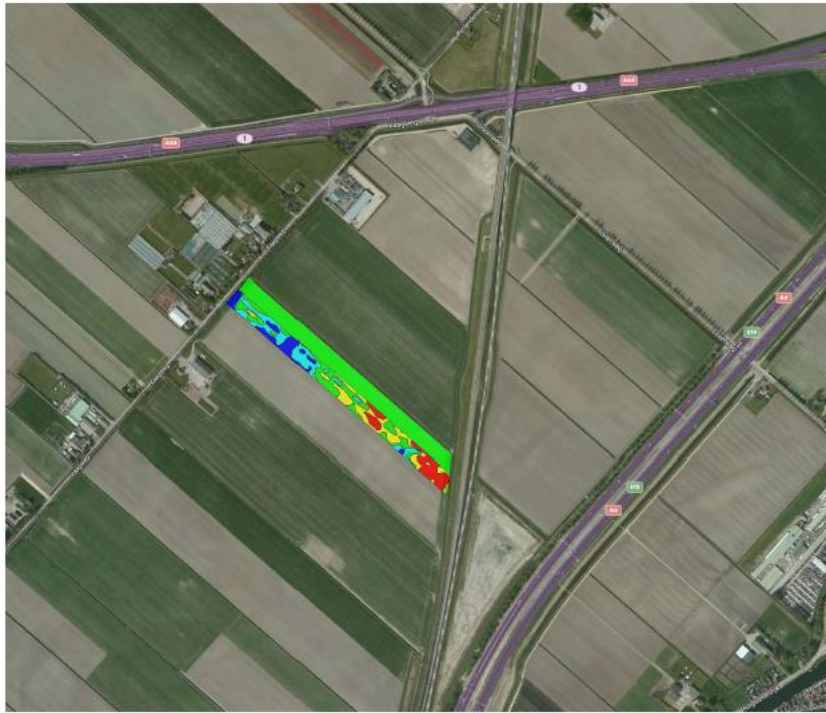
**Van Gompel herdersdreef - 2017 Aardappelen**  
VRA planting distance

Client: Van den Borne Aardappelen  
Farm: Van Gompel  
Field: Van Gompel herdersdreef  
Crop: 2017 Aardappelen  
Name: VRA planting distance  
Min: 310 cm  
Max: 390 cm  
Avg: 351 cm

