

DELIVERABLE 6.2

Revised plan for dissemination and exploitation, including communication activities (PDEC)

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

Call identifier:
PRO-GRACE
Grant agreement no: 101094738

Promoting a plant genetic resource community for Europe

Deliverable No. D6.2

Revised plan for dissemination and exploitation, including communication activities
(PDEC)

Contractual delivery date:
M6

Actual delivery date:
M7

Responsible partner:
EUROS

Contributing partners:
MAICH, IPGRI, ENEA



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	D6.2
Deliverable title	Revised plan for dissemination and exploitation, including communication activities (PDEC)
Type	Report
Dissemination level	Public
Work package number	WP 6
Author(s)	EUROS (Amelie Detterbeck, Nick Vangheluwe, Darya Chernokova, Szonja Csörgő); IPGRI (Nora Capozio); MAICH (Panagiotis Kalaitzis, Lisa Radinovsky), ENEA (Giovanni Giuliano)
Keywords	Dissemination, exploitation, communication, KPIs, activities, results

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.

The author is solely responsible for its content, it does not represent the opinion of the European Commission and the Commission is not responsible for any use that might be made of data appearing therein.

Revised plan for dissemination and exploitation, including communication activities (PDEC)

1.	About the PRO-GRACE infrastructure.....	3
2.	Executive Summary of the deliverable.....	4
3.	Introduction to the goal of communication, dissemination, and exploitation activities within PRO-GRACE	4
4.	Communication Action Plan.....	5
a.	PRO-GRACE corporate identity and communication toolkit.....	5
b.	Communication and dissemination target groups and channels.....	6
c.	Planned communication activities and monitoring through Key Performance Indicators (KPIs)	11
5.	Dissemination and Exploitation Action Plan.....	13
d.	Implementation of structured dissemination and exploitation activities: Dissemination and Exploitation Committee (DEC).....	13
e.	Planned dissemination activities and monitoring through Key Performance Indicators (KPIs)	13
f.	Open Access practices.....	21
g.	Networking with relevant Research infrastructures and stakeholders	22
h.	Exploitation obligations.....	22
i.	Exploitation strategy and pathway to impact.....	22
6.	Conclusions.....	26

1. About the PRO-GRACE infrastructure

PRO-GRACE is an EU-funded project to develop the concept for a novel European Research Infrastructure dedicated to cataloguing, describing, safeguarding, and enhancing European plant genetic resources (PGRs) for food and agriculture. Building on the [Plant Genetic Resources Strategy for Europe](#) – developed with a wide range of stakeholders by the European Cooperative Programme on Plant Genetic Resources ([ECPGR](#)) – and several European initiatives, PRO-GRACE will address the challenges facing the conservation and use of European PGRs by **building systems, processes, standards and methods**, and by **developing the concept, regulatory framework and governance for a functional and efficient Research Infrastructure**.

Building on the [Plant Genetic Resources Strategy for Europe](#) and the experience of several European Commission (EC)-funded initiatives supported in the last decade, PRO-GRACE aims to:

- 1. Ensure conservation and access to PGRs**
Develop a certification system for *ex situ* genebanks and create mechanisms for conservation, monitoring, and access to *in situ* PGRs to ensure proper conservation of and access to PGRs.
- 2. Build an integrated European PGR information system**
Develop and test strategies and software for integrating into the European Search Catalogue for PGRs ([EURISCO](#)) the missing information from European genebanks and *in situ* conservation sites as well as that developed by different European projects on PGRs.
- 3. Define quality assurance for PGR *ex situ* and *in situ* management**
Develop and test standards and protocols for the quality-assured *ex situ* and *in situ* management of PGR, which are particularly important in the case of changing environmental conditions and novel pests/invasive species that can rapidly erode genetic diversity.
- 4. Establish scientific services provided by a Research Infrastructure**
Develop and test a list of scientific services that the Genetic Resources-Research Infrastructure (GRACE-RI) will provide to the scientific community and the potential providers

of such services.

5. **Develop standards and procedures for the evaluation of PGR phenotypic traits**
Develop and test unified strategies, procedures, and standards for evaluating phenotypic traits of PGRs conserved both *in situ* and *ex situ*, and providing the information to end-users (researchers, breeders, farmers, growers etc.).
6. **Analyze the policy, social and ethical framework to facilitate PGR access and benefit sharing**
Enable the transition of European genebanks into more established research infrastructures by analyzing the policies, laws and challenges that presently hamper an open exchange of PGR and their genetic information (such as Digital Sequence Information (DSI)), and the equitable sharing of benefits arising from their use.
7. **Develop a concept, governance model, and preliminary financial plan for the future GRACE-RI**
Analyze the current policy and stakeholders' landscape as well as synergies with the existing European Research Infrastructures (RIs) to develop the structure, governance and financial plan for a world-class PGR RI.
8. **Identify users of the future RI and their needs**
Identify the users of the future RI, review their needs, disseminate, and communicate the project's findings, and train prospective user groups in the use and conservation of PGR.

