PRO-GRACE

PROMOTING A PLANT GENETIC RESOURCE COMMUNITY FOR EUROPE

DELIVERABLE 6.5

On-line meeting with other research infrastructures on related domains, defining the synergies and avoiding possible areas of overlap

This deliverable has been submitted and is currently pending approval by the European Commission.

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Call identifier: HORIZON-INFRA-2022-DEV-01-01
PRO-GRACE
Grant agreement no: 101094738

Promoting a plant genetic resource community for Europe

Deliverable No. D6.5

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Contractual delivery date:
M27

Actual delivery date:
M27

Responsible partner:
MAICH
Contributing partners:
ENEA, CNR

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101094738.

Grant agreement no.	Horizon Europe – 101094738
Project full title	PRO-GRACE – Promoting a plant genetic resource community for Europe

Deliverable number	**D6.5**
Deliverable title	**M27**
Type	Report
Dissemination level	Public
Work package number	6
Author(s)	MAICH (Panagiotis Kalaitzis), ENEA (Giovanni Giuliano), CNR (Gabriele Bucci).
Keywords	

The research leading to these results has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101094738**.**

Executive summary

Deliverable 6.5 aims to summarize the on-line workshop that took place on the 11th of March 2025 by using the ZOOM webinar platform for the morning session and the ZOOM meeting platform for the afternoon session. The meeting focused on the synergies and overlaps among research infrastructures (RIs), with presentations from various ERICs and RIs discussing their complementarities, overlaps, and synergies. The speakers also discussed their respective activities in BBMRI, AnaEE, MIRRI and LifeWatch ERICs as well as DISSCO, Elixir, METROFOOD, EMPHASIS RIs and perspective RIs such as IN-SYLVA and GRACE-RI highlighting their objectives, missions, technical architectures, and latest developments.

Introduction

The on-line workshop on Synergies and Overlaps between ESFRI ERICs, RIs and perspective RIs was structured in 15-minute presentations for each infrastructure entity; followed by Gap analysis of the present ESFRI ecosystem and an afternoon session discussion which addressed issues, which might increase the efficiency, added value and usefulness for end users and European life sciences research ecosystem in general.

Meeting Agenda of the one-day meeting:

Workshop on Synergies and Overlaps between ESFRI ERICs, RIs and perspective RIs

11 March 2025

https://us02web.zoom.us/j/87978837129?pwd=HoiQmYLsJLDa0fpdtSg1nZjMtK1obe.1

AGENDA

9:30-9:40	Welcome/Introduction by Panos Kalaitzis, MAICH
9:40-9:55	The GRACE-RI: A European Research Infrastructure dedicated to Plant Genetic Resources by Giovanni Guliano, ENEA, PRO-GRACE Project Coordinator
9:55 -10:10	EMPHASIS RI by Stijn Dhondt
10:10-10:25	BBMRI ERIC by Jana Pavlic-Zupanc
10:25-10:40	DISSCO RI by Sharif Islam
10:40-10:55	ELIXIR RI by Katharina Heil
10:55-11:10	COFFEE BREAK
11:10-11:25	METROFOOD RI by Claudia Zoani
11:25-11:40	IN-SYLVA RI by Laurent Saint-Andre
11:40-11:55	ANAEE ERIC by Michel Boër
11:55-12:10	LIFEWATCH ERIC by Christos Arvanitidis
12:10-12:25	MIRRI ERIC by Ana Melo
12:25-13:15	LUNCH BREAK
13:15-13:30	GRACE Gap Analysis of the present ESFRI ecosystem by Gabriele Bucci
13:30-15:25	Round table on Synergies and Overlaps between ERICs and present/perspective RIs and structure of the joint policy paper
15:25-15:30	Conclusions

Activities

Introduction on Synergies and Overlaps between ESFRI ERICs, RIs and perspective RIs

An introduction was presented by the organizer Panos Kalaitzis, indicating various methodological approaches to identify synergies and overlaps such as workshops, interviews, surveys, case studies, and focus groups within the research community and stakeholders. Moreover, examples were provided indicating putative overlaps and synergies of various activities within different ERICs and RIs while possible activities were proposed which might be used for funding to enhance cooperation among ERICs and RIs.

