EMPHASIS

EUROPEAN INFRASTRUCTURE FOR PLANT PHENOTYPING

Exploring synergies between PRO-GRACE and EMPHASIS

Dr Susie Robinson

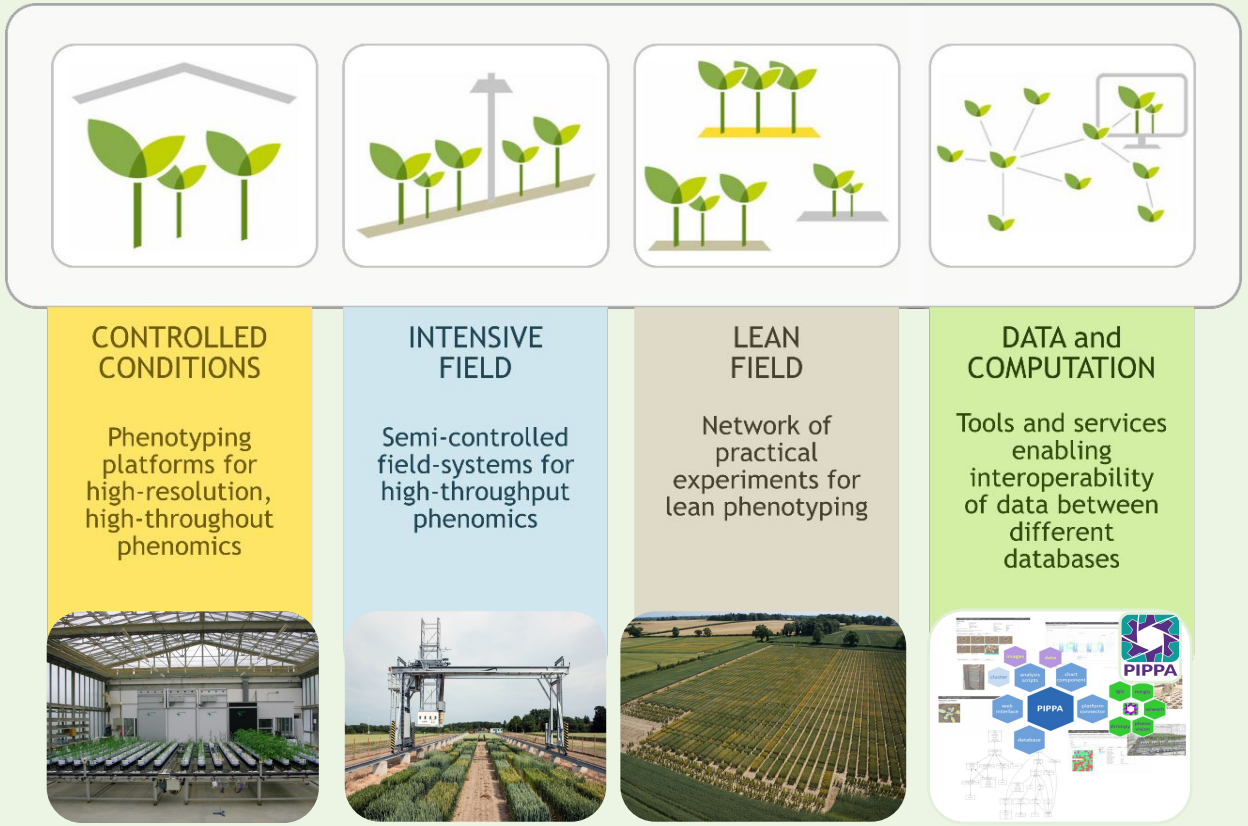
Consultant Advisor, incoming Interim Director-General, EMPHASIS

ESFRI

EMPHASIS

Coordinated from within Belgium/VIB

Enables plant-based innovation by providing coordinated infrastructure for quantitative analysis of plant performance under diverse environmental and management conditions.