2. Executive Summary of the deliverable

Developing the concept for a European RI dedicated to PGRs requires targeted communication measures, and thorough planning of dissemination and exploitation of project results. Specific measures on (1) how to effectively communicate about the project, (2) how to manage dissemination activities and (3) how to structure and plan exploitation of project results are described in this deliverable **D6.2** (Revised Plan for Dissemination and Exploitation (PDEC), including communication activities). Updates of the **PDEC** will be compiled and submitted to the EC together with the interim and final reports at M12 and M24.

3. Introduction to the goal of communication, dissemination, and exploitation activities within PRO-GRACE

Communication, dissemination, and exploitation of project results are key elements in promoting EU-funded Horizon Europe research activities and enabling the transfer of research activities to various stakeholders, potential end-users, and the broader public. The main objective of the PDEC is to outline the strategy, tools and activities that will be used to ensure consistent communication and dissemination of PRO-GRACE activities, progress, and achievements, ensuring optimal visibility and a wide outreach to all relevant stakeholders as well as the planning and support of uptake and use of project results through a set of dedicated innovation support measures. The PDEC will also serve as an internal communication and dissemination monitoring tool where communication and dissemination activities can be tracked and evaluated two times a year.

As a first step and at the beginning of the research project, it is important to raise awareness of the project by communicating the objectives and the planned activities and tasks that will help reach those goals, and to promote the need for a Research Infrastructure dedicated to PGRs to a broad audience. Communication activities of the PRO-GRACE project will inform and engage with various audiences, including media and the general public, creating a multiplier effect. In addition, the communication activities will demonstrate the importance of the topic and show how society can benefit from the research results and recommendations, which will help advance the conservation and use of PGRs for long-term sustainable impact on crop biodiversity. Taken together, we will raise awareness of the importance of the use of PGRs in increasing food security, the need to ensure their conservation and to link conserved diversity to user application.

As soon as results are available, project partners will disseminate them. This refers to open sharing of knowledge (open science) and results generated by PRO-GRACE in a format that enables others to use them while respecting the potential intellectual property (IP) rights of project partners. The aim is to publicly share the results with specialist audiences e.g., the scientific community, industrial partners, and policy makers, thus enabling the uptake and potential use of results.

The exploitation of results starts as soon as exploitable results are created, at the latest by the end of the project, and continues after the end of the project (up to four years after the end of the project). The goal is to create mid-term effects through the uptake, diffusion, and use of project outcomes. By facilitating the use of the outcomes, the goal is to create long-term impact via innovation and to create benefits for the economy and society. Exploitation shall be done in a best-effort approach and will be evaluated one year after the project ends.

4. Communication Action Plan

a. PRO-GRACE corporate identity and communication toolkit

At the beginning of the project, its corporate identity and communication toolkit were established.

The **corporate identity** of the PRO-GRACE project has been developed by MAICH with support from IPGRI¹ and entails:

- PRO-GRACE logo, color palette, typography
- Style guide for text writing (IPGRI/Bioversity International style guide has been chosen to serve as a style guide for PRO-GRACE)
- Project imagery (a selection of key images that should be recurring in all communication and dissemination efforts)
- PowerPoint template (for presentations at internal and external events)
- Deliverable template for project documentation

¹ In the PRO-GRACE project, IPGRI is represented by the European Cooperative Programme on Plant Genetic Resources (ECPGR).

b. Communication and dissemination target groups and channels

Communication activities will be focused on various audiences, and the content will be tailored accordingly and shared via appropriate communication & dissemination (C&D) channels. We provide an overview of identified **target groups** in Table 1.

