

# DIGITALIZATION OF LANDSCAPES AND DETERMINATION OF PRIMARY SOIL PARAMETERS TO OPTIMIZE ENERGY INPUTS

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University full of life

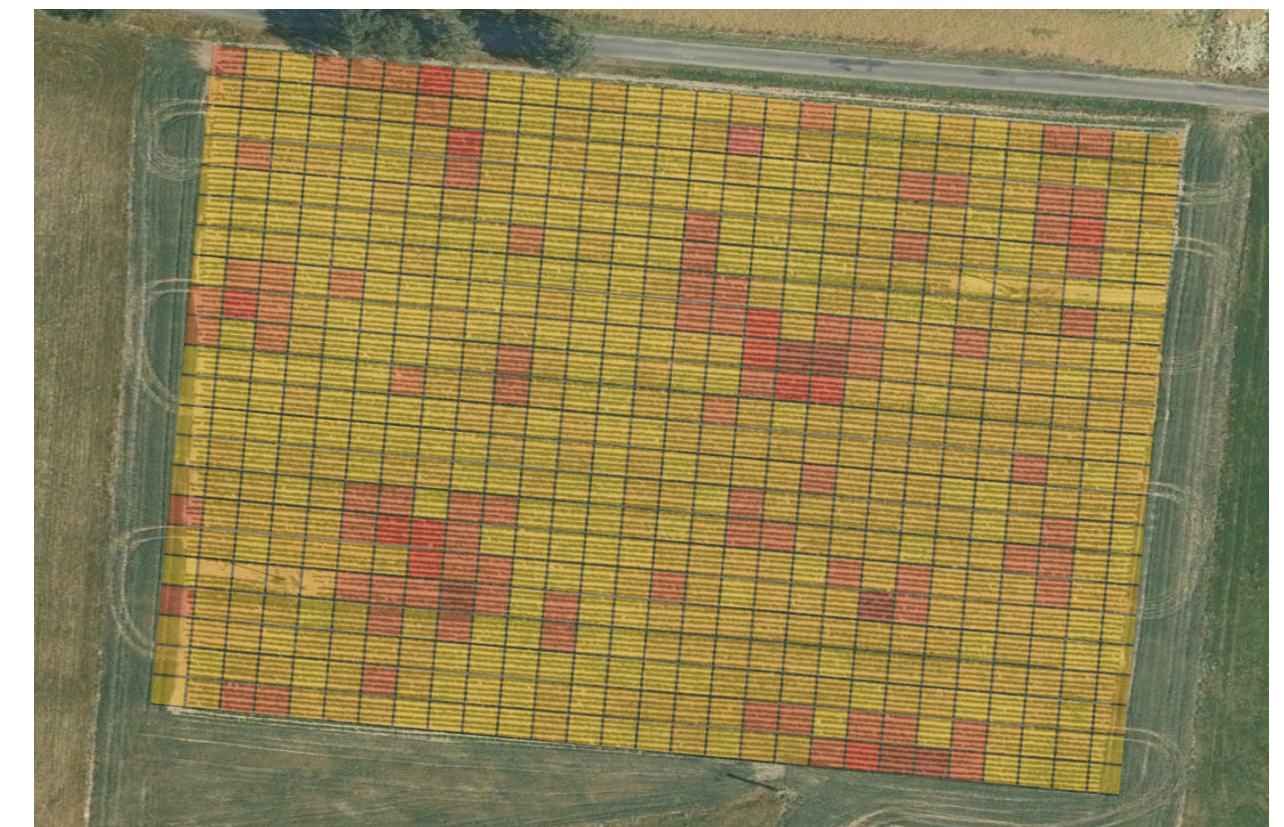
# Project idea

2

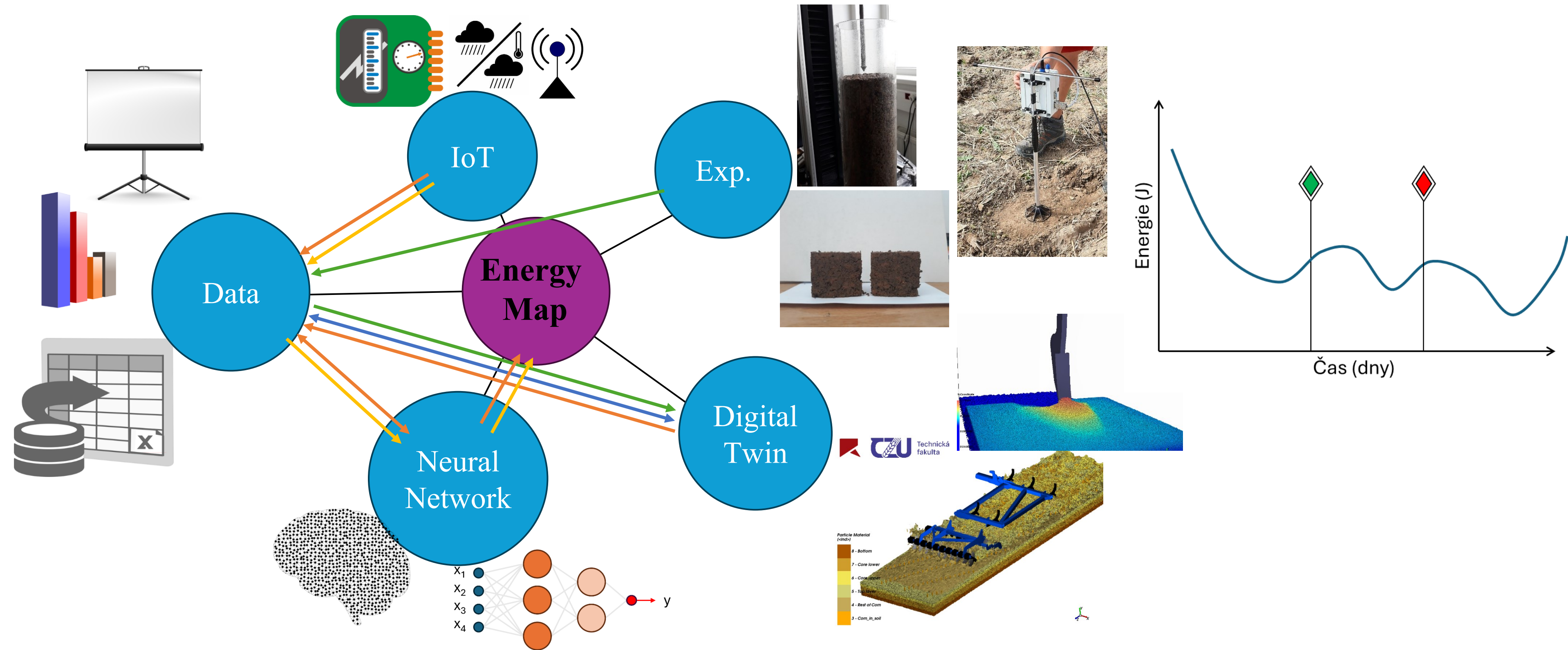
- The main objective of the project is to optimize energy inputs and reduce the negative impact on the soil, thanks to the appropriate timing of the intervention, using predictive models of energy intensity during soil cultivation (energy maps), derived from current values of soil properties.



