EMPHASIS

European Plant Phenotyping Network EPPN 2020

PHENOME French Plant Phenomic Infrastructure EMPHASIS

Exchange event between the European phenomic community and industry

EPPN^{2020} Trans-National Access and new opportunities in EMPHASIS

Roland Pieruschka, Simone Gatzke
(Forschungszentrum Jülich, DE)

EPPN^{2020} and community integration

- Opening doors to all European researchers from academia and industry and facilitate access
- Generating and utilizing novel opportunities

- **2012 – 2015 EPPN: as a starting community grant**
  - Integrating the community,
  - Access to installations
- **2017–2021 EPPN^{2020}: advanced community grant**
  - Set the scientific bases for infrastructure information system, methods
  - Access to installations
- **Since 2016 – ESFRI Research Infrastructure**
  - Development and implementation of long term operation of pan-European infrastructure

Provide Transnational access

- For researchers from academia and industry
- To 31 state-of-the-art plant phenotyping installations
- The scope of access provision was defined by the H2020 call
  - high throughput phenotyping under controlled conditions with high-definition non-invasive sensors
  - destructive sampling aiming at understand the genetic variability of different plant processes,
  - controlled field facilities allowing users to control rainfall and/or the concentration of air CO_2 together with high-definition non-invasive sensors

Simple access scheme

Access to 31 installations in Europe

(unfortunately EPPN2020 is about to end…)