Table 1. Communication & dissemination (C&D) target groups, objectives, corresponding channels, and activities

Target groups (Who)	Objectives (Why)	C&D channels (Where)	Activities (What/ How)
Academic researchers, students, EU projects and initiatives	<ul style="list-style-type: none"> • Create awareness of the project and its outcomes within the scientific community • Share project results and outcomes • Create future collaborations and research opportunities • Find synergies between related research projects 	<ul style="list-style-type: none"> • PRO-GRACE website and social media • Partners' websites • Mailing lists • Scientific journals • Specialized scientific data portals • Scientific conferences and events • ECPGR Working Groups² • IUCN Species Survival Commission CWR Specialist Group • Commission Research and Innovation newsletters 	<ul style="list-style-type: none"> • Web pages and social media posts about project's key information and results • Scientific/peer-reviewed publications • Presentations at scientific, policy and other related EU-funded project events • Presentations/talks/workshops at universities/research institutions and scientific conferences • ECPGR Bulletin³
Genebanks, research institutions working on PGRs, other large research infrastructures working on	<ul style="list-style-type: none"> • Create awareness of the project and its outcomes • Get feedback from potential users and collaborators on project activities and envisaged structure of the GRACE-RI 	<ul style="list-style-type: none"> • Direct contact • Scientific conferences and events • ECPGR Genebank Managers Network meetings (2-3 times/year) 	<ul style="list-style-type: none"> • Large research infrastructures dealing with complementary topics, meeting with their management • Presentations at scientific conferences and events

² ECPGR Working Groups are a network of more than 800 experts all over Europe working on various PGRs topics that carry out activities to improve the conservation and sustainable use of PGRs (<https://www.ecpgr.cgiar.org/>)

³ Available at <https://www.ecpgr.cgiar.org/resources/ecpgr-information-bulletin> and distributed to ~1,000 people (mainly PGR experts and a few policymakers)

related themes			<ul style="list-style-type: none"> • Presentations and discussions at ECPGR Genebank Managers Network meetings
National and international agencies dealing with plant biodiversity	<ul style="list-style-type: none"> • Create awareness of the project and its outcomes • Create future collaborations and research opportunities 	<ul style="list-style-type: none"> • ECPGR Steering Committee⁴ • International meetings (e.g., ITPGRFA) 	<ul style="list-style-type: none"> • Presentations at ECPGR Steering Committee meetings • ECPGR Bulletin • Presentations at ITPGRFA meetings, such as GLIS⁵
Seed companies, plant breeders	<ul style="list-style-type: none"> • Create awareness of the project and its outcomes • Create future collaborations and research opportunities • Facilitate and foster access to <i>ex situ</i> stored PGRs • Contribute to regeneration, characterization and evaluation of PGRs 	<ul style="list-style-type: none"> • Euroseeds Working Group Biodiversity and Working Group Research meetings • Euroseeds Annual Congress • Euroseeds monthly newsletter (internal: for members only) • Euroseeds LinkedIn Newsletter (more than 12.000 subscribers) • Professional magazines for the farming community, the seed and plant breeding sector (e.g., European Seed magazine) 	<ul style="list-style-type: none"> • Presentations and discussions among Euroseeds general membership (seed industry: seed and plant breeding companies, national seed associations) • Presentations and discussions among general membership and seed sector professionals at the Euroseeds Annual Congress • News articles in the monthly Euroseeds newsletter (for members only) and Euroseeds LinkedIn newsletter (accessible to everyone) • Non-peer reviewed articles
Farmers, seed conservation networks	<ul style="list-style-type: none"> • Create awareness about the activities of the <i>ex situ</i> community and build bridges to on-farm management community • Facilitate and foster access to <i>ex situ</i> 	<ul style="list-style-type: none"> • Professional magazines for the farming community, the seed and plant breeding sector (e.g., European Seed magazine) 	<ul style="list-style-type: none"> • Non-peer reviewed articles • Promote seed catalogues for PGRs • Promote exchange platforms for seeds and information like

⁴ The ECPGR Steering Committee is composed of National Coordinators of the member countries (currently 36 European countries)

⁵ <https://www.fao.org/plant-treaty/overview/governing-body/committees/sac-gl/is/en/>

	<p>stored PGRs</p> <ul style="list-style-type: none"> • Support sustainable use of PGR and the reintegration of PGRs in the value chain • Persuade <i>ex situ</i> conservationists to collaborate with on-farm management community and <i>vice versa</i>. • Establish channels for providing feedback and input into facilitated use and <i>in situ</i> conservation of PGRs • Ensure that small-holder farmers understand the importance of PGR and the benefits to the farming communities of using them on-farm to sustain them in the long-term 	<ul style="list-style-type: none"> • Websites • Social media etc. • Exchange platforms 	<p>SeedLinked, Increase etc.</p> <ul style="list-style-type: none"> • Adopt database systems to the FAO Indicators to improve national reporting systems • Citizen Science activities
Policy makers	<ul style="list-style-type: none"> • Provide policy makers with useful insights and project results about the topic. • Provide evidence that European food and nutrition security and bioeconomy will benefit from a RI dedicated to PGRs • Ensure EU policy makers are made aware of PRO-GRACE's roles in the RI being conceptualized 	<ul style="list-style-type: none"> • PRO-GRACE website and partners' websites • EU CAP website • CORDIS platform • PRO-GRACE and partners' social media • EU Research and Innovation newsletters 	<ul style="list-style-type: none"> • Press releases • Web articles • Presentations at conferences • Position papers • Social media campaigns, including video materials • White papers
General public	<ul style="list-style-type: none"> • Create awareness and explain and promote the project, its importance, and its subject 	<ul style="list-style-type: none"> • PRO-GRACE website, PRO-GRACE and partners' social media 	<ul style="list-style-type: none"> • Social media posts • Web articles/pages

