

# **Implementation of parcel level data collection in Hungarian FADN**



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# Level of data collection

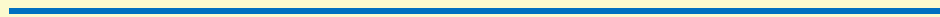
*Data collection levels:*

*Farm level*



EU FADN stops  
here

*Enterprise level*



National FADNs  
stop here

*Parcel level*

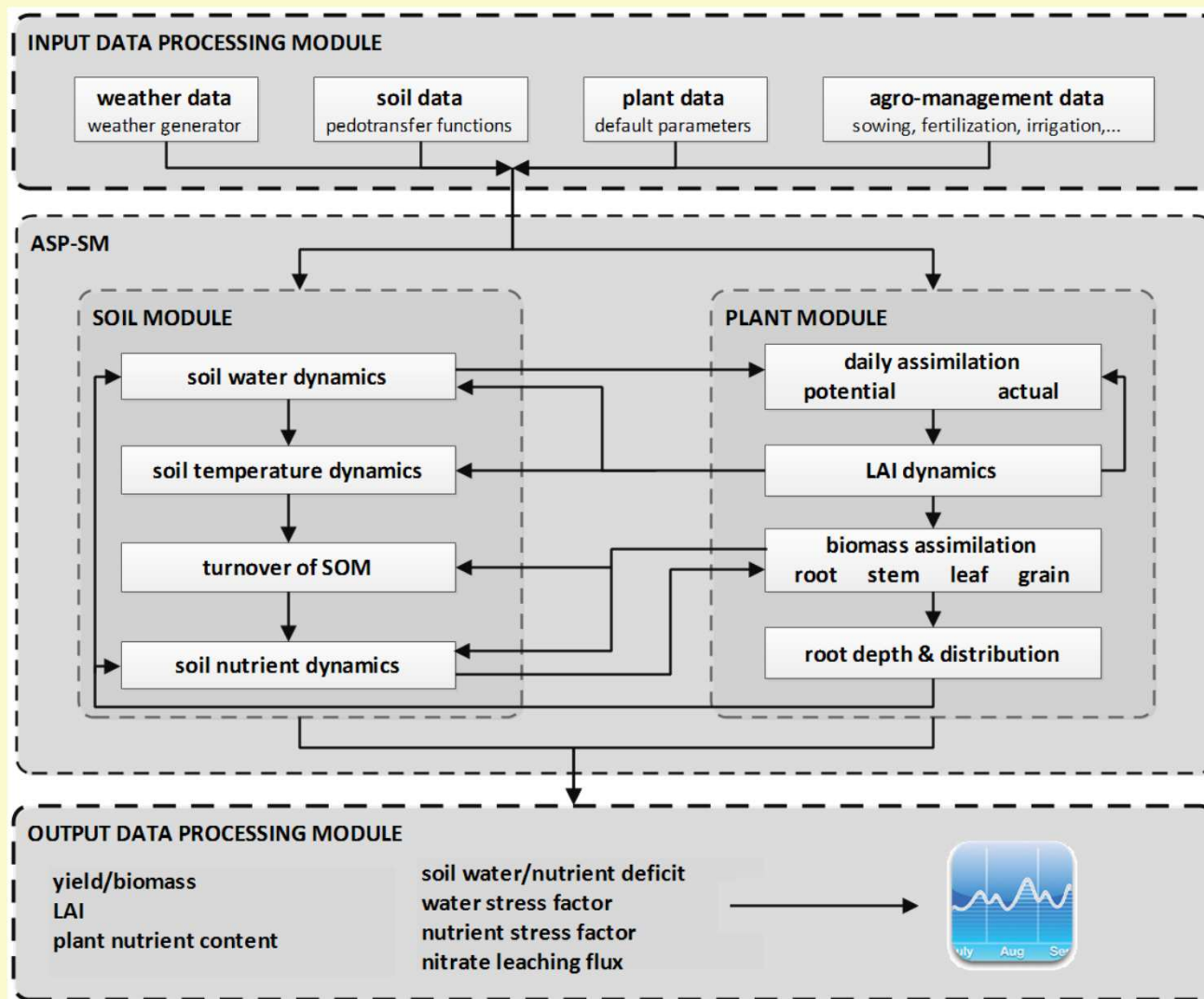
## Demand for parcel level data

- Complex agricultural risk control system;
- Aim: Implementation of automated insurance support and mitigation system for agricultural producers:
  - Electronic administration
  - Electronic damage assessment

## Role of the parcel level data

- Replacement of human control in case of damage assessment:
  - Remote sensing (calibrating the system to extend the results to all parcels in Hungary);
  - Parcel based data are used for crop model calibration and validation
    - The crop model is embedded into the risk assessment of the National Risk Assessment measure in order to optimize on-the-spot checks

# The crop model



## Information to be collected I.

- Wheat, winter barley, rapeseed, maize, sunflower;
  - Type of soil (physical type);
  - Soil compactness;
  - Fertilizer (NPK) active substance;
  - Organic manure;
  - Production techniques (disintegration).

## Information to be collected II.

- Forecrop,
- Density of crop,
- Amount of seed,
- Time and quantity of irrigation,
- Type and frequency of crop protection,
- By-product remain on the field,
- Time of harvesting,
- Causes of damage,

## Selection criteria

- Parcel selection in corporation with Institute of Geodesy, Cartography and Remote Sensing (FÖMI)
  - 1% of total Agricultural Utilized Area
  - Area for the five most important crops in each stratum.
  - Form of the parcel (minimum 1 hectare, and 500x500 meter square must be fit in)



## Intrest of farmers

- Parcel level vegetation index (e.g. for precision nutrition);
- Parcel level damage maps;
- Yield-loss on parcel level;
- Inland water and drought exposure;
- Hail damage;

## State of play

- 2013: Pilot project
  - 21 farms, 208 parcels, 8760 hectares
  - 5 plant (wheat, winter barley, sunflower, rapeseed, maize)
- 2014: The system is up and running
  - 172 farms, 1826 parcels, 34265 hectares (Sample size is 1%)
- 2015: Data collection is in progress
  - closed for 3 crops, 945 parcels, 19086 hectares

# Opportunities

- The climate change is a challenge. The mitigation have to based on farm economy;
- Climate Change Impacts Assessment
  - Using different future climate scenarios we access possible effects on yields and yield variability
- Data for future projects;

**Thank you for your attention!**

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