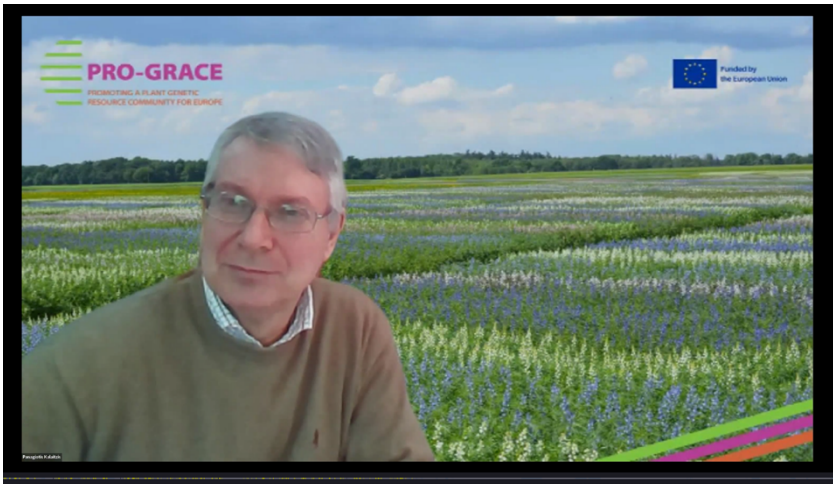

Figure 1. Screenshot of the introduction presentation by Dr. Panos Kalaitzis (MAICH)

GRACE-RI: Promoting a Plant Genetic Resource Community for Europe

An overview of the Grace prospective European infrastructure for plant genetic resources and pre-breeding was presented by PRO-GRACE Coordinator Giovanni Guliano. The importance of plant biodiversity was highlighted, noting that out of 400,000 known terrestrial plant species, only about 8,000 are used for food, medicine, and industry. Even though plant breeding has kept pace with population growth so far, the increasing threats to plant biodiversity due to climate change and other factors were emphasized. Examples of recent tensions in food prices and production were provided such as olive oil and how drought has impacted Mediterranean crops. The fact that no current European research infrastructure is specifically dedicated to conserving and improving plants that feed humanity was signified.

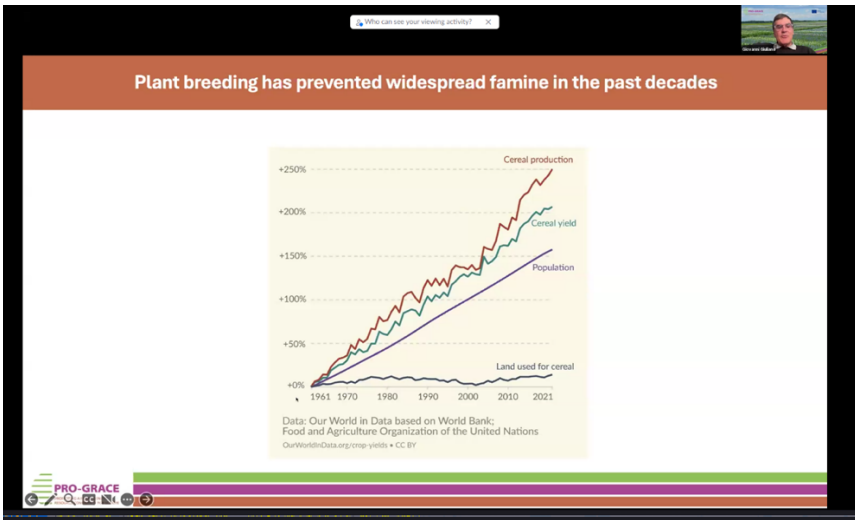

Figure 2. Screenshot of the GRACE presentation by Dr. Giovanni Giuliano (ENEA)

EMPHASIS – A European Research Infrastructure for plant phenotyping

Stijn Dhondt presented the mission of EMPHASIS to facilitate multi-scale plant phenotyping with a long-term perspective by establishing a European research infrastructure and providing access to facilities, services and resources by setting up an international organization (ERIC), approved by the EC and coordinated from Belgium, running on financial contributions from its country member states. There are 10 countries supporting the development of EMPHASIS within an Interim General Assembly (IGA) and 15 additional countries are interested in plant phenotyping: EMPHASIS Support Group. The RI aims to address activities which cannot be performed in most single countries, to reduce duplication of efforts at a European level and to enable a unified entry point for access to installations, data and other resources. Key activities involve advanced phenotyping practices, education and training, data and access.

