



EVA

European Evaluation Network



Federal Ministry
of Food
and Agriculture

OVERVIEW OF THE EVA FRAMEWORK AND DATA MANAGEMENT

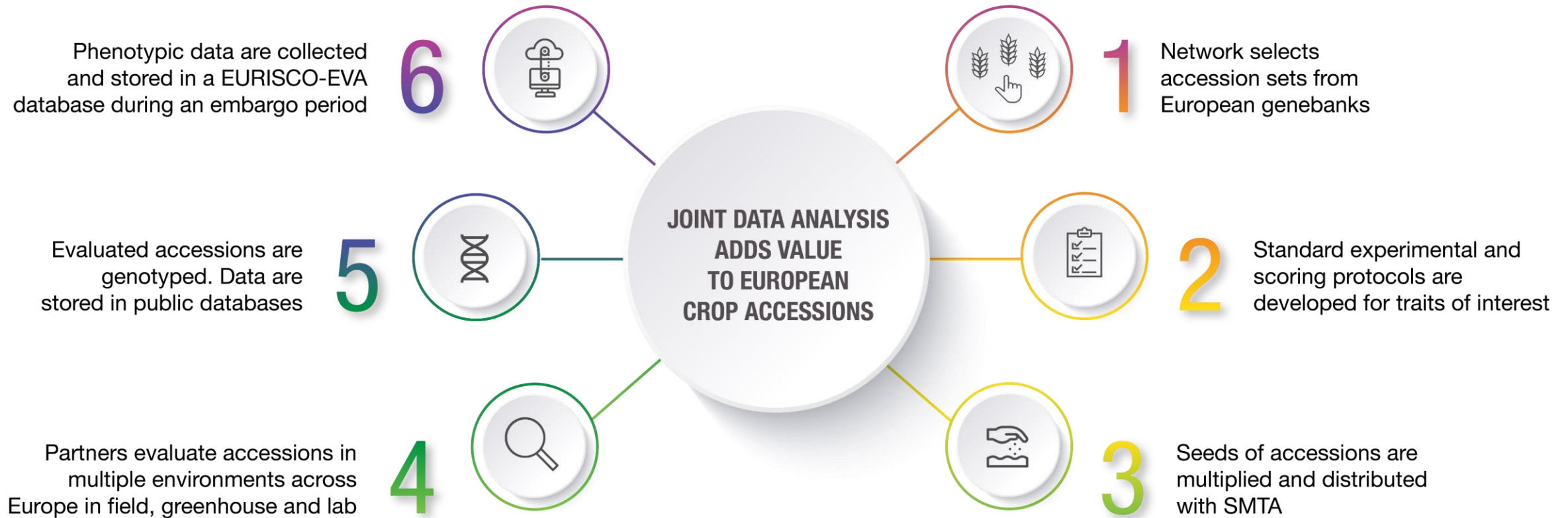
S. Goritschnig

Scientific Officer ECPGR,
EVA coordinator

*EVA Boost - Perennials workshop,
Ancona, Italy
13 March 2025*



HOW THE EVA CROP NETWORKS OPERATE



Cooperation agreement ensures privileged access to data, while material is exchanged through SMTA and can be used for further development and eventual commercial use