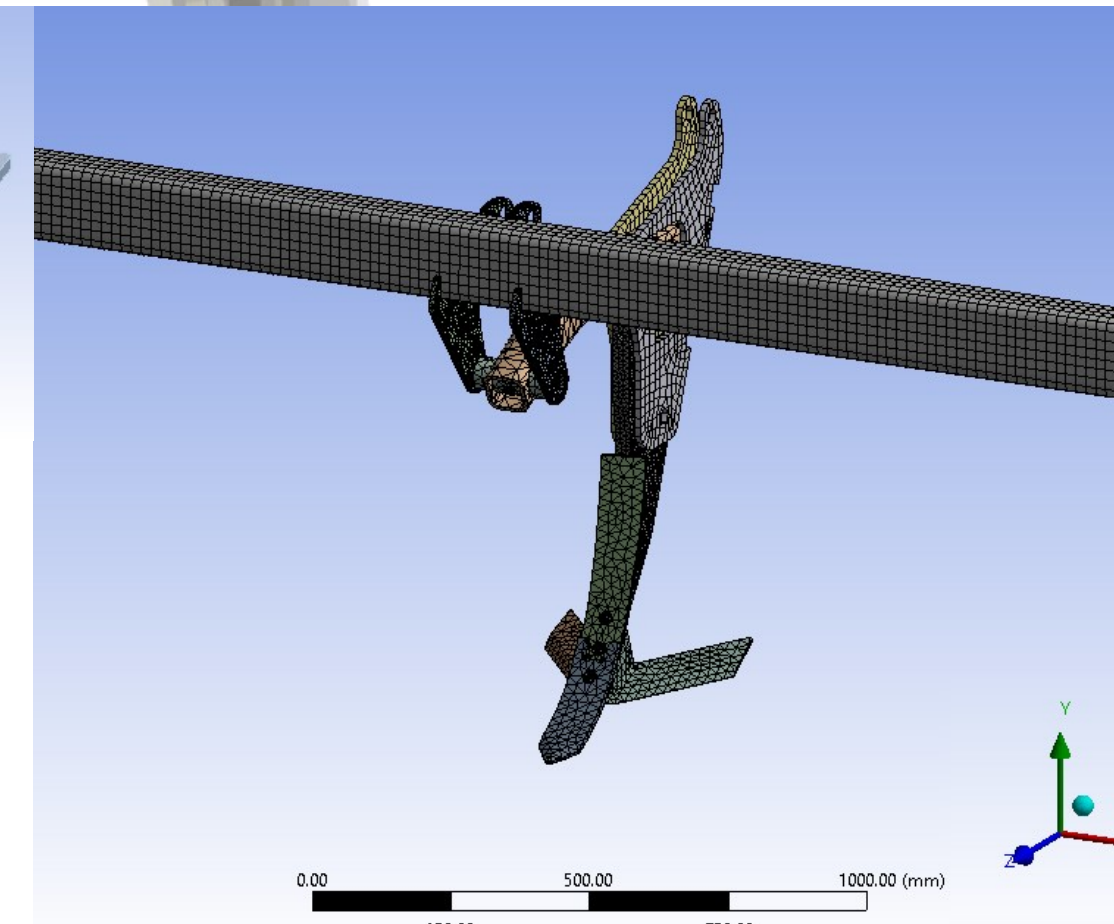