Based on a simple application procedure

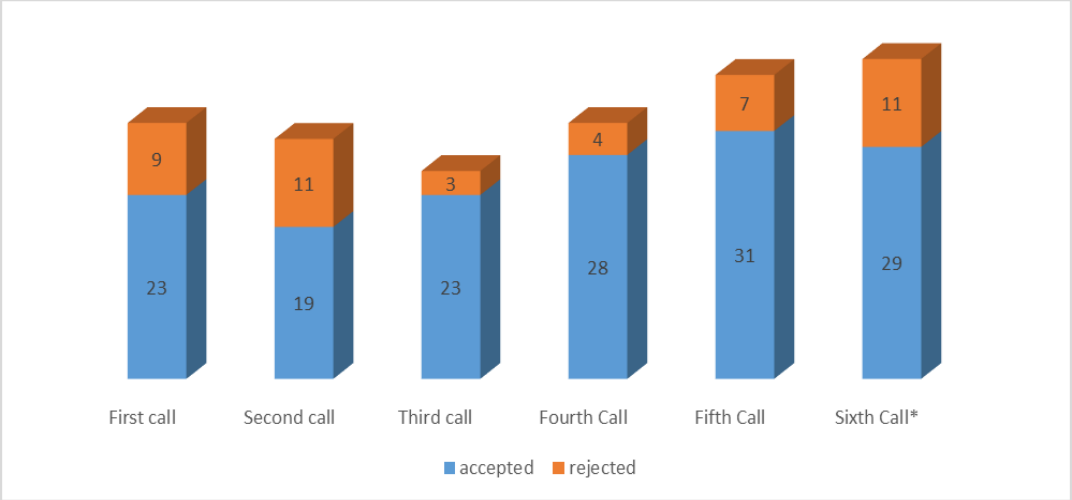
Calls every 6 months

Full cost of projects covered by the project, including travels

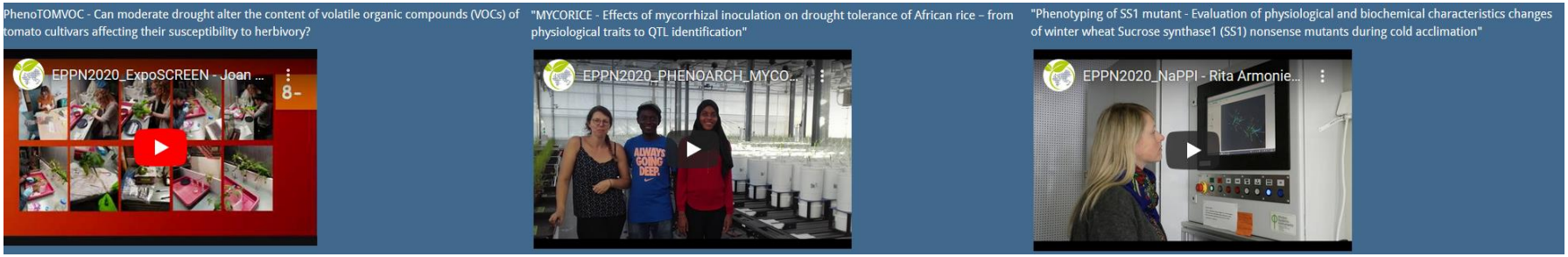
20% accesses for non-European researchers

TNA: some facts and figures

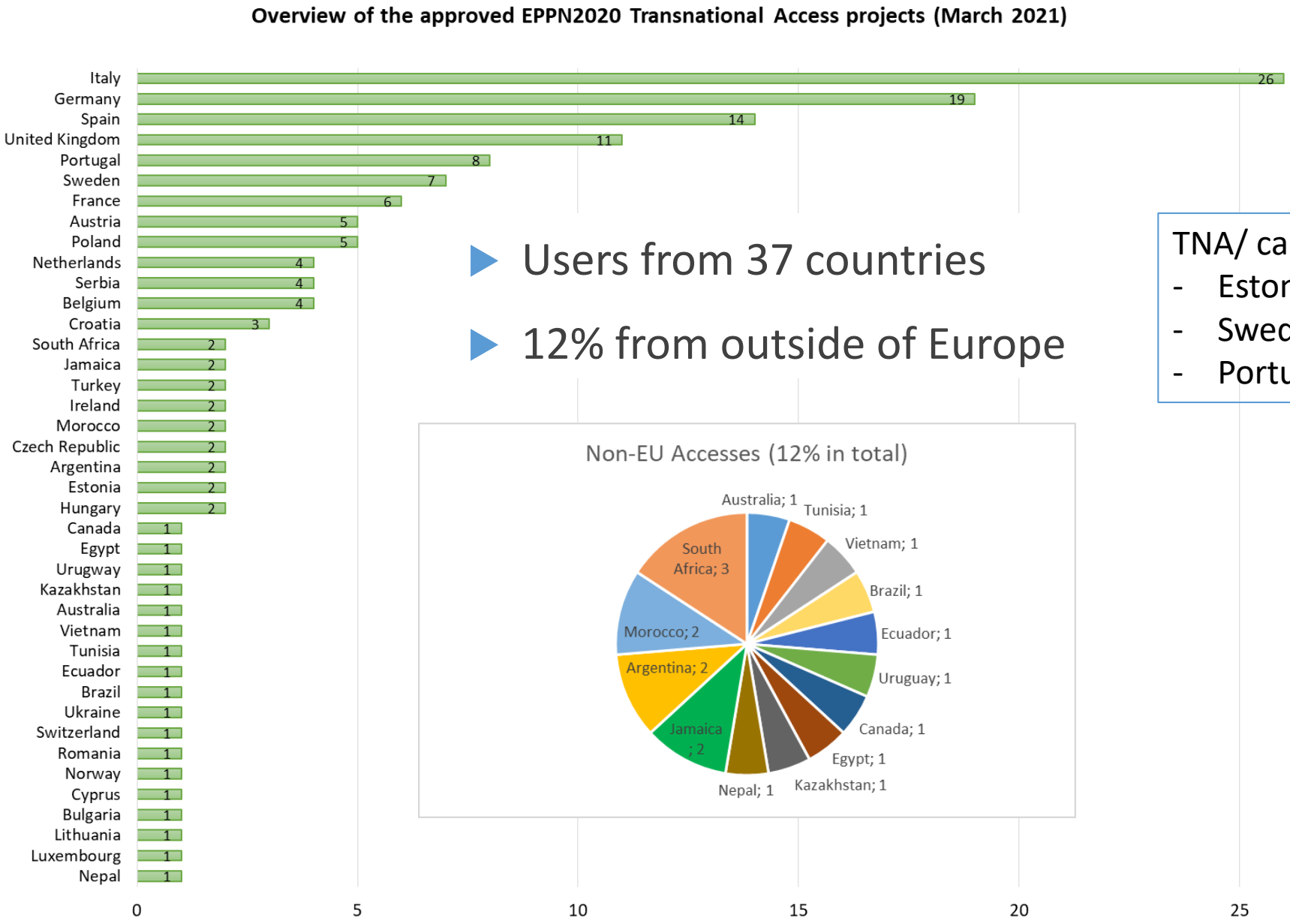
- 153 TNA projects finalized or in progress (198 submitted proposals)
- Over 70% new users
- >300 external reviewers have been involved
- 15 access videos