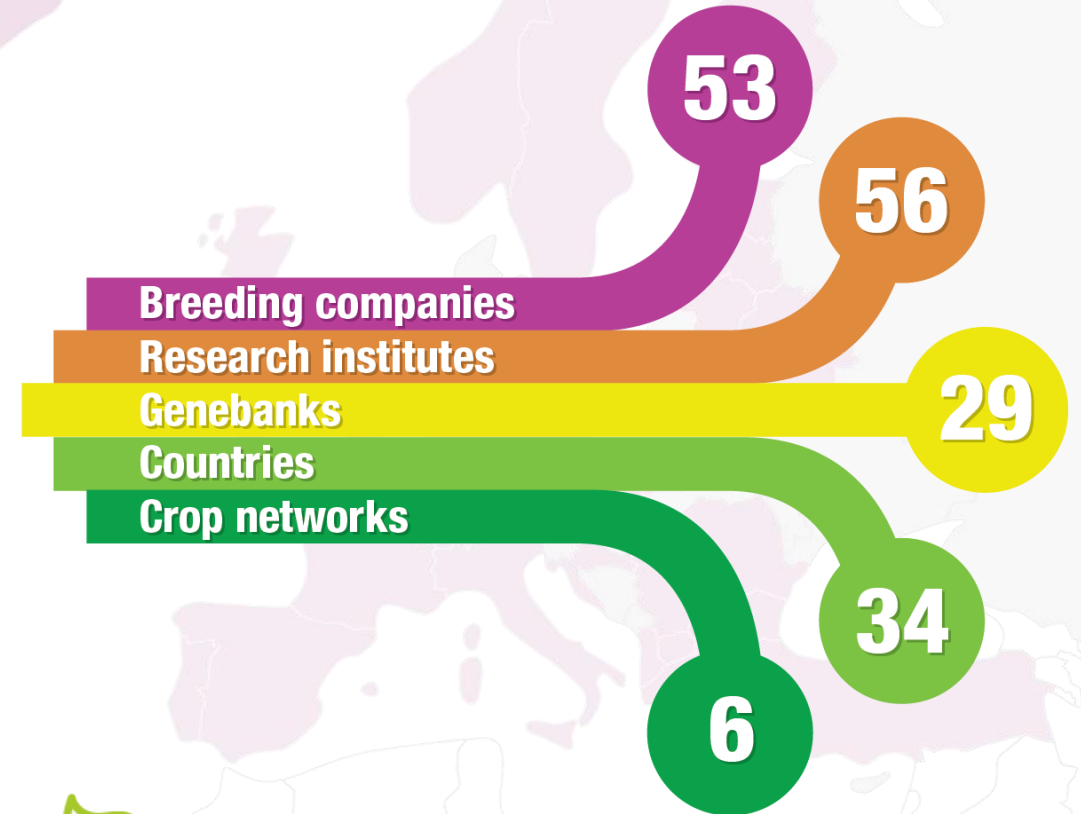
EVA

European Evaluation Network

More than 100 EVA partners

- **Public partners**
 - Genebanks
 - Universities and research institutes
- **Private partners**
 - Multinational breeding companies
 - SME breeding companies
 - Organic breeding companies
 - Breeding and farming cooperatives

Partners contribute to EVA networks according to their expertise and capacity



Expertise and capacity contributed by EVA partners

Genebanks

- Plant material
- Passport data
- Regenerations
- Historic data

Research institutes

- Regenerations
- Evaluation trials
- Lab tests
- Historic data
- Genotyping
- Data analysis