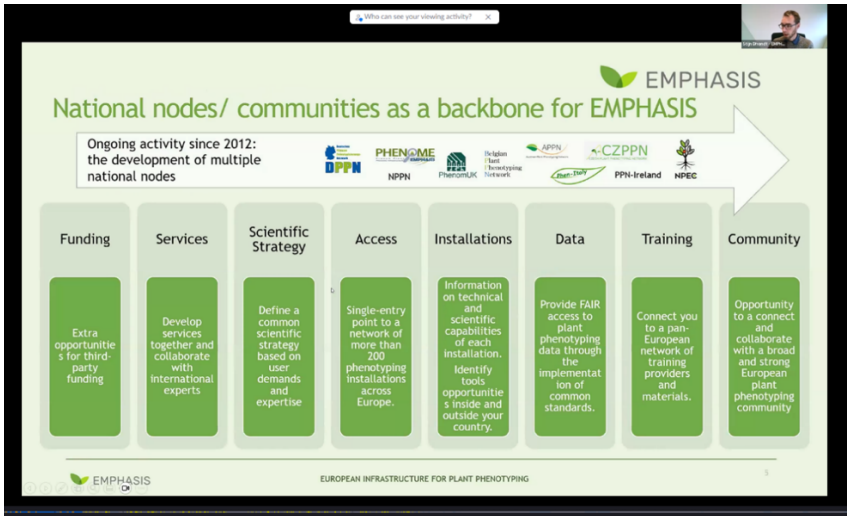

Figure 3. Screenshot of the EMPHASIS-RI presentation by Dr. Stijn Dhondt

BBMRI ERIC - Biobanking and Biomolecular Resources

The BPMRI was presented by Jana Pavlic-Zupanc, indicating that this ERIC is a distributed research infrastructure established in 2013 with 20 Member States and 5 observers. It offers scientific and essential services, including biobanking development, IT core, quality management, ethical, legal, and

societal implications. BBMRI has a federated access pipeline that connects researchers with the network of biobanks. It also offers services like authentication, authorization, and integration to Orchid. BBMRI has a directory with close to 500 biobanks across 32 countries and a federated platform with 10 countries. BBMRI is also working on a 10-year strategy that includes optimizing the interconnection of human, animal, and environmental health research. They are looking towards furthering service excellence, strengthening national notes and biobanking community within Member States, and building capacity.

DISSCO RI - Distributed System of Scientific Collections

DISSCO, presented by Sharif Islam, is a distributed infrastructure for natural science collections. DISSCO aims to bring together more than 200 institutions across 23 countries to make a unified business model for the curation of physical data and digital aspect. DISSCO is working on building services to automate some of the digitalization and annotation and on establishing identifiers for specimens.

ELIXIR RI - Distributed Infrastructure for Biological Data

Elixir, presented by Katharina Heil, is an intergovernmental organization that brings together 24 countries. Elixir focuses on life sciences, resources, such as databases, software tools, training resources, interoperability aspects, compute capacity, and data management support. Elixir has a portfolio of 18 communities and has more than 250 members. They are working on data management challenges in life sciences as well as societal challenges. They are prioritizing biodiversity, food security, and pathogens. Another key aspect of the infrastructure's work is their focus on molecular data connected to other data which are key to biodiversity research.