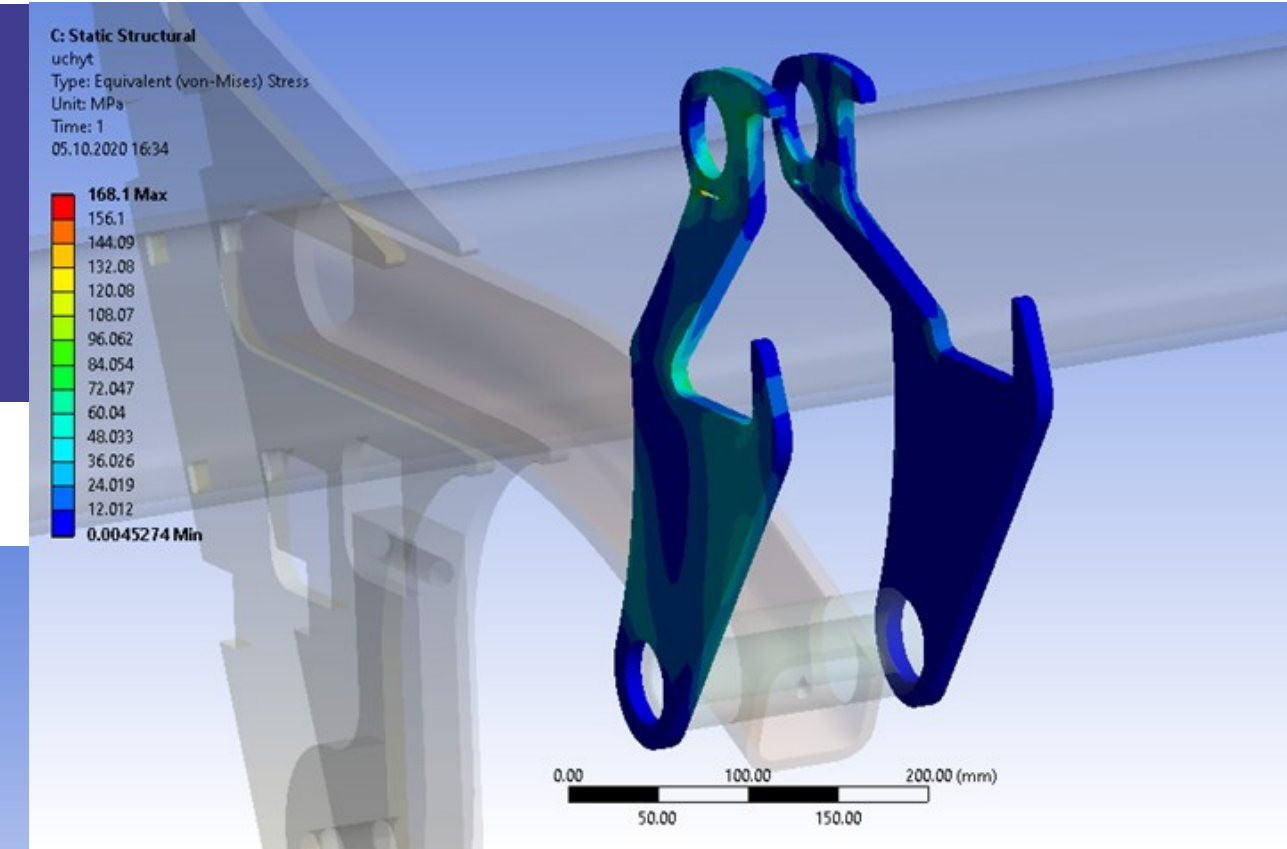
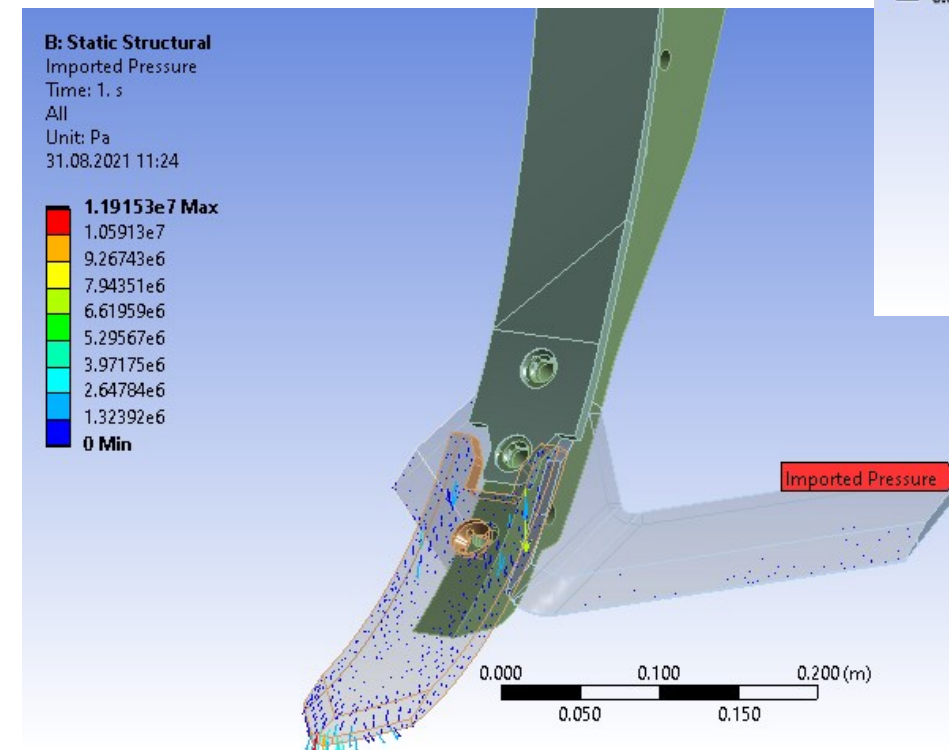
