

# Custom Multi-Sensor HT Plant Phenotyping Platform

Natallia Valasevich (CEITEC), Jakub Jez (VBCF)

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# Pilot project introduction



- Project partners
  - CEITEC Plant Sciences Facility & VBCF Plant Sciences Facility & PSI**
- Complementary equipment/expertise used for the project (including pictures, if possible)
  - Present RGB HT plant phenotyping platform at VBCF**
- Basic project idea
  - To plan and construct a multi-sensor HT plant phenotyping platform**
- Project goal
  - To extend the present HT plant phenotyping pipelines in the cross border region by establishing an fully automated multi-sensor HT plant phenotyping platform for small and mid-scale plants (top- and side-view)**

Potential end-users:

- **Academic plant research groups (basic and applied research)**
- **Food security agencies (AGES)**
- **Plant breeding companies**

# Project implementation

Very close collaboration between **VBCF Plants**, **CEITEC Plants**, **PSI** and the **architect**

## **Technology scouting**

numerous company and facility visits

Attendance of conferences and workshops (APPN, CzPPN, EPPN, IPPN, COST and others)

**Mapping of present cross border HT plant phenotyping infrastructure** (via APPN and CzPPN)

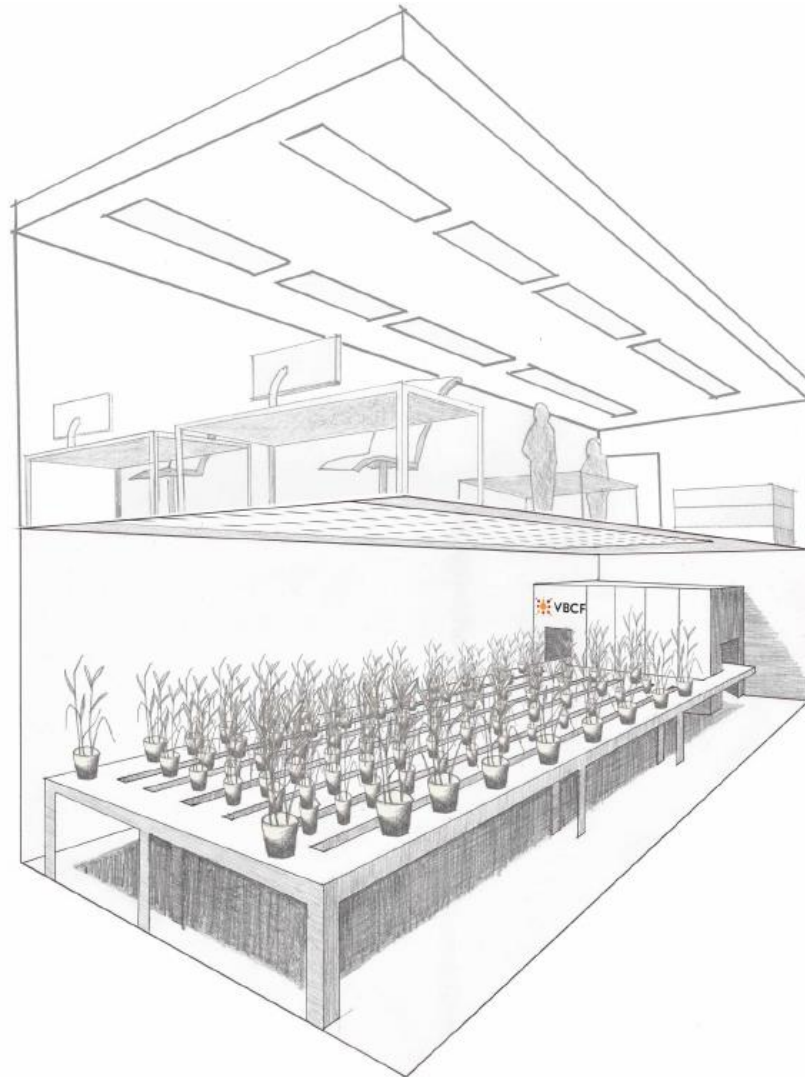
**Mapping USER NEEDS - PROJECT PLANNING - “PRODUCT” DESIGN**

**Regular meetings** of project partners

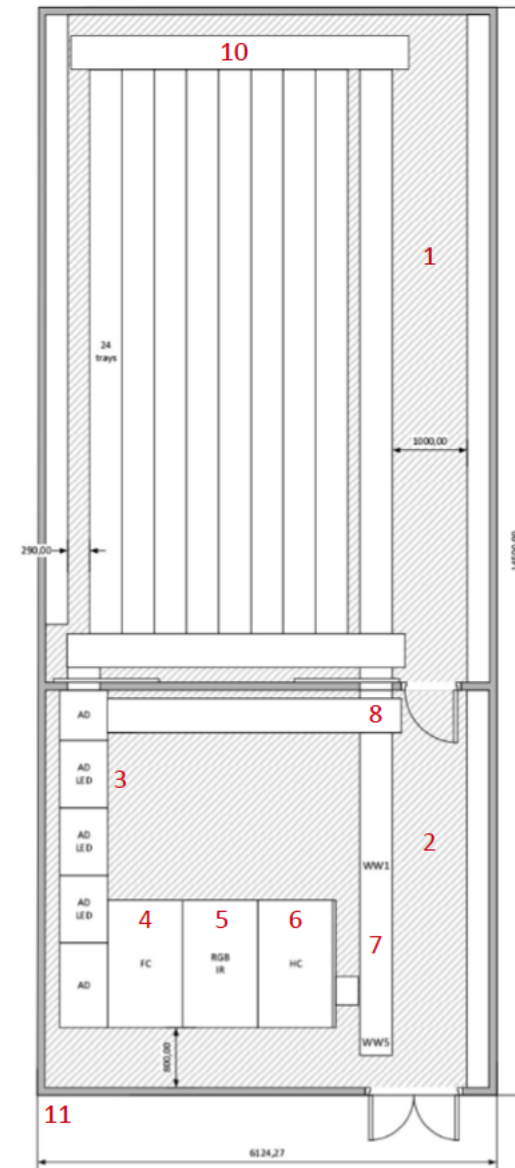
Construction and proof-of-concept project

Delayed due to the heavily delayed reconstruction of the old IMP building (planned platform location)

# Project results



HT Phenotyping Platform



	Name
1	Phytotron compartment 1 – growth area
2	Phytotron compartment 2 – imaging area
3	Adaptation tunnel
4	Kinetic Chlorophyll Fluorescence Unit
5	3D Structural RGB & Thermal Imaging Unit
6	Hyperspectral Imaging Unit (VNIR & SVIR)
7	Watering & Weighting Unit
8	Manual Loading Unit
10	Automated Transportation System
11	Phytotron
12	Technical room – IT Hardware (not indicated)
13	Office, working room and lab (not indicated)