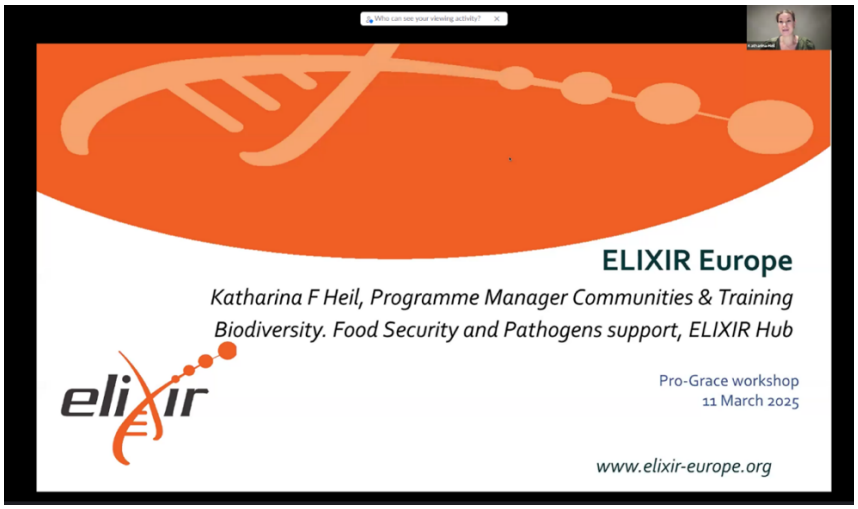

Figure 4. Screenshot of the ELIXIR-RI presentation by Katharina Heil

METROFOOD RI - Infrastructure for Promoting Metrology in Food and Nutrition

METROFOOD, presented by Dr. Claudia Zoani, is a research infrastructure in the health and food domain. It aims to provide high-level metrology services to enhance food quality and safety. METROFOOD is a highly distributed infrastructure with 12 countries and 52 institutions involved. It combines physical and electronic infrastructures, including analytical laboratories, experimental fields, and experimental plants. The electronic component integrates data from the physical infrastructure and other networks. METROFOOD is currently in the implementation phase and is preparing for its legal status as an ERIC. The service chart is structured into four main categories: research services, ICT and data services, advisory services, and education and training. METROFOOD contributes to the ERA

through open science, supporting the digital and green transition, providing interdisciplinary resources, and promoting research excellence and innovation. Potential collaborations with this and other research infrastructures were discussed.

IN-SYLVA Europe Perspective RI - Forest ecosystem adaptation & open research capacity enhancement network

A new perspective research infrastructure was also presented by Laurent Saint-Andre, called IN-SYLVA Europe. It aims at maintaining forest ecosystem services in the face of global changes. The infrastructure will provide experimentation at large scale sites, with a focus on adaptation strategies for sustainable forest management. It will also offer in-situ, in-lab, and in-silico services, including remote access, high-throughput analytical platforms, and modelling tools. The infrastructure will be distributed across Europe, with a central hub in France. It will also include an education service to increase excellence among research facility staff and develop new curricula for the future. The infrastructure has already received 75 letters of interest from various stakeholders.

AnaEE ERIC - Analysis and Experimentation on Ecosystems

The vision and mission of the pan-European network of facilities in experimental ecology was presented by Michel Boer. The network aims to become an international reference in global change ecology and provide sustainable systems services from ecosystems. It operates as an open scientific community and collaborates with land managers, industry, and farming communities. The network simulates future climate conditions and other drivers to address ecological sustainability challenges in Europe. It covers all European EU climates and experiments on various types of ecosystems, including terrestrial, aquatic and wetland. The network has four types of facilities: open air ecosystems, close ecosystems, analytical labs, and modelling platforms. These facilities allow for the manipulation of environmental conditions, the analysis of ecosystem responses, and the modelling of environmental systems. The network also participates in various projects, including the Agroserve and the FINE projects.

LifeWatch ERIC – e-Infrastructure for Biodiversity and Ecosystem Research European Research Services on Agroecology Conference, and MIRRI

An overview of the European Research Services on Agroecology Conference was provided by Christos Arvanitidis, and the attendees were invited to register and present contributions. The work of LifeWatch ERIC, a biodiversity and ecosystem research infrastructure, was presented highlighting their mission, technical architecture, and latest developments in virtual research environments and data access tools.

MIRRI ERIC - Microbial Resource Research Infrastructure

The Microbial Resource Research Infrastructure, MIRRI was presented by Ana Melo, aiming to facilitate access and promote use of a wide range of high-quality microorganisms and derivatives, associated data and services, focused on Health & Food, Agro-Food, and Environment & Energy. It was also discussed their services for microbial strain management and involvement in various research projects.