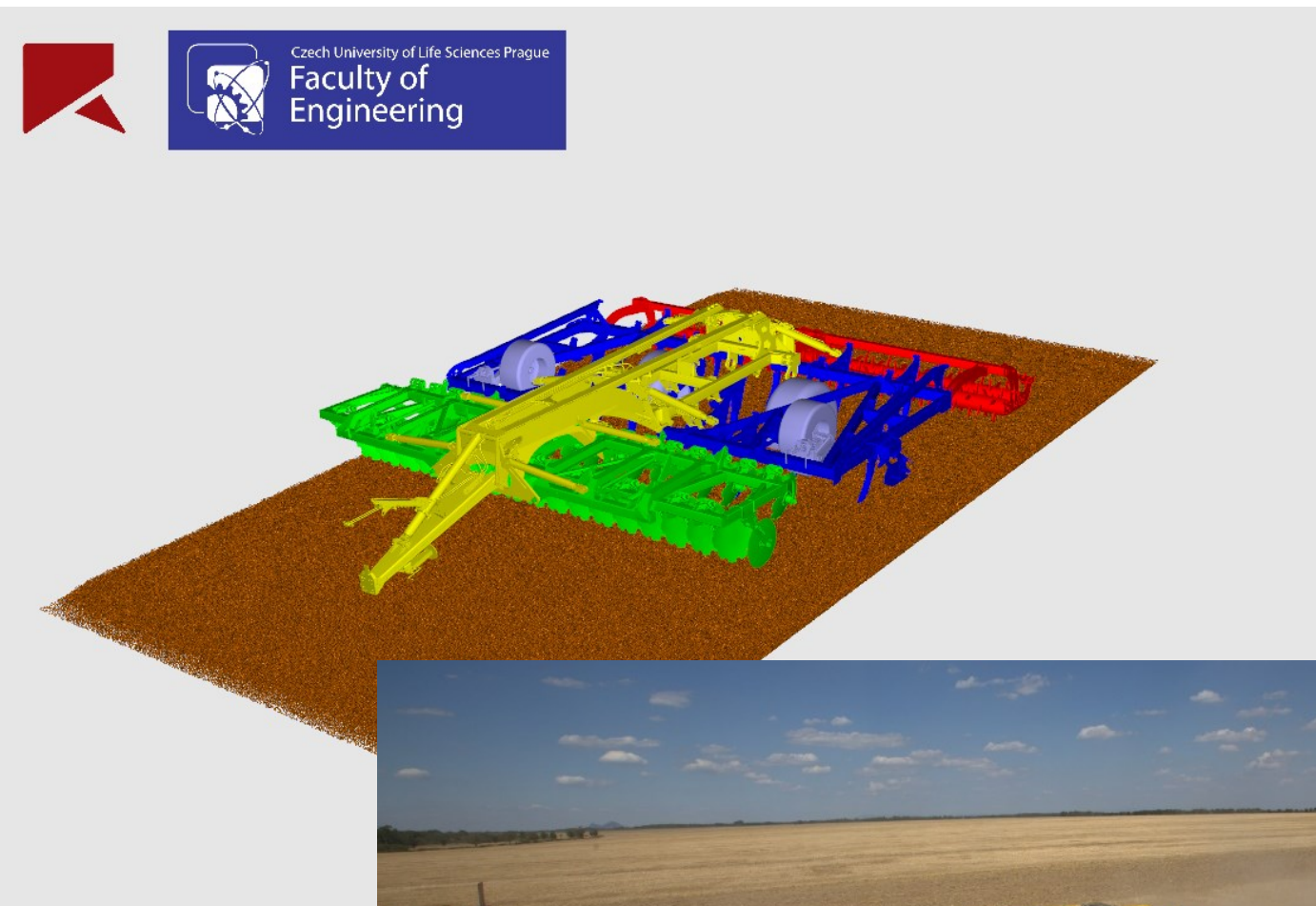
Energy  
Map