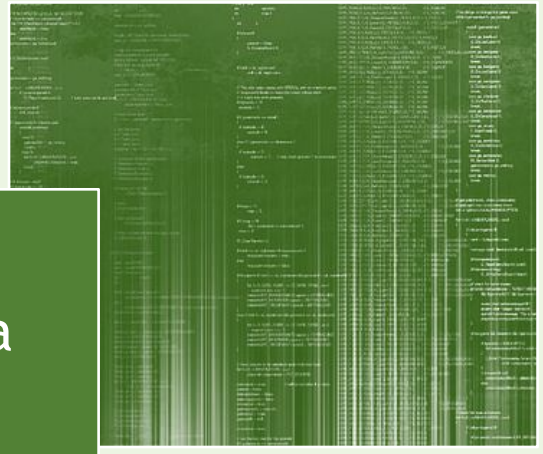
Aims to integrate phenotyping technologies and methods not only for agricultural crops, but also for medicinal and aromatic plants, plant-based vaccines, plants for functional foods, bio-based materials and fibres, bioenergy and more.

Functional Units: Key activities of EMPHASIS

Access

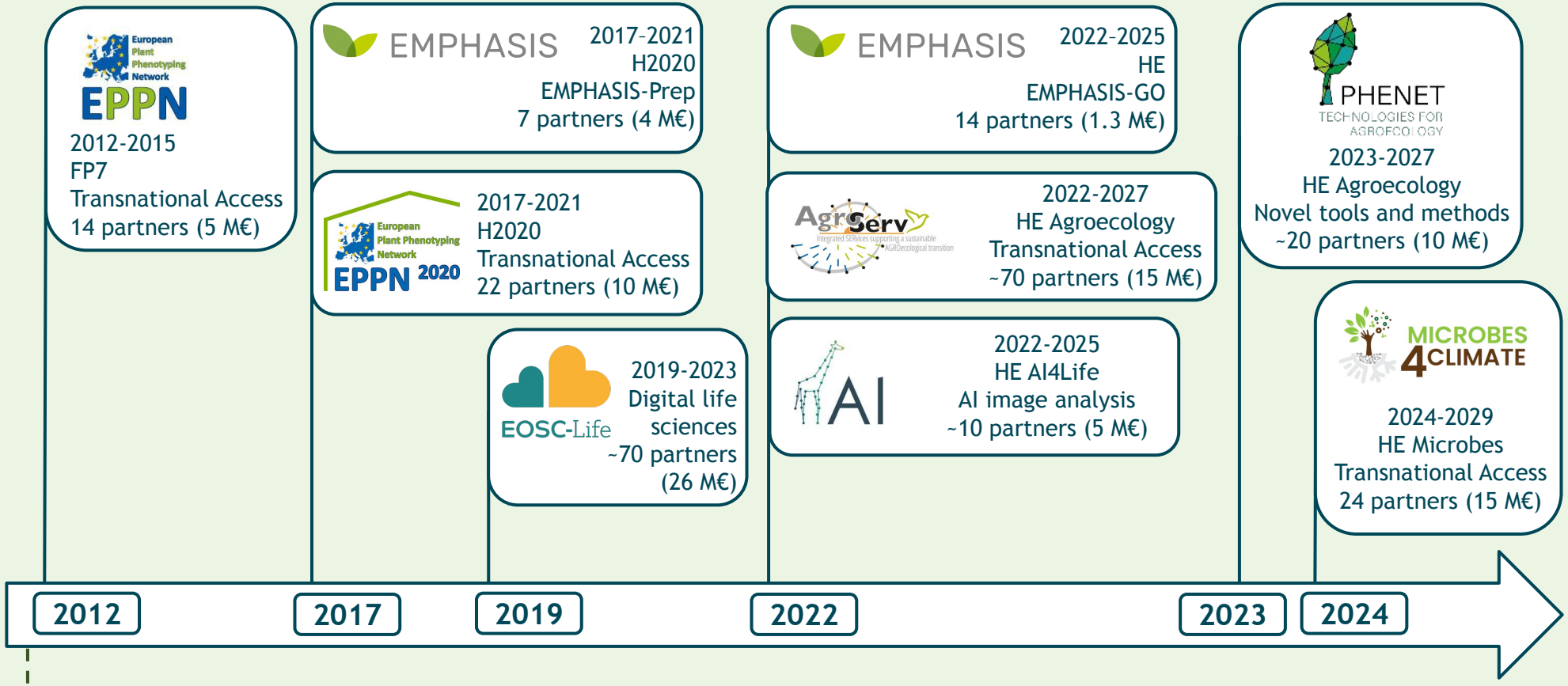
Advanced Phenotyping Practices

Data



Education & Training

International initiatives as key building blocks for EMPHASIS



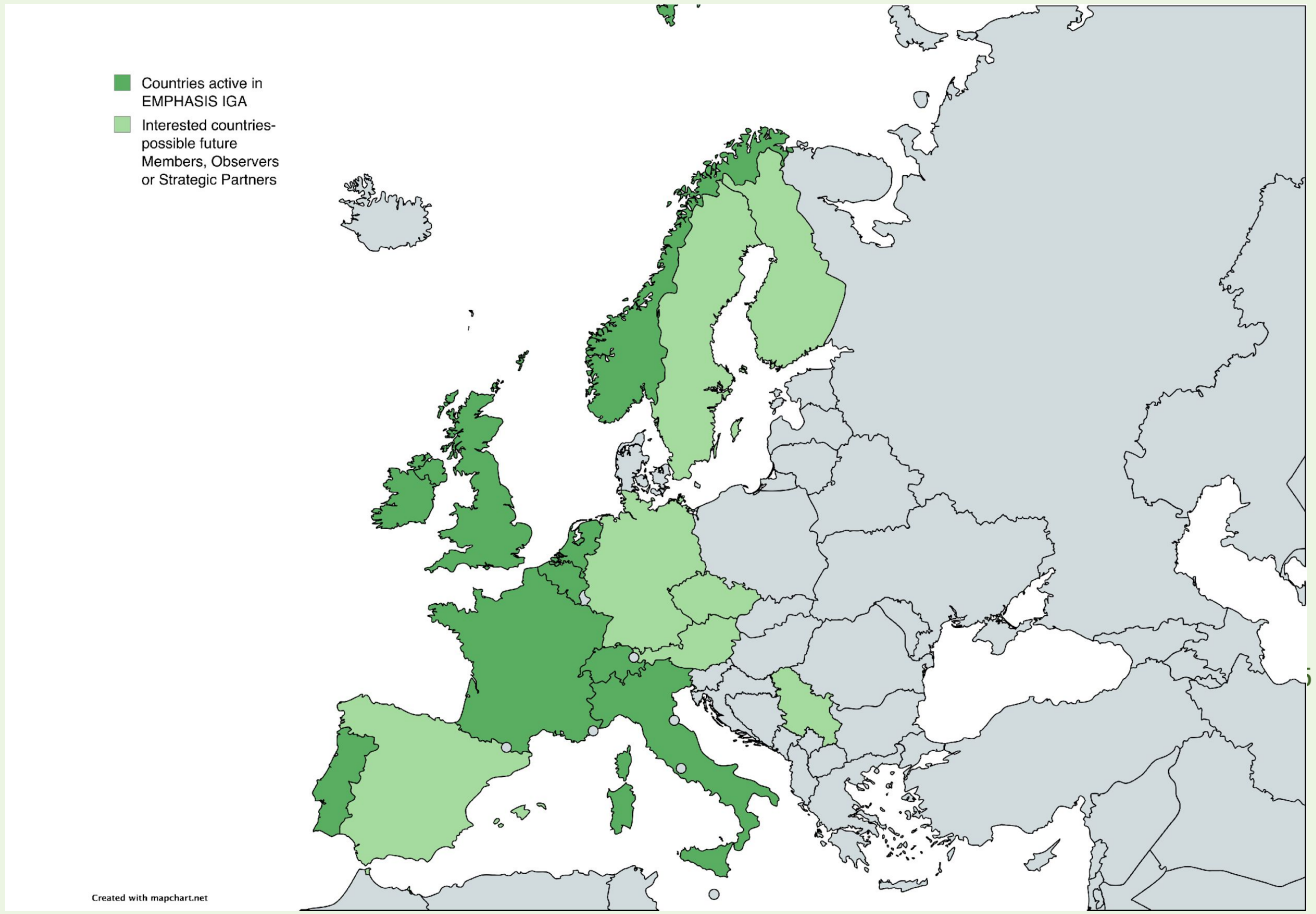
National communities as a backbone for EMPHASIS