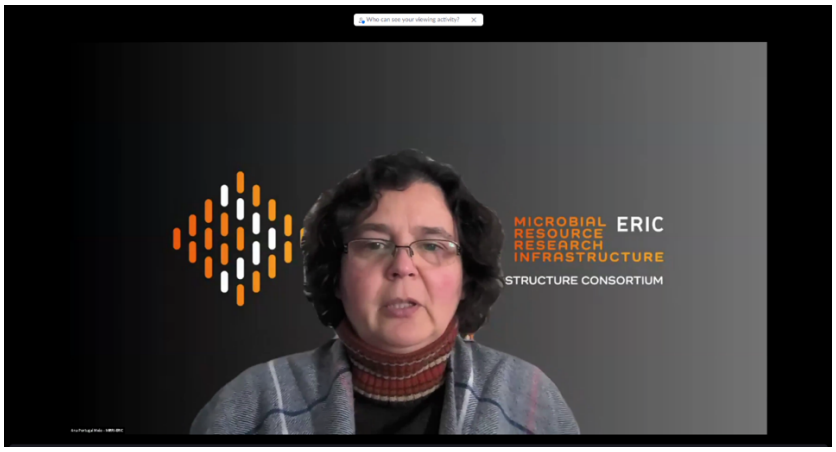

Figure 5. Screenshot of the MIRRI-ERIC presentation by Ana Melo

AFTERNOON SESSION

Quick recap

The meeting focused on the results of a research infrastructure analysis, the potential for creating a policy paper, and the governance structures of European Research Infrastructure Consortia (ERICs). The participants also discussed the challenges of creating interoperable information systems and databases for plant science research and the need for common standards to enable data exchange. Lastly, they addressed the bureaucratic nature of European research infrastructures, the need to balance scientific input with political decision-making, and the progress of different work packages in their project.

GRACE Gap Analysis of the present ESFRI ecosystem

The meeting discussed the results of a research infrastructure analysis focused on plant genetic resources. Gabriele Bucci, from CNR - Italy, presented the results of a multivariate and network analysis showing that GRACE is correlated with EMPHASIS regarding research aims but distinct from all infrastructures regarding research products and services, thereby suggesting potential for collaboration and bridging research gaps. Giovanni then proposed creating a policy paper as an output from the workshop, outlining potential topics including service synergies, information system integration, and artificial intelligence incorporation. The discussion opened for feedback, with Andreas suggesting getting input from other infrastructures before moving to a policy paper. Luis raised a question about why GRACE is not considered in the current ESFRI landscape analysis, to which Giovanni speculated it may be due to a lack of understanding about plant biodiversity conservation.

Round table on Synergies and Overlaps between ERICs and present/perspective RIs and structure of the joint policy paper

Policy Paper Concerns and Collaboration

The group discussed the potential for writing a policy paper based on the landscape analysis presented. While some see value in such a paper, several RI representatives express concerns about how it could be perceived, especially given the ongoing ESFRI roadmap update process. They emphasized the need for caution to avoid appearing to support specific infrastructures. There is general agreement that the focus should be on consolidation and collaboration among existing infrastructures rather than creating new ones. The participants suggested reviewing and validating the data in the analysis with all involved

infrastructures before proceeding further. They also proposed exploring ways to work together on existing tools and initiatives.

Policy Briefs and ESFRI Roadmap

The group discussed the possibility of creating a policy paper or brief related to their collaborative efforts. Most participants expressed reservations about committing to a formal policy paper without consulting their respective organizations or general assemblies. Christos suggested that a shorter policy brief might be more achievable and timely. The conversation then shifted to discussing the ESFRI (European Strategy Forum on Research Infrastructures) roadmap process, with Giovanni and Andreas noting that it appeared to be a top-down approach with limited input from the scientific community. Andrew explained that while ESFRI delegates may not be experts in specific fields, it is crucial for research infrastructures to make a strong case for their importance to national funders and decision-makers.

European Research Infrastructure Consortia Governance

The discussion focused on the decision-making processes within European Research Infrastructure Consortia (ERICs) and similar organizations. Christos explained that while general assemblies make strategic decisions, everyday matters like drafting policy papers on collaboration do not typically require assembly approval. Other participants, including Ana, Michel, and Jana, clarified that their organizations have executive bodies implementing approved strategies, with consultation required for sensitive issues or significant resource allocation. They emphasized that this governance structure, while sometimes slower, is necessary for aligning with member states' priorities and policies.

European Research Infrastructure Consortia Governance

The group discussed the governance structures and decision-making processes of various European Research Infrastructure Consortia (ERICs) and research infrastructures. Claudia explained that even as an "ERIC to be", they need to consider consulting with their Board of Ministry Representatives and Management Committee on policy matters. Andrew noted that ELIXIR uses a different legal model but has similar governance structures to ERICs, with the director having flexibility on scientific and technical decisions while political or financial matters require board approval. Stijn emphasized that research infrastructures represent a community rather than individual scientists and aim for long-term solutions. Marthe mentions the ERIC Forum project which addresses common challenges faced by ERICs. Martyn suggested providing input for the upcoming Framework Program to raise the profile of their research area.

