

Exchange event between the European
phenomic community and industry

EPPN²⁰²⁰ Trans-National Access and new opportunities in EMPHASIS

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(Forschungszentrum Jülich, DE)

- ▶ 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 EPPN²⁰²⁰: 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 CO₂ together with high-definition non-invasive sensors



Access to 31 installations in Europe (unfortunately EPPN2020 is about to end...)



Based on a simple application procedure



Calls every 6 months



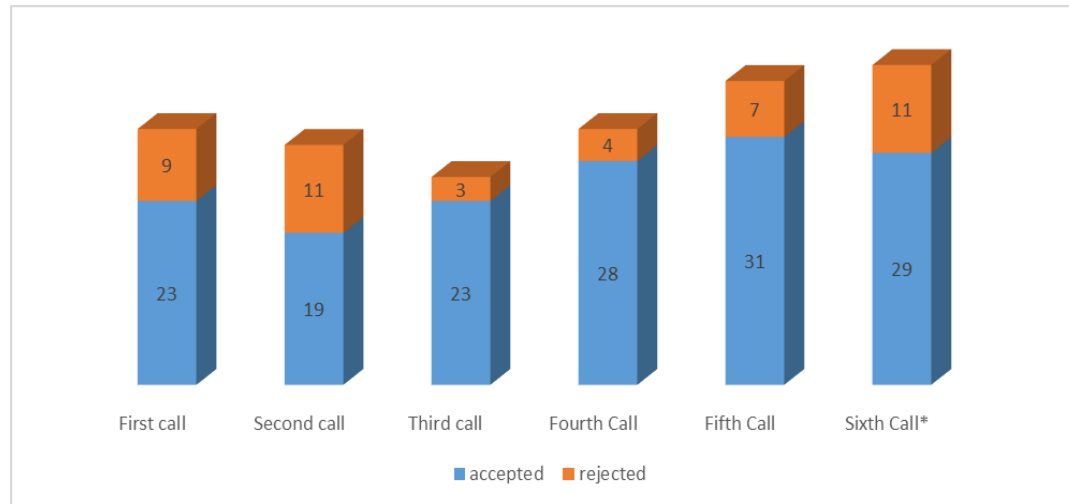
Full cost of projects covered by the project,
including travels



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

PhenoTOMVOC - Can moderate drought alter the content of volatile organic compounds (VOCs) of tomato cultivars affecting their susceptibility to herbivory?



"MYCORICE - Effects of mycorrhizal inoculation on drought tolerance of African rice - from physiological traits to QTL identification"

