

Agar-plate screening system

Natallia Valasevich (CEITEC), Jakub Jez (VBCF)

24. 09. 2018



Pilot project introduction



- Project partners
 - CEITEC Plant Sciences Facility & VBCF Plant Sciences Facility**
- Complementary equipment/expertise used for the project (including pictures, if possible)
 - PHENOBox side-view plant phenotyping box, LemnaTec image analysis expertise at BioComp**
- Basic project idea
 - To develop an instrument for (at least partially) automated RGB screening of agar-plates including the corresponding image analysis algorithms**
- Project goal
 - To extend the present HT plant phenotyping pipelines in the cross border region by establishing an automated screening platform for screening of seedlings and root phenotyping**
- 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**, **VBC workshop** and **CEITEC PlantS** and the group of **Ortrun Mittelsten-Scheid**

USER NEEDS - PROJECT PLANNING - “PRODUCT” DESIGN

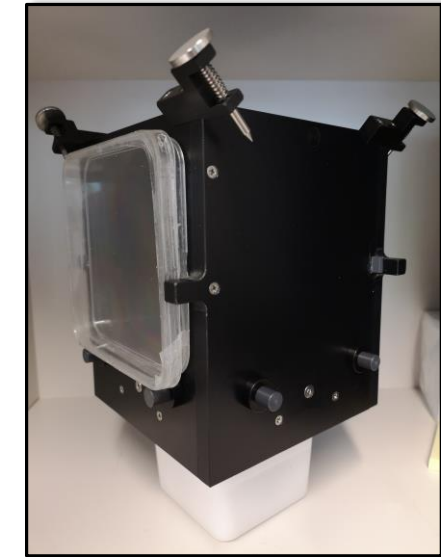
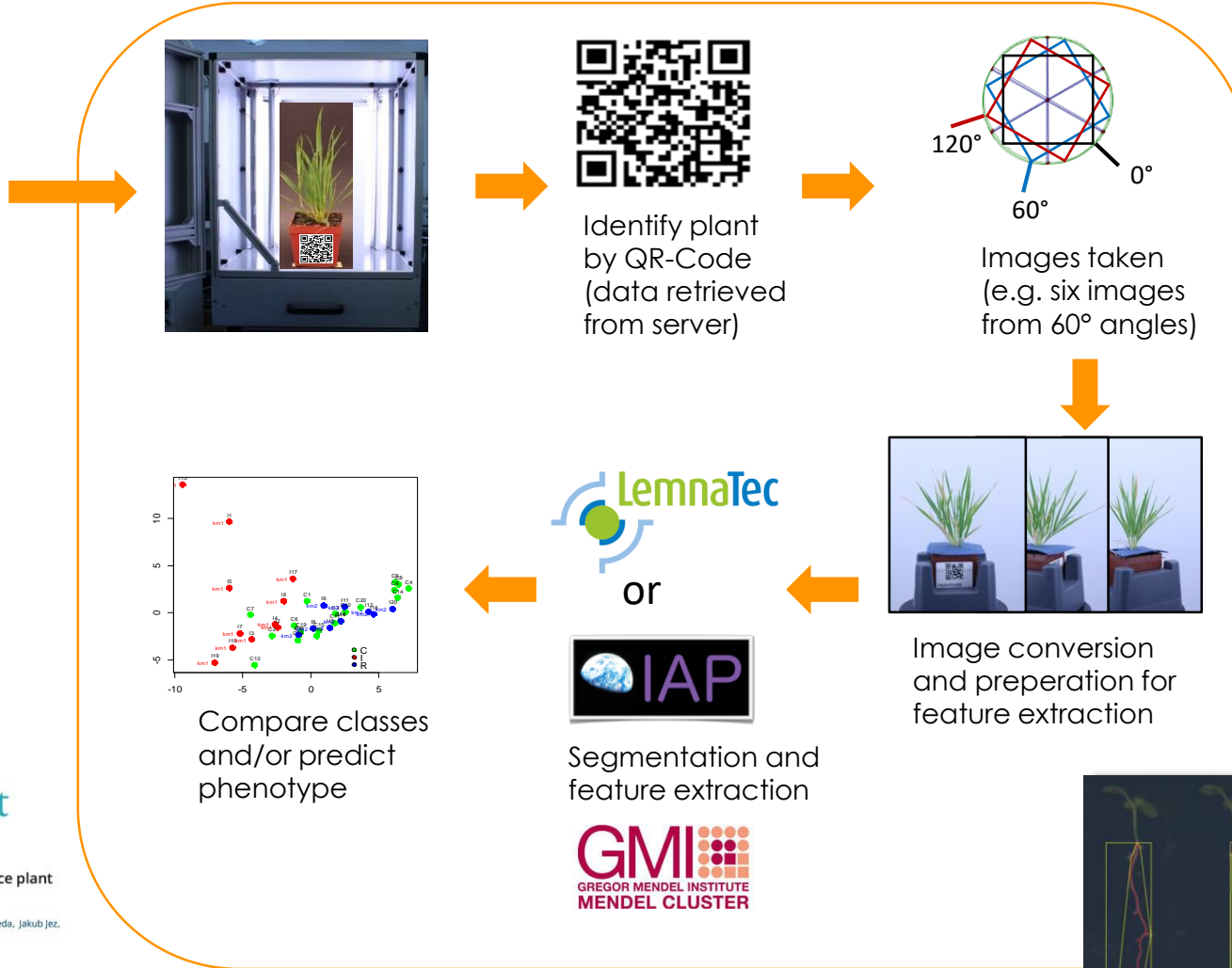
Regular meetings of project partners

Prototype development – prototype testing - continuous product improvement

Training of staff and main user (OMS)

Proof-of-concept projects running

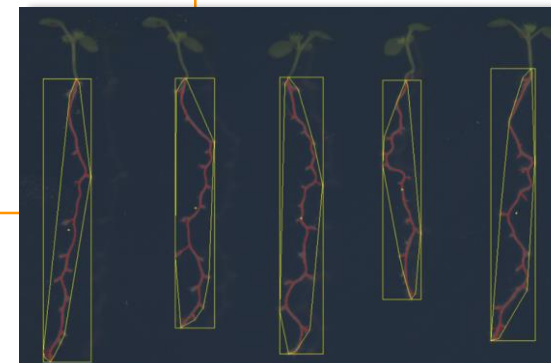
Project results



Agar-plate add-on

Root phenotyping

Seedling screening



Agar-plate screening system



The 'PhenoBox', a flexible, automated, open-source plant phenotyping solution

Angelika Credik-Eysenberg, Sebastian Seitner, Ulrich Güldener, Stefanie Koemeda, Jakub Jez, Martin Colombini, Armin Djamei

First published: 05 April 2018 | <https://doi.org/10.1111/nph.15129>