https://eppn2020.plant-phenotyping.eu/Selected_Projects



TNA: some facts and figures

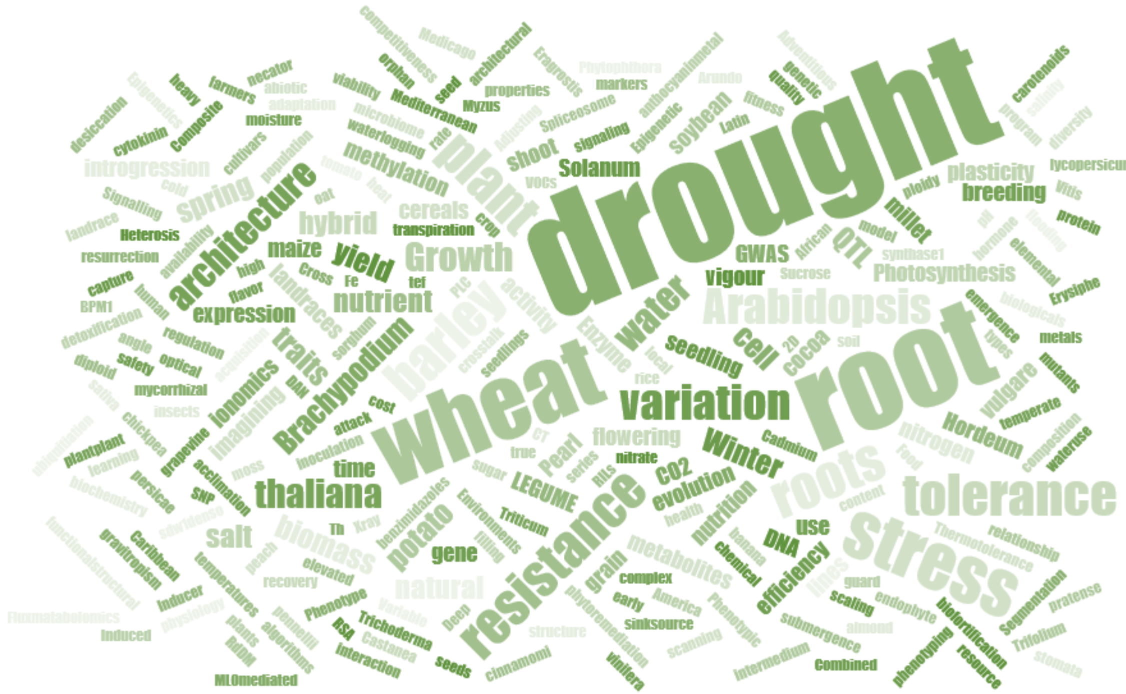


- Users from 37 countries
- 12% from outside of Europe

TNA/ capita
- Estonia
- Sweden
- Portugal

TNA: some facts and figures

- Large diversity of topics with focus on abiotic stress
- >50 different crops
- Nearly one third of the experiments included previous datasets from field experiments (Multi Scale)