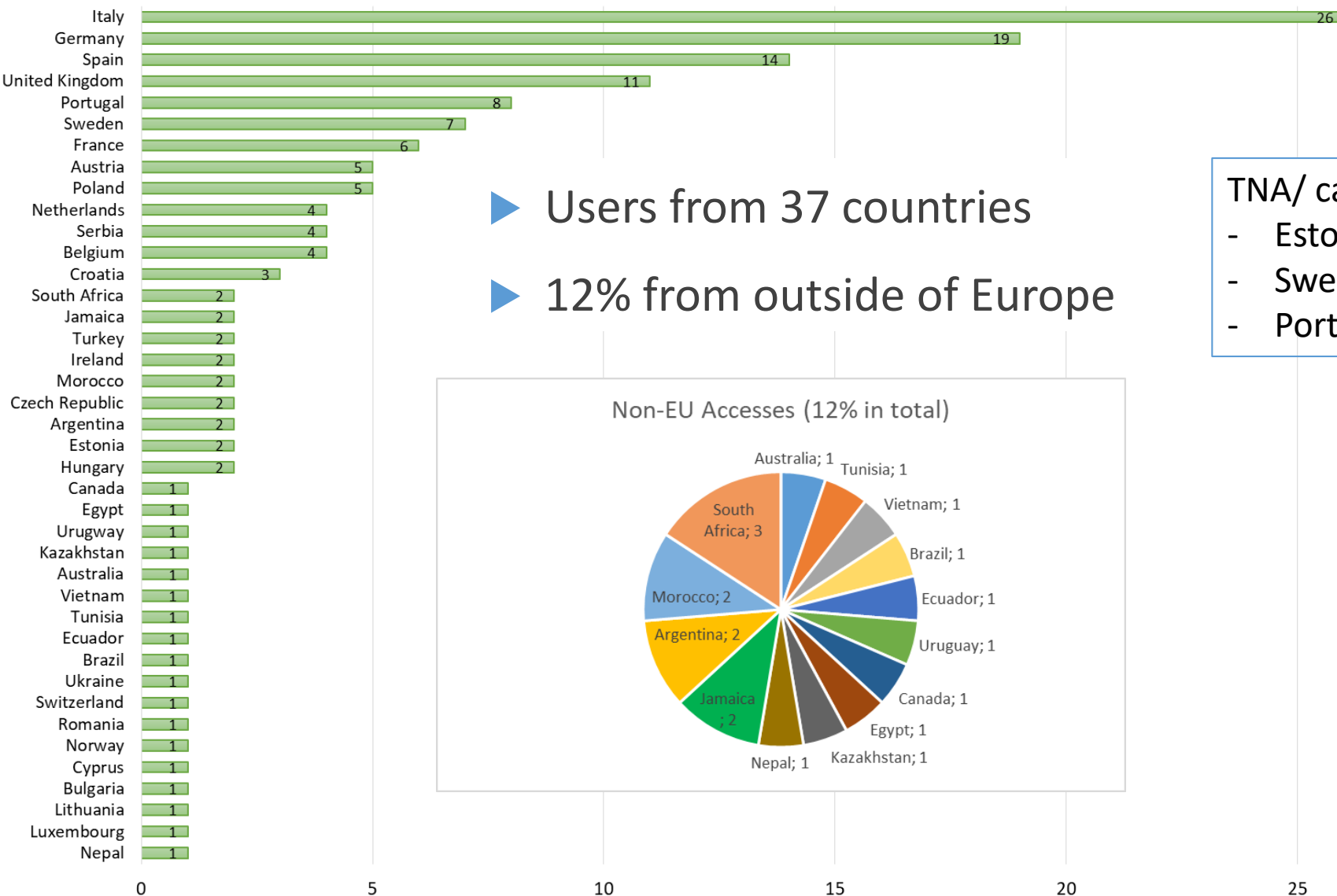


"Phenotyping of SS1 mutant - Evaluation of physiological and biochemical characteristics changes of winter wheat Sucrose synthase1 (SS1) nonsense mutants during cold acclimation"



TNA: some facts and figures

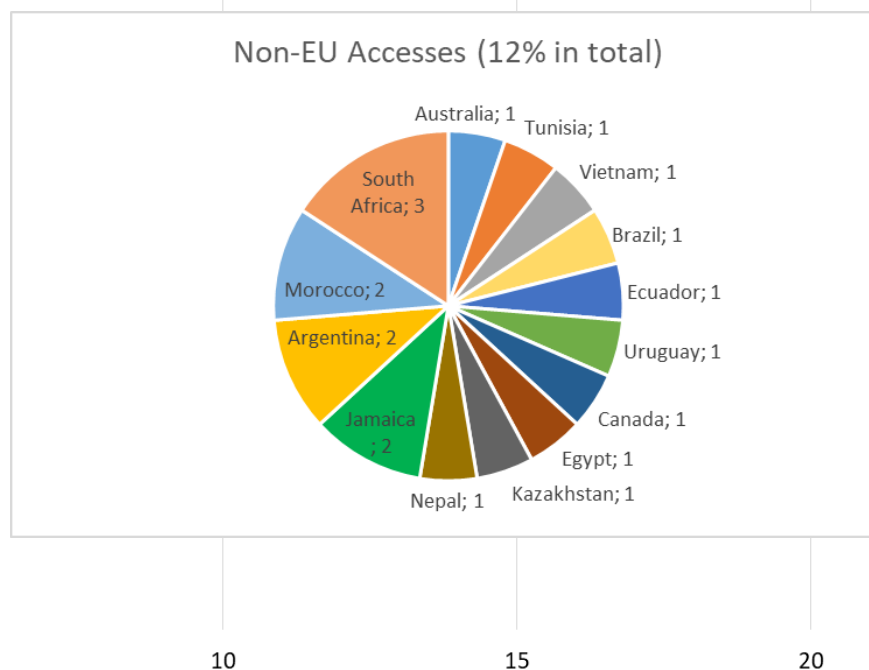
Overview of the approved EPPN2020 Transnational Access projects (March 2021)