390 cm  
370 cm  
350 cm  
330 cm  
310 cm



# UC1.1, task map VRA planting potato (test 2017, Abbenes)

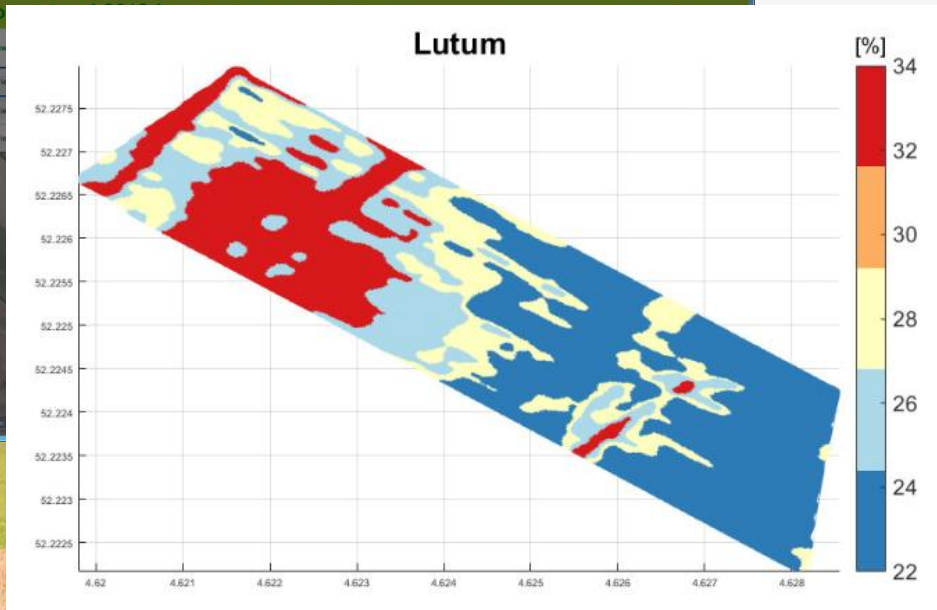
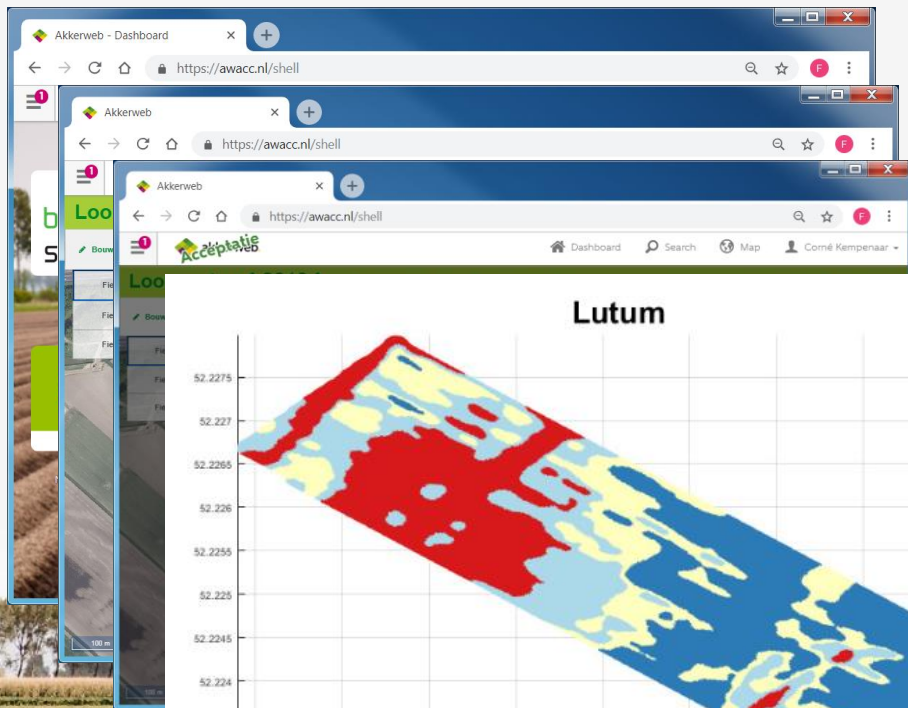


Bayer - 2017 Aardappelen  
planting distance mm

Client: < Unassigned Client >  
Field: Bayer  
Crop: 2017 Aardappelen  
Name: VRA plant map  
Date: 6-4-2017



# App for ordering of soil maps (autumn 2018)



[https://www.youtube.com/watch?v=Um2EJcL\\_TSU&t=8s](https://www.youtube.com/watch?v=Um2EJcL_TSU&t=8s)



# Current situation

- Variable rate planting:
  - For sandy soil
  - Shade zones: less plants per meter
  - Spray path: more plants per meter
  - Lutum content: more plants heavier clay soil
- available for Grimme, AVR and DeWulf
- Not standardised





# Current situation



# Steps/Phases in project

- To develop the current components into a robust webservice so it can run in 2020, plus validation
- To connect the webservice to participating user and machine platforms, plus validation in 2020
- Adoption: large scale implementation, monitoring and communication



# Phase 1

- To develop the current components into a robust webservice so it can run in 2020, plus validation
- Product is the webservice prototype
  - Work mainly by WUR
  - Interaction with Grimme, AVR and DeWulf, Akkerweb and/or other user platform
  - Delivery end of 2019 or January 2020





## Phase 2

- To connect the webservice to participating user and machine platforms, plus validation in 2020
- Product is prototype Multi-vendor VRA application
  - Work by WUR, Grimme, AVR, DeWulf, user platforms
  - Cost estimate to be made after the meeting (ca. 40 Keuro all parties, not (yet) included in the IoF budget)
  - Decision on how to share the costs
  - Delivery end of 2019 or January 2020

# Phase 3

- Adoption: large scale implementation, monitoring and communication
  - Where
  - When (2021-2024)
  - How
  - What to monitor



# Cooperation and implementation agreement

## Warm Cooperation

- Starting from a will/ambition to make step further
- Participants meet and build personal relations

## Cool Organisation

- Ownership, responsibilities of service & app organised in early stage
- Sharing of costs and budget to be organised in project setting