Private breeders

- Regenerations
- Evaluation trials
- Lab tests
- Data curation

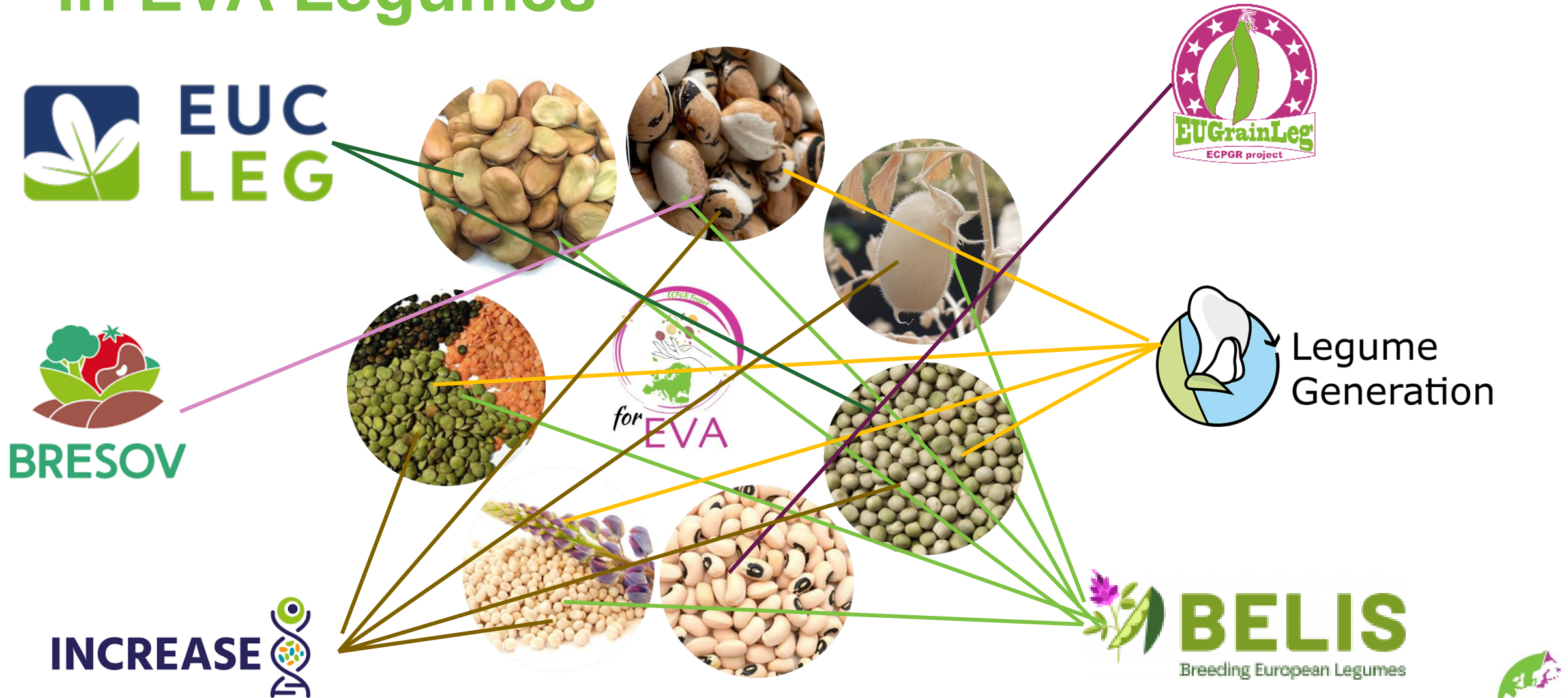
Joint development of workplan based on strategic topics important to breeders:

- Standardized protocols and trial planning
- Joint data analysis and interpretation of results
- Materials and results made available for further research and breeding

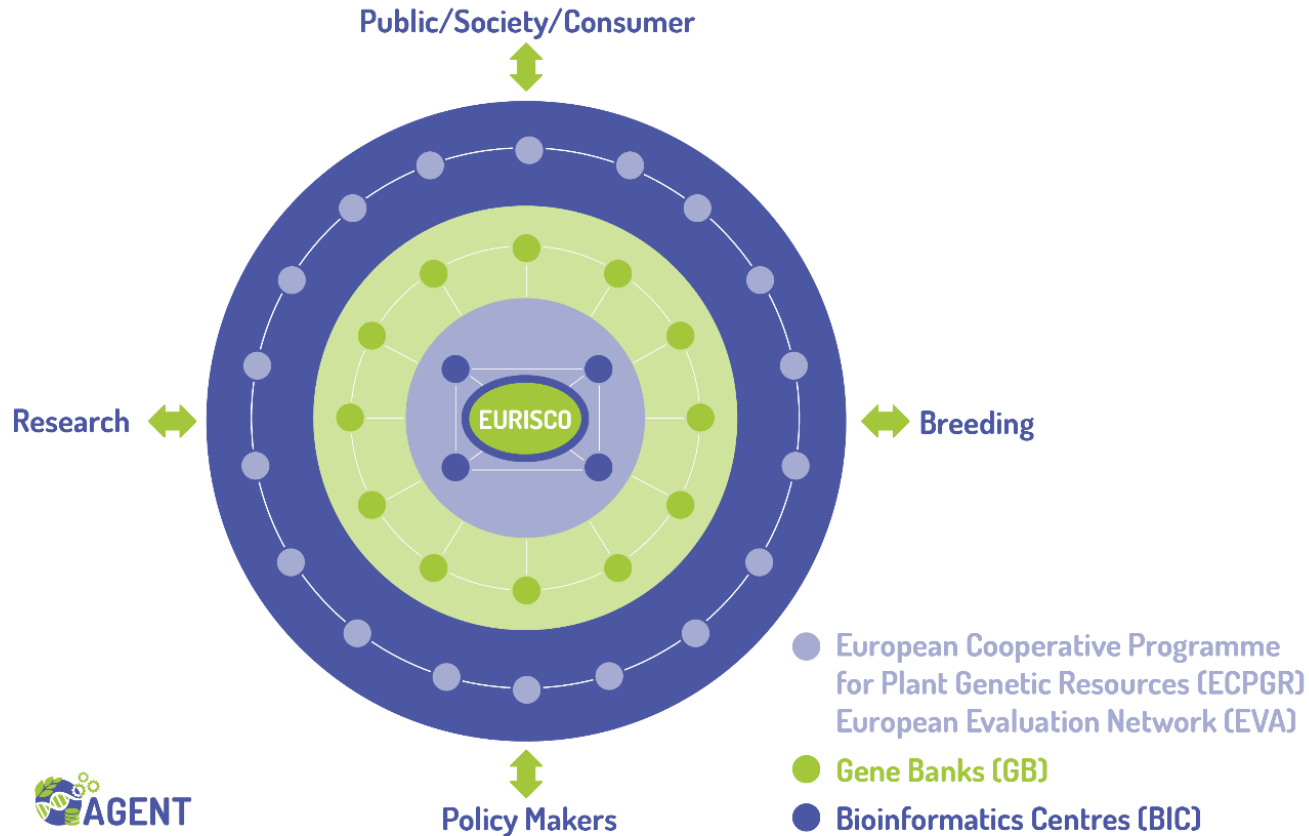
**EVA Networks
cooperating
with EU Horizon
projects and
other initiatives**