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

TNA/ capita

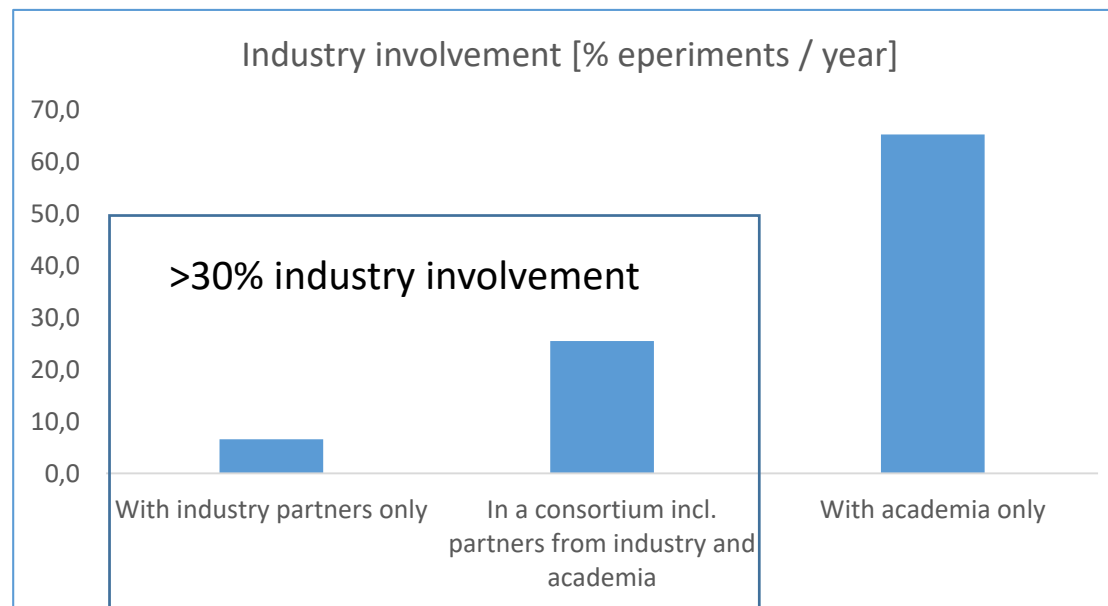
- Estonia
- Sweden
- Portugal



- [illegible]

- ▶ A relatively low industry involvement within EPPN²⁰²⁰ TNA
<5% (4 projects with direct involvement 3 with indirect involvement)
- ▶ But individual partners have 30% of accesses with industry

Industry involvement within EPPN²⁰²⁰ facilities (survey out of EPPN²⁰²⁰)



- Wide community engagement:



29.06-8.07

SEB 2021 ANNUAL CONFERENCE
abstract submission 22.03

24.05-28.05

ROOTING2021 in Nottingham

National
infrastructures:



NaPPI



Belgian
Plant
Phenotyping
Network



PPN-Ireland



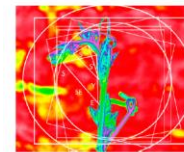
- EPPN2020 Fellows: Network of TNA beneficiaries to advertise and disseminate EPPN2020 activities
- Advanced workshops and round table meetings to address relevant topics (e.g. technology development, standardisation, data management, breeding etc.)
- Training providing practical application of plant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