Integrating Plant Genetic Resource Systems

Giovanni discussed the integration of various information systems related to plant genetic resources. He proposed the development of a consensus method for constructing these systems to avoid duplication of efforts and facilitate communication between them. Sharif suggested centralizing metadata to simplify the problem, while Luis emphasized the need for compatibility with other systems. The team agreed on the importance of setting guidelines and standards for interoperability.

Improving Plant Science Data Infrastructure

The discussion focused on the challenges of creating interoperable information systems and databases for plant science research. Participants agreed that while a single centralized system is not feasible,

there is a need for common standards to enable data exchange. They emphasized the importance of involving experts early in project planning to ensure appropriate standards are used. The group also discussed the potential for future collaborations and funded projects to improve the ecosystem of plant science data infrastructure.

Next steps

• Pro-Grace team: Share the gap analysis document with the research infrastructures that were analyzed to get their feedback and comments before publication.

• Pro-Grace team: Consider feedback from Emphasis and other RIs to ensure accurate representation of their activities in the gap analysis.

• Pro-Grace team: Review standards and interoperability requirements for information systems based on feedback from established infrastructures.

• Progress partners: Review governance structure considerations based on feedback from established ERICs for future planning.

• Giovanni: Coordinate with LifeWatch regarding the June meeting in Heraklion and potential broader infrastructure discussions.

• Giovanni: Follow-up with Christos (LifeWatch manager) regarding potential collaboration and participation in the upcoming meeting in Heraklion in June.

• Giovanni: Change the deliverable status from "sensitive" to "public" in the project management system.

Results

Metrics of the On-line workshop

The meeting was held on the 11th of March 2025 with a start time of 9:47 AM (EEST) and an ending time of 04:58 PM (EEST). Below is a list of the participants who joined the Zoom webinar, and the number of participants from each country.

Table 1. List of participants who joined the on-line workshop. The list comprises the names of the participants and the total attendance duration in minutes of each participant.

Topic	ID	Host	Duration (minutes)
ON-LINE WORKSHOP on SYNERGIES and OVERLAPS between ESFRIs	*87978837129*	*Panagiotis Kalaitzis (kalaitzis19@gmail.com)*	*431*
Name (original name)	**Email**	**Total duration (minutes)**	**Guest**
Jana Pavlic-Zupanc-BBMRI-ERIC		179	Yes
Jaroslav Dolezel		352	Yes
Elisa Vendramin CREA		238	Yes
Panagiotis Kalaitzis	kalaitzis19@gmail.com	268	No
Marthe Bierens - BBMRI-ERIC		226	Yes
A. Tsagkarakou ELGO-DIMITRA		4	Yes

Ümran Şenel		119	Yes
tomas.cermak		183	Yes
Francesco Cellini		301	Yes
Jaime Prohens		227	Yes
Türkiye-Aysun Örçün		171	Yes
Emine Serin		42	Yes
Charlotte Allender		78	Yes
IPPN		167	Yes
Michela Janni-IMEM CNR		32	Yes
Inês Pinho		178	Yes
Catia Stamigna		236	Yes
Dagmar Janovská		226	Yes
Jelka SVozlic		177	Yes
Octávio Serra - BPGV/INIAV PT		114	Yes
IT, Massimo Gardiman		168	Yes
Fiona Hay		174	Yes
Filippo Guzzon		86	Yes
IdeaPad530s		206	Yes
Alberto Camara Ballesteros		179	Yes
AYŞE OYA AKIN		226	Yes
eirini demertzi		181	Yes
Domenico De Paola IBBR		46	Yes
Jean-Francois TRONTIN		201	Yes
Alessandro		182	Yes
Biljana Dordevic, AnaEE-ERIC		190	Yes
Kizekova		213	Yes
valda.laugale		198	Yes
BRGV SV Dana Constantinovici		203	Yes
Fournaraki Christini		15	Yes
Dr. Áy Zoltán		10	Yes
susierobinson		180	Yes
mcristina.monteverdi		184	Yes
Ana Portugal Melo - MIRRI-ERIC		148	Yes
F.Chairi		160	Yes
Teresa Carita		8	Yes
IT, Roberto Carraro		297	Yes
Femi Awosanmi		231	Yes
Michel Boer, AnaEE-ERIC		48	Yes
Elena Torres Lamas		243	Yes
Luis Guasch CRF-INIA-CSIC/ES		192	Yes
Vojtech Holubec		246	Yes
Michel Boer, AnaEE ERIC		180	Yes
Dr. Seval TAŞKIN/ETAE		10	Yes
Stéphane Nicolas		184	Yes