Exploitation of (genotyped) plant materials in EVA Legumes



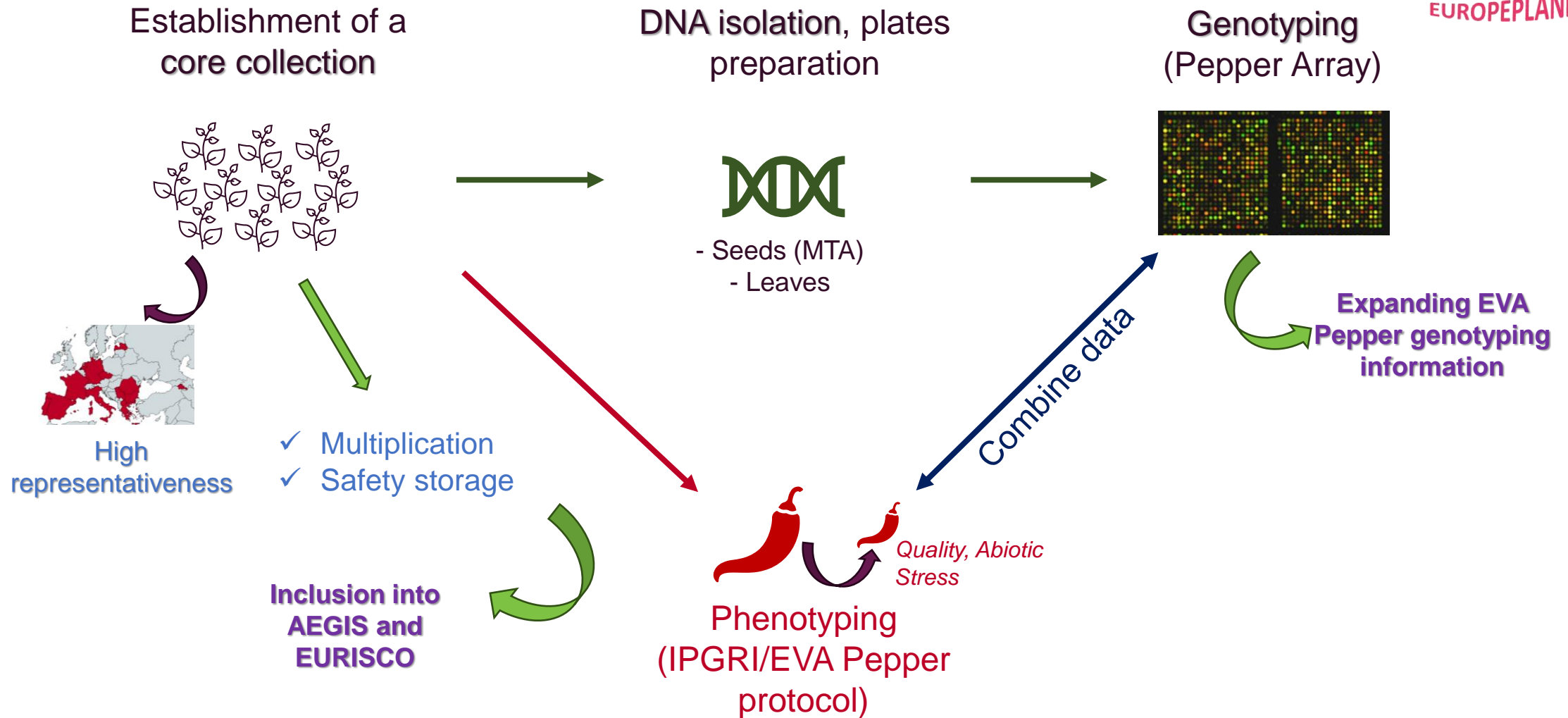
EVA Wheat and Barley as stakeholders of an activated genebank network