		<ul style="list-style-type: none"> Commission Research and Innovation newsletters 	
Ethics Advisor, Scientific Advisory Board	<ul style="list-style-type: none"> To promote the close integration of all consortium members. 	<ul style="list-style-type: none"> SharePoint, the common data management platform for the PRO-GRACE project Project meetings 	<ul style="list-style-type: none"> PDEC with regular updates Regular email communication Additional telephone or video conferences as required

Channels chosen for communication and dissemination activities are:

- The project [website](https://www.grace-ri.eu/) which was set up by M4 (see D6.1): <https://www.grace-ri.eu/>
- Social media ([Twitter](#) and [LinkedIn](#)) launched in M5:
 - Twitter: to make announcements and share concise results, retweet relevant content from other accounts and make calls to action, make announcements that can instantaneously reach a large audience. The Twitter accounts of the project partners are compiled in Table 2.
 - LinkedIn: to raise awareness of the topic among the professional scientific community and build credibility in the relevant sectors. The LinkedIn accounts of the project partners are compiled in Table 2.
 - YouTube: to publish video material showing the activities and progress of the project; videos have been proven to be a very effective part of a communication and dissemination strategy.
- Video conferencing, a communication form that has been widely adopted for internal and external communication because of travel restrictions during the COVID-19 pandemic. Video conferencing, for example via Zoom, maximizes participation and outreach worldwide. For this reason, all in-person workshops/training schools will be broadcasted via Zoom or other video conferencing tools, thus combining the close contact and informal discussions of on-site sessions with the global outreach guaranteed by teleconferencing.
- Scientific publications: the project partners have demonstrated an extremely high capacity to publish in very high impact journals, reaching a wide scientific audience. This trend will continue during the present project, and the main project's results and concepts will be published open access as scientific papers, reviews/position papers, e-books, or white papers as appropriate.
- Results will be also disseminated through specialized data portals such as [AgroPortal](#), a collaborative portal of resources supporting data management, and [RDMkit](#), a repository for germplasm, phenotyping, registries of tools, standards, databases, ontologies (e.g., Bio.tools, FAIRsharing, Ontology Look up Portal, Crop Ontology, etc.).
- Non-peer reviewed publications: professional magazines for the farming community and the

seed and plant breeding sector (e.g., [European Seed magazine](#)).

- EU and international portals: CORDIS, EU-CAP Network (newsletter and/or social media), and the Global Forum on Agricultural Research and Innovation - GFAR (newsletter and/or social media), Commission Research and Innovation newsletters.

Table 2. Overview of the social media accounts of project partners (status July 2023)⁶

Project partner	Twitter account	LinkedIn account	Facebook account	YouTube account
ENEA	@eneaofficial	-	eneapaginaufficiale	ENEANEWS
MAICH	@CIHEAM_MAICH @HorGenBioMAICH	ciheam-maich dept-maich	maich.chania	Mediterranean Agronomic Institute of Chania
INRAE	@INRAE_Intl	inrae	Inrae.France	InraeFrance
IPGRI	@ECPGR			ecpgr
BLE	@BZL_aktuell	-	-	-
UEB	-	-	UEB	-
NORDGEN	@nordgen	nordgen	nordgen	
IPK	LeibnizIPK	ipk-gatersleben	IPKGatersleben	-
KIS	KISinstitut	kmetijski-institut-slovenije/	KISinstitut	-
WR	CGN_Wageningen	centre-for-genetic-resources-the-netherlands	-	cgnpgr
UNITO	@unito	universita-degli-studi-di-torino/	Torino-Italy/Universita-degli-Studi-di-Torino/	unitoyou
CSIC	@CSIC	-	CSIC	CSIC
EUROS	EuroseedsEU	euroseeds	euroseeds	esaeuroseeds
MPG	maxplanckpress	-	maxplancksociety	MaxPlanckSociety
CREA	CREARicerca	crea-ricerca	CREARicerca	-
CRI	-	-	yurv.cz	YURV
UPV	UPV	upv	UPV	valenciaupv
INIAV	INIAV_IP	INIAV	INIAV.IP	INIAV
NBGK	-	-	NBGK	-
CNR	CNRsocial	CNR	CNRsocialFB	-
RSR	retesemi	rete-semi-rurali	semirurali	ReteSemiRurali
RBGK	kewgardens		kewgardens	kewgardens
GCDT	CropTrust	global-crop-diversity-trust	globalcropdiversitytrust	CropTrust
WORLDVE G	WorldVegCenter	world-vegetable-center	WorldVegetableCenter	WorldVegetableCenter
MAGHAZ	-	-	maghaz	-
PSR	ProSpecieRara	prospecierara	ProSpecieRara	ProSpecieRara