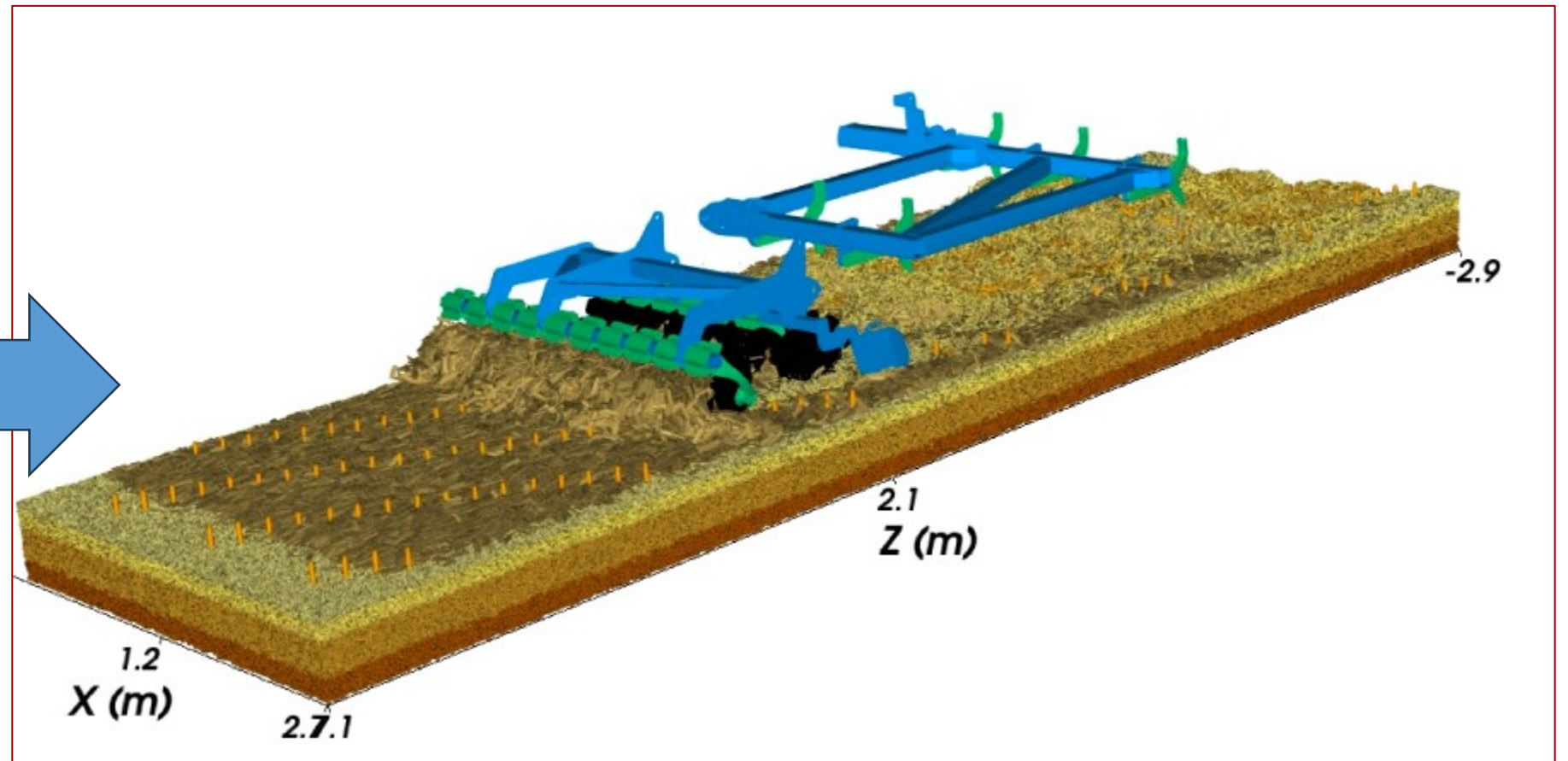
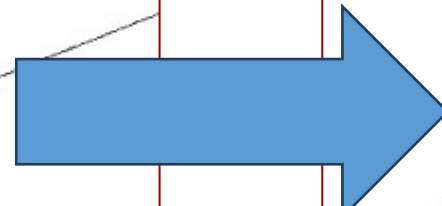