- 10 Genebanks created precision collections of wheat and barley
 - 6600 Wheat accessions
 - 3900 Barley accessions
- EVA network evaluated ~750 each in 2023 and 2024
- On-farm evaluation by organic farmers' network



Grant Scheme Activity EuroPepLand



EVA Data management

The screenshot displays the EVA Carrot data management interface. At the top, the EVA logo and 'European Evaluation Network' are visible. A navigation menu includes 'HOME', 'ABOUT EVA', 'EVA NETWORKS', 'EVA PARTNERS', 'MEETINGS', and 'DOCUMENTS AND LINKS'. The 'DOCUMENTS AND LINKS' dropdown menu is open, showing 'Project documents', 'Evaluation protocols and templates', 'Links', and 'EURISCO-EVA intranet' (highlighted with a red box). Below the navigation is a blue header for 'EVA Carrot' with a search bar and user profile 'goritschnig'. The main content area is titled 'All Data' and contains several panels: 'Overview' (table), 'Observed Data' (86165 PD), 'Accessions' (67 AC), 'Experiments' (26 PE, 3 GE), and 'Partner Institutes' (14 PI). A 'Reference Reports' section is also present. The bottom of the image shows the EMBL-EBI website footer with the 'European Variation Archive' logo and navigation links.

	All Networks	EVA Carrot
Crops	8	1
Accessions	2773	67
Partner Institutes	89	14
Countries of Operation	32	8
Experiment Locations	106	14
Traits	286	138
Phenotyping Experiments	348	26

EMBL-EBI Services Research Training About us EMBL-EBI Hinxton

European Variation Archive

Home Submit Data Study Browser Variant Browser GA4GH API RS Release Help Feedback

EURISCO-EVA intranet

- Database for phenotypic data
- Developed by IPK using same backend as EURISCO
- Compatible with EURISCO (publish with the click of a button)
- Project-specific access and embargo
- Template for AGENT and INCREASE data portals
- Accession metadata synced with EURISCO
- Trial data upload with universal data check
- New networks can be easily added to the database
- Extensions could be added



Metadata

- **Accessions** – passport data, material type, images
- **Traits** – definitions, valid scoring scales or metric intervals
- **Trials** – locations, dates, agronomic practices, treatments
- **Genotyping** – metadata of experiments
- **Partner organizations** – locations, contacts, roles

- Trait groups – e.g. agronomic, morphologic, stress traits
- Trial groups – e.g. crop, year, repeat