2012 - ongoing: Development of multiple service-providing national RIs and plant phenotyping communities

DPPN
PPN-Ireland
PHENOME EMPHASIS
APPN
Austrian Plant Phenotyping Network
NaPPI
PhenomUK
NPEC
Phen Italy
THE ITALIAN PLANT PHENOTYPING NETWORK
CZPPN
CZECH PLANT PHENOTYPING NETWORK
Belgian Plant Phenotyping Network
ISRAEL-PPN
PheNo
Swiss Plant Phenotyping Network
SPPN
EMPHASIS.PT

EMPHASIS today:

- 10 countries support the development of EMPHASIS within an Interim General Assembly (IGA), with ministry and scientific representatives
- Additional 7 countries interested in future Observership or Membership.



Final preparations to set up an international entity (ERIC), approved by the EC and coordinated from Belgium, running on financial contributions from its country member states.

ERIC application

Statutes and Technical and Scientific Description → Agreement on policies and operational elements → Secure letters of commitment and submit final (Step 2) ERIC application before end 2025

EMPHASIS NOW

ESFRI application

EMPHASIS included on the 2016 Roadmap

Applying for Landmark Status before end 2025

NEW PROPOSAL

Not included in the Roadmap

Candidate projects for the upcoming Roadmap

→

ESFRI PROJECTS

Preparation, then Implementation Phase

Needs to reach Operational Phase within 10-yr

→

ESFRI LANDMARK

Operating strongly in their Implementation Phase under the Roadmap

Advanced stage of maturity and operations

Complementary strengths

PRO-GRACE focus	EMPHASIS contribution/ capability
Ex-situ/ in-situ conservation and quality management systems	Phenotyping and environmental characterisation tools to assess conserved material
Data federation (EURISCO + FAIR)	Phenotyping data standards, ontologies and links to data infrastructures
Characterisation & pre-breeding	Controlled and field phenotyping environments, integrating imaging, sensors and AI
Access & use (legal, policy, phytosanitary)	Supports traceable, standardised data and pipelines for compliance and reuse
Capacity building	Experience in training, data management, and coordinated outreach

Shared landscape of complementarity

PRO-GRACE's vision spans multiple concepts, elements of which exist within the current ESFRI landscape and active networks and trusts:

EMPHASIS — phenotyping and environmental characterisation of plant material.

ELIXIR — bioinformatics, data integration, FAIR data pipelines.

LifeWatch ERIC — biodiversity and ecosystem data resources.

DiSSCo — digitised natural history collections and taxonomic reference data.

IN-SYLVA RI — forest and tree genetic resources and observation networks.

ECPGR & Crop Trust — long-term coordination, standards, information systems and collections, and funding frameworks.

Closing thoughts...

- PRO-GRACE has created a valuable foundation for future deliberation and coordination

- EMPHASIS will continue to enthusiastically engage where its expertise aligns or can be appropriately extended

- Future development should be driven collectively through ESFRI coordination, wide and detailed stakeholder engagement and Member State dialogue.

Ultimately, our shared task is to understand:

- What diversity is conserved — and how to ensure it endures
- How that diversity can be coordinated and studied effectively across Europe
- What tools and capabilities are needed to characterise and use it

And crucially — which challenges call for organisational solutions, and which for technological ones?

Questions?

emphasis@vib.be

emphasis.plant-phenotyping.eu

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Emphasis on Plant Phenomics