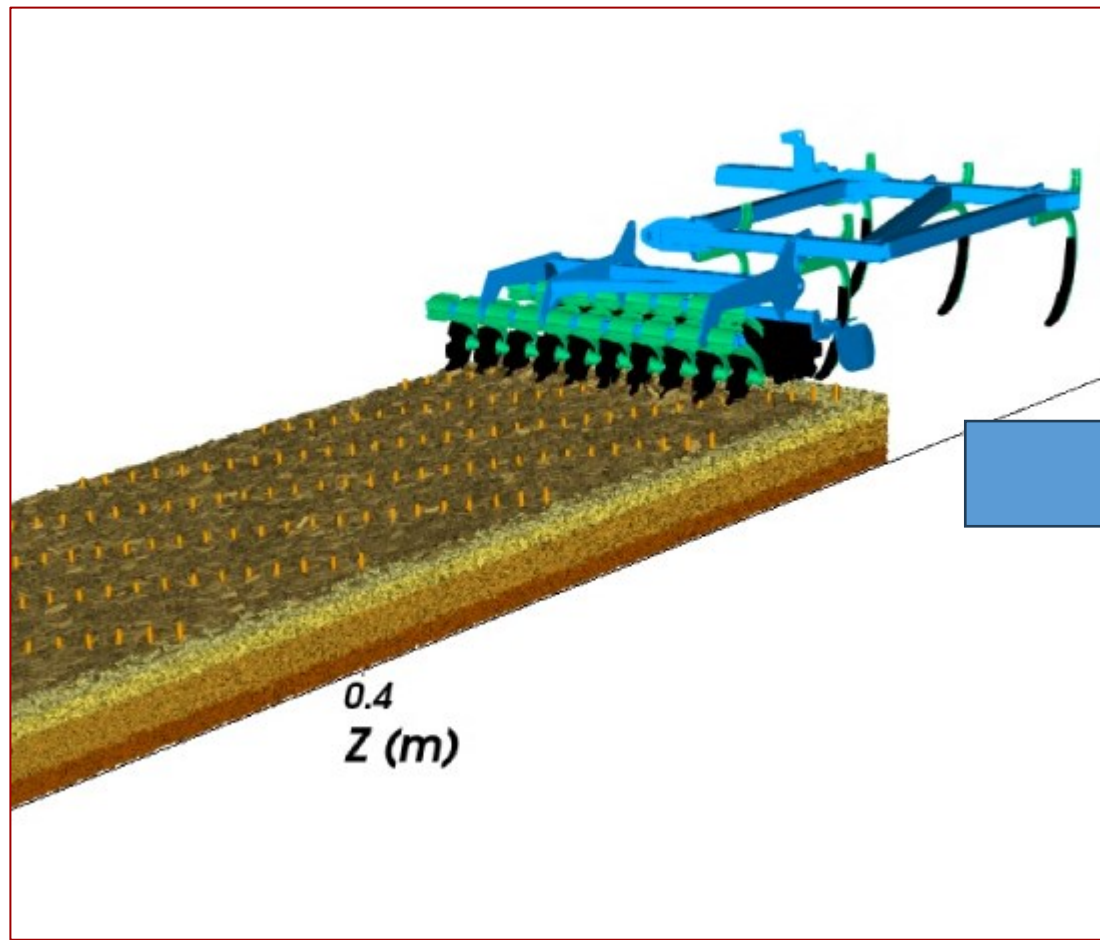
100 € 1000 €