Esin Dilbirligi		205	Yes
Giovanni Giuliano		199	Yes
Aslinour Karampoga		206	Yes
Paola Ferrante ENEA		200	Yes
Physilia Chua		88	Yes
Sharif Islam		195	Yes
Papouskova		195	Yes
Carlo Rosati		126	Yes
Carmen Alina Tanasa-BRGV SV		21	Yes
Andrew Smith		219	Yes
Sarah Sensen (BLE/IBV)		193	Yes
Tiziana Maria Sirangelo		177	Yes
Eleftheria Figgou		397	Yes
Giuseppe Aprea		233	Yes
Véronique LEFEBVRE - INRAE		255	Yes
LOUIS BRENDEL		54	Yes
Sanjeev Sharma		207	Yes
pelin		47	Yes
Laurent		180	Yes
Lisa Achathaler (AGES)		199	Yes
Umut ÖZER		66	Yes
Laura Nanni		329	Yes
Gisela		42	Yes
Stijn Dhondt - EMPHASIS		68	Yes
holtean		234	Yes
Andrea Guzmán M (ELIXIR)		106	Yes
Rina Iannacone		179	Yes
Domenico De Paola CNR-IBBR		108	Yes
Lovro Sinkovič		211	Yes
KRITIKA ADHIKARI		171	Yes
Andrea Mazzucato mazz@unitus.it		387	Yes
Catherine Hazel Aguilar		122	Yes
Panagiota Gotsiou		171	Yes
Aysun Örçün		13	Yes
Michael Lyngkjær		167	Yes
Christos Arvanitidis LifeWatch ERIC		179	Yes
Ümran Şenel		6	Yes
Liisa Kübarsepp		179	Yes
Katharina Heil		125	Yes
Federico Pisani (EUROSEEDS)		168	Yes
HERBARIUM		52	Yes
Claudia Zoani		100	Yes
Lorenzo Barchi		203	Yes
sofia.tzg@hotmail.com sofia.299		181	Yes

948 7115 5333		157	Yes
Joelle RONFORT		39	Yes
Andrea Wutte, BBMRI-ERIC QM		81	Yes
roberta.proietti		211	Yes
Laura Nanni-UNIVPM		19	Yes
Sandra Goritschnig (ECPGR)		210	Yes
Zuleika		153	Yes
Mihaela Constantin		48	Yes
Gabriele Bucci (CNR-IBBR, Italy)		203	Yes
Evropi-Sofia Dalampira		43	Yes
EL_Elisavet Karaiskou		3	Yes

The total duration of the first part of the meeting was 431 minutes. A total of 104 participants attended from different countries in Europe and Brazil. Below is a chart showing participants demographics by Country:

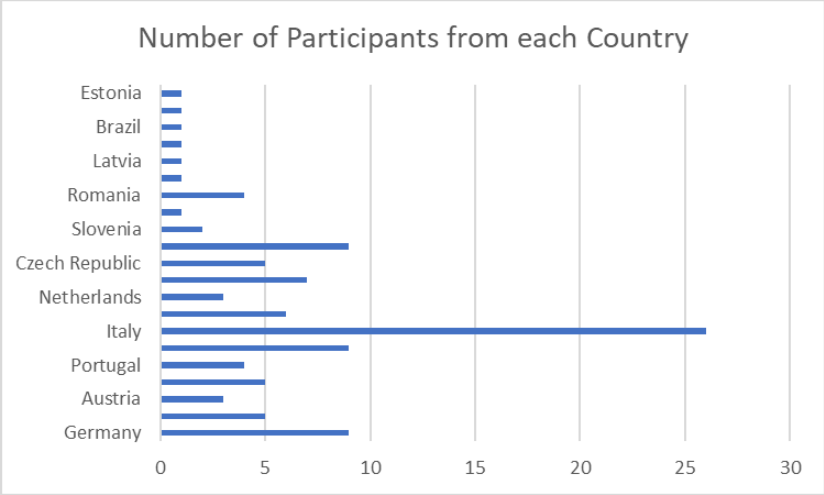

Figure 6. Bars indicating Country-specific participant breakdown

Deviations

None