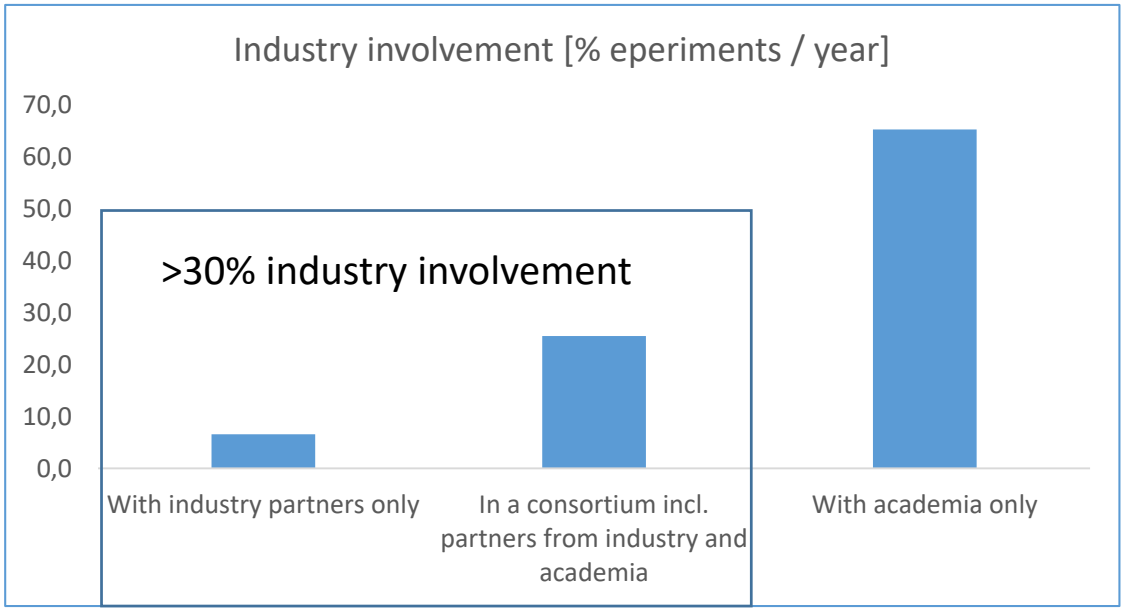
Industry involvement in TNA

- A relatively low industry involvement within EPPN^{2020} TNA

  <5% (4 projcts with direct involvement 3 with indirect involvement)

- But individual partners have 30% of accesses with industry

Industry involvement within EPPN^{2020} facilities
(survey out of EPPN^{2020})



Community engagement

- Wide community engagement:

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cost EUROPEAN COOPERATION IN SCIENCE & TECHNOLOGY

IPPN

NordPlant

epso

29.06-8.07
SEB 2021 ANNUAL CONFERENCE
abstract submission 22.03

24.05-28.05
ROOTING2021 in Nottingham

National infrastructures:

Deutsches Pflanzen Phänotypisierungs-Netzwerk DPPN

NaPPI

APPN Austrian Plant Phenotyping Network

PhenomUK

Belgian Plant Phenotyping Network

PHENOME EMPHASIS

CZPPN CZECH PLANT PHENOTYPING NETWORK

PPN-Ireland

Australian Plant Phenomics Facility

Phen-Italy

China Plant Phenotyping Network CPPN

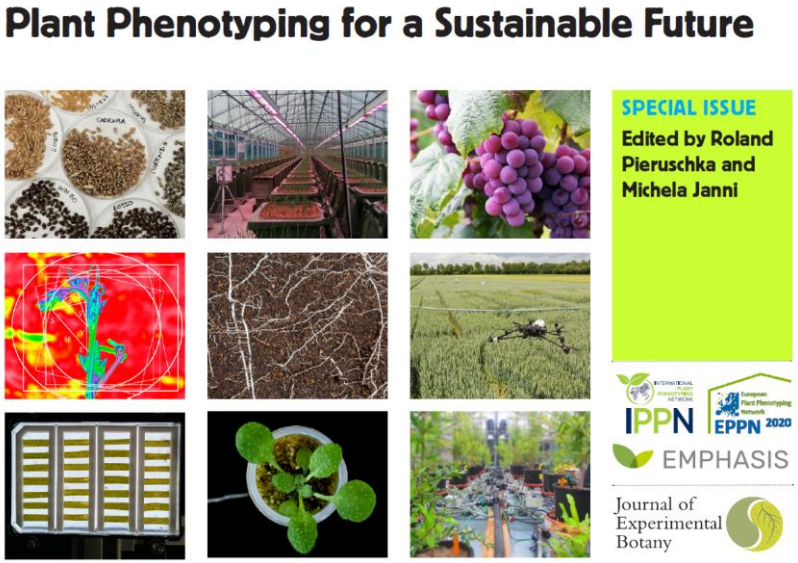
- EPPN2020 Fellows: Network of TNA beneficiaries to advertise and disseminate EPPN2020 activities
- Advanced workshops and round table meetings to address relevant topics (e.g. technology development, standardisation, data management, breeding etc.)
- Training providing practical application of plant phenotyping approaches
- International conferences addressing plant phenotyping

Utilize the EPPN2020 results within EMPHASIS

- > 80 peer reviewed publications resulting from

  Expected publications 100+

- Further publications e.g. in Special Issues
- See also following presentations
  - Methods and techniques
  - Design and analysis of phenotyping experiments
  - Information System



Continue the success story in EMPHASIS

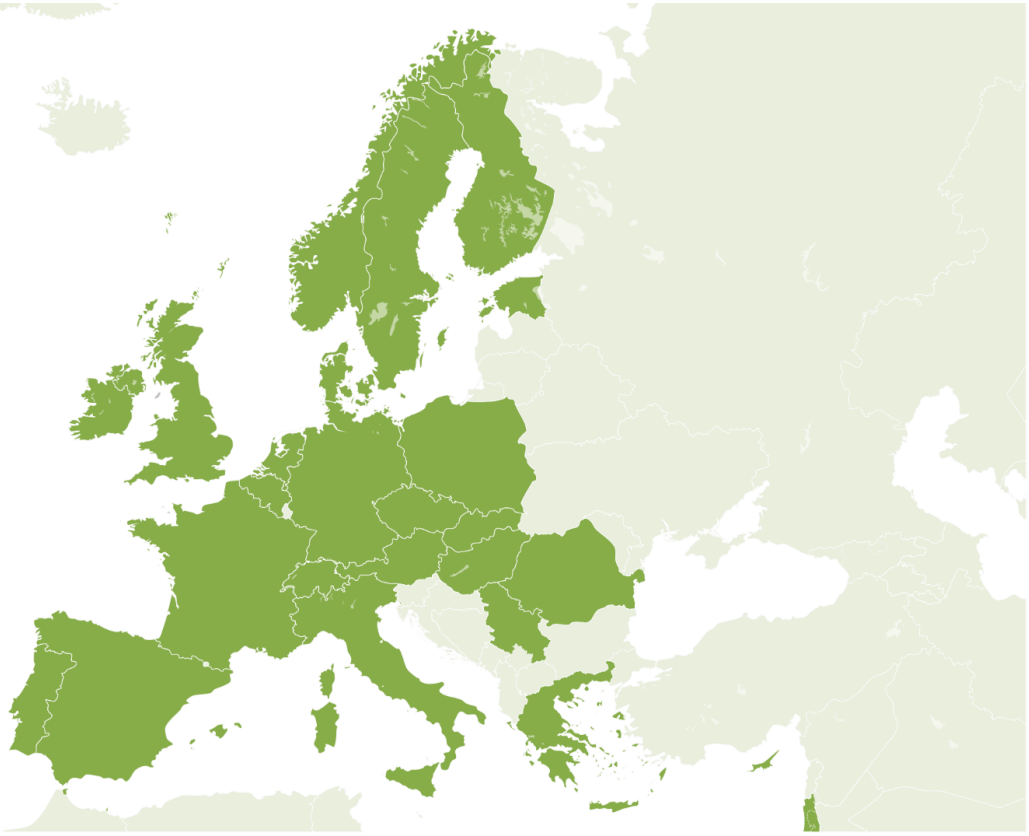
EMPHASIS: European Infrastructure for Multi-Scale Plant Phenotyping And Simulation for Food Security in a Chancing Climate