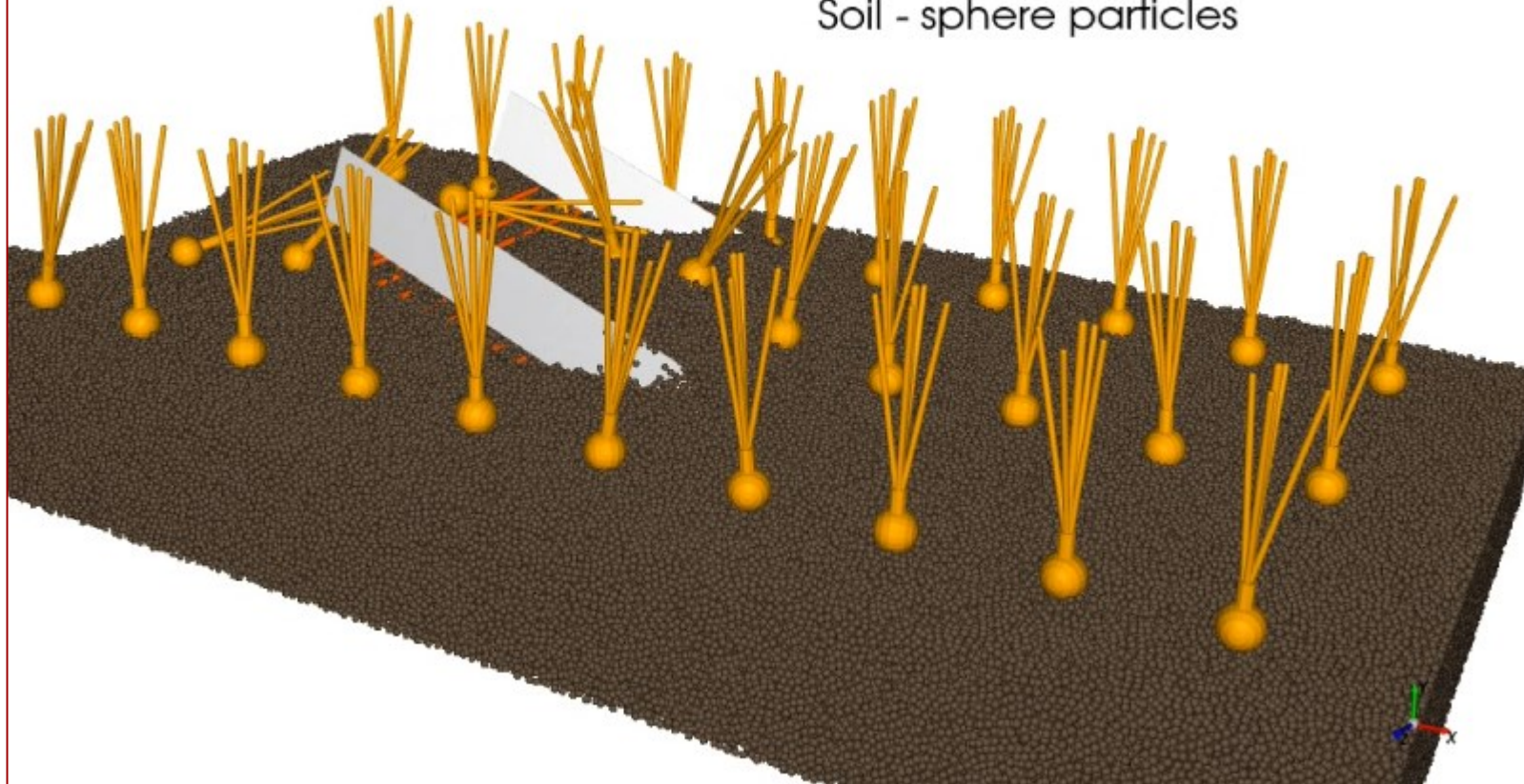
# Data management and Stress analysis



# Experience in simulations

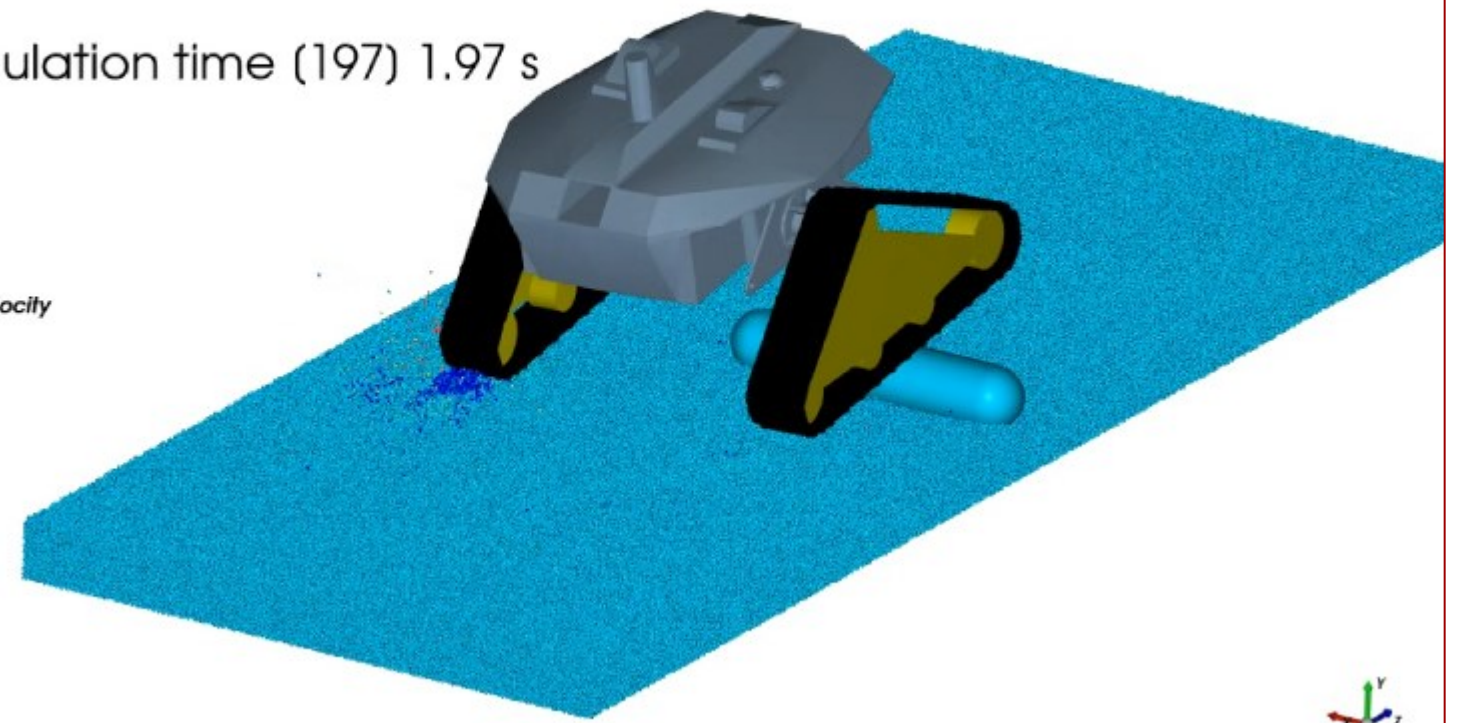
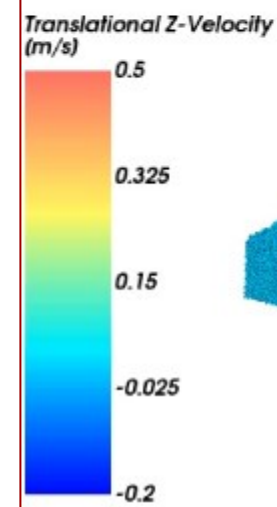


Total particles 677,818  
Onion - custom assembly particles  
Soil - sphere particles



Total particles 2.2 mil.  
Soil - sphere particles

Simulation time (197) 1.97 s



# Experience in projects

6

- Advanced methods of functional agricultural machines design using the latest numerical methods;
- Application Systems of Liquid Organic Fertilizers as the Means to Improve Soil Environment, Enhance Nutrient Utilization by Plants and Minimize Environmental Impacts;
- New orchard concept using technology 4.0;
- Freely available satellite images in the microwave part of the electromagnetic spectrum as a source of information for optimizing plant production;
- Smart solutions to empower small- and medium-sized farms as guardians of the territory (Guardians);
- ...

Last 8 years more than  
74 projects;  
Budgets: up to 2 mln.