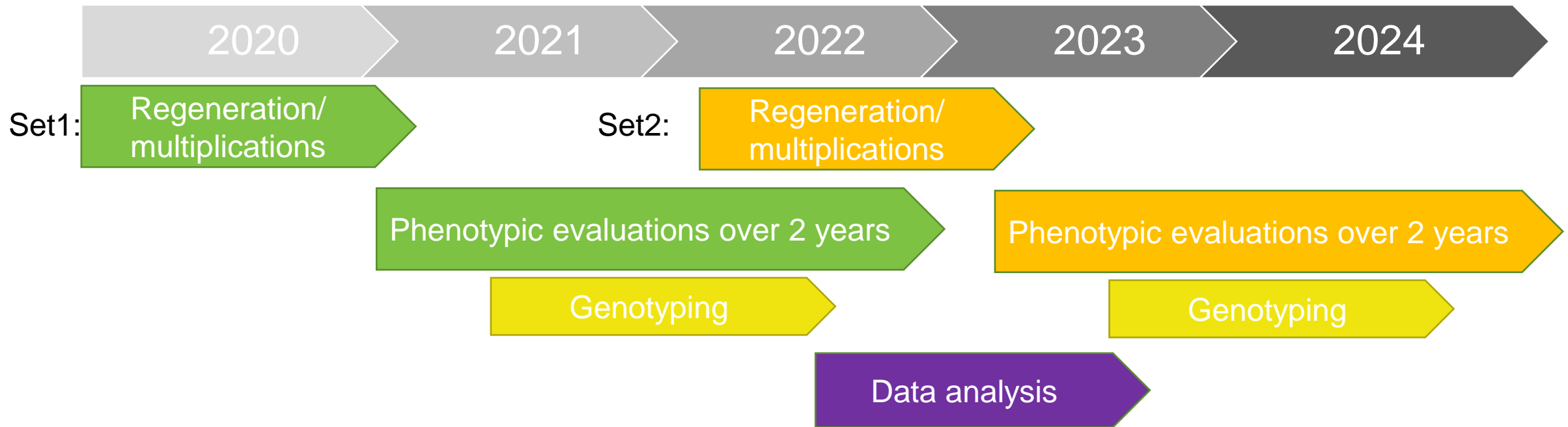
Observation data

- Individual datapoints
- Grouping and filter functions as well as pivot reports possible
- Download as Excel or csv
- Chart drawing function

Distribution



EVA Framework for annual field crops and vegetables



Goal is to coordinate continued evaluation cycles of different accession sets sourced from participating genebanks or projects. Genotyping allows association analyses, linkage with existing datasets is fostered where possible.

How can we apply this concept to Perennial crops???

Applying the EVA Framework to Perennial crops

- Which crops have a critical mass of interested partners – Have we covered all stakeholders?
- What is the time frame in which evaluations can be conducted?
- How can multi-environment evaluations be managed?
- How will material be exchanged?
- What are the main target traits?
- What specific data management needs exist?



Funding options for activities in EVA Perennials



Previous funding sources for EVA

Project funding by Germany (2019-2027): ~1,3 M €

- Coordination (ECPGR staff costs)
- Development of EURISCO-EVA
- Genotyping and Data analysis
- Regeneration/Multiplications
- Specialized trials (a/biotic traits)
- Curation of historical data
- Project meetings



Partners contribute in-kind to

- Multiplications
- Evaluations
- Analysis
- Dissemination + exploitation
- Travel to project meetings (private partners)

Additional project funding through EU project AGENT ~250k €

- Multiplication for EVA Wheat and Barley (2023-2024)
- on-farm evaluations by organic farmers network (Rete Semi Rurali)
- Contribution to EVA coordination (ECPGR staff costs)



ECPGR Grant scheme activities (2024-2027) (~30k each)

- Solanaceae WG: [EuroPepLand](#) – Implementing a trans-EUROpean PEPper LANDrace collection for resilient agriculture
- Maize WG: [MALANIRS](#) – MAize LAndraces traits phenomic prediction using Near InfraRed Spectra



Financial sustainability for EVA

ECPGR support for EVA (see budget proposal for Phase XI)

- Coordination of networks
- Budget management
- Permanent database infrastructure (EURISCO)
- Meetings organization

In-kind contributions by private and public partners

- Phenotypic evaluations (field trials)
- Regenerations/multiplications
- Data analysis

Funding needed for specific network activities:

- Genotyping
- Coordinated multiplications
- Specific experiments (requiring lab space, special equipment)
- Data analysis
- Project meetings



Future funding sources for EVA

- ECPGR grant scheme – EVA networks (in collaboration with relevant WG) can apply (max 30k per project)
- Collaborate in EU Horizon project proposals
- National funding opportunities/projects for partners
- Activities funded through network partner financial contributions

Funding options for EVA Perennials

- What activities would need funding and how much?
- Can we exploit some pre-existing data and material (e.g. from finished/ongoing Horizon projects)?
- What activities can be provided by partners as in-kind contributions?
- What are the capacities for in-kind contributions?





THANK YOU