Plant Phenotyping for a Sustainable Future



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

24 national communities associated with EMPHASIS

SYNERGY

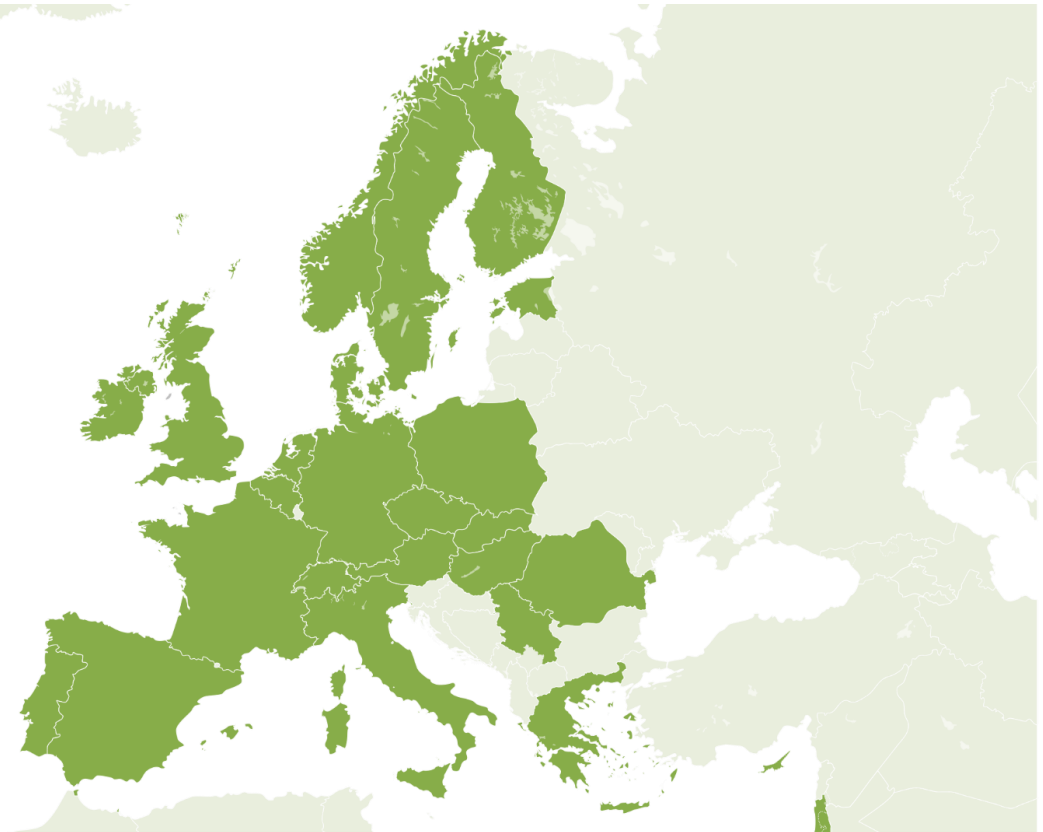
- Investments
- Data Management
- Education/ Training

INNOVATION

- Unique Installations
- From Academia to Industry

ACCESS

- Development
- Use
- Translation/ Dissemination



Pilot services

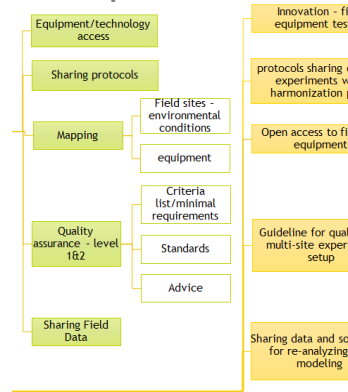
- Services selected based on user demand to:

illustrate benefits and test feasibility

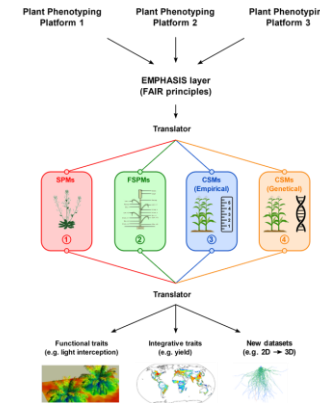
learn operational procedures

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

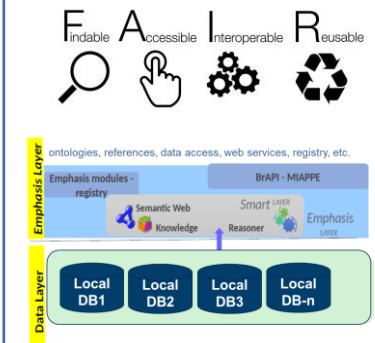
Field pilot



Modelling pilot



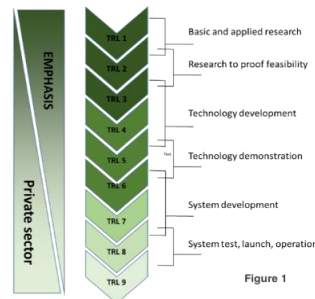
Data pilot



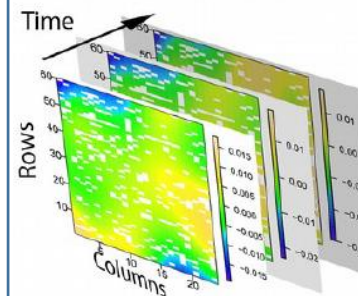
Support and coordination



Innovation pilot



Harmonisation



Training



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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