SYNERGY
- Investments
- Data Management
- Education/ Training

INNOVATION
- Unique Installations
- From Academia to Industry

ACCESS
- Development
- Use
- Translation/ Dissemination

24 national communities associated with EMPHASIS



Continue the success story in EMPHASIS

Pilot services

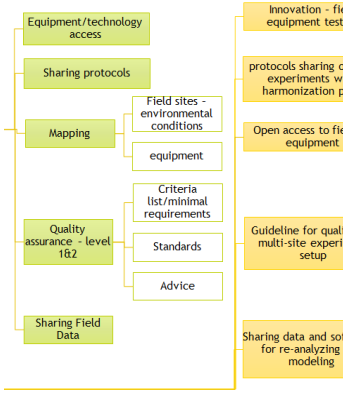
- Services selected based on user demand to:

  illustrate benefits and test feasibility

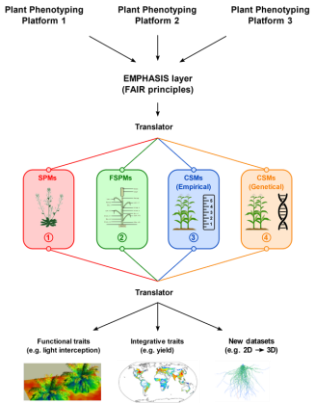
  learn operational procedures

https://emphasis.plant-phenotyping.eu/EMPHASIS_pilots

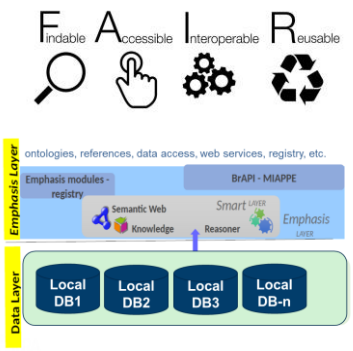
Field pilot



Modelling pilot

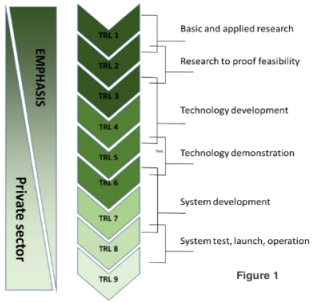


Data pilot

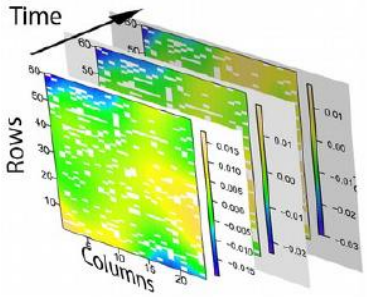


Support and coordination

Innovation pilot



Harmonisation



Training

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https://emphasis.plant-phenotyping.eu/innovation_pilot

Innovation Pilot

With our Innovation pilot services we will foster innovation in plant phenotyping technologies, tools and methods. This will ensure the long-term sustainable excellence of the infrastructure.

EMPHASIS will act as a broker between plant phenotyping infrastructure operators/users and technology developers/suppliers.

The **EMPHASIS Directory** already provides an open platform for plant phenotyping related companies in Europe. All companies are welcome to add their name to the list.

View Industry Directory

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