⁶ Table 1 features only those partners who have at least one social media account.

CIP	Cipotato	international-potato-center-cip	cipotato	CIP
JHI	jameshuttonInst	james-hutton-institute	JamesHuttonInstitute	jameshuttoninstitute
UOB	unibirmingham and UoB Biosciences	University of Birmingham	unibirmingham	unibirmingham

c. Planned communication activities and monitoring through Key Performance Indicators (KPIs)

Specific communication activities will target all the relevant stakeholders, including political decision-makers, and will be closely monitored on an ongoing basis throughout the life span of the project by assessing key performance indicators (KPIs).

Communication activities will include:

- Newsletters of project partners
- Press releases: the consortium will regularly issue press releases for informing targeted audiences (e.g., the scientific community, the conservation community, the general public, breeders, seed companies, policy makers), about project activities and progress. Press releases will be prepared by the Dissemination and Exploitation Committee (see section 5) and disseminated in a cascade process through the public relations offices of all partners, aiming at a wide diffusion and covering different channels (local and national newspapers and magazines, project and partner websites, CORDIS website) to ensure increased overall project visibility through well-established press pathways, reaching out to a large network of media professionals.
- News articles on the project website
- Audio-visual material, including interviews that will be published on the website, social media and YouTube.
- Non-peer reviewed articles adapted to specific target audiences to be published in target audience-specific media outlets. For example: professional magazines for the farming community and the [seed and plant breeding sector](#).

Key Performance Indicators (KPIs) will be used to evaluate the performance and impact of specific communication activities and are defined in Table 3. The target values for the KPIs for the project website, Twitter and LinkedIn are estimates based on the experience of the project partner EUROS as work package leader on communication in the H2020-project [BRESOV](#) and adjusted according to project duration. The target values will be reviewed based on the progress of the project and can be revised by the DEC to optimize the communication efforts of the project.

Table 3. Key Performance Indicators (KPIs) for communication activities

Key Performance Indicators (KPIs)	Total target value at the end of project	Target audience	Ways of verification
Project website			

Visitors ⁷	22.435	<ul style="list-style-type: none">Scientific community at national and European levelPolicy makersGeneral public	Plausible
Social media			
Twitter			
Profile visits ⁸	20.810	<ul style="list-style-type: none">EU policy makersScientific communityGeneral publicStudents	Twitter analytics
Followers	510		
Tweets ⁹	660		
Tweet impressions ¹⁰	462.500		
LinkedIn			
Page views ¹¹	860	<ul style="list-style-type: none">Professional scientific community	LinkedIn analytics, Social Pilot
Followers	450		
Posts	262		
Post impressions ¹²	45.900		
YouTube			
Subscribers	20	<ul style="list-style-type: none">All target audiences	YouTube analytics
Channel views ¹³	450		
Watch time (hours) ¹⁴	12		
Impressions ¹⁵	600		
PRO-GRACE and the press			
Press releases	2	<ul style="list-style-type: none">PGR	Project partners

⁷ Unique visitors of the website, i.e., if a visitor visits the website several times a day, only 1 visitor is counted.

⁸ The number of users who visited your profile within a given timeframe [Source: [Sprout Social](#)].

⁹ The total number of tweets you sent, including retweets [Source: [Sprout Social](#)].

¹⁰ The total amount of times tweets have been seen [Source: [Sprout Social](#)].

¹¹ The total number of times your page was visited [Source: [Hootsuite](#)].

¹² The number of times your post was shown to LinkedIn users [Source: [Sprout Social](#)].

¹³ The number of views for your videos [Source: [Google Support](#)]

¹⁴ The amount of time (hours) viewers have watched your videos [Source: [Google Support](#)]

¹⁵ The number of times your video thumbnails were shown to viewers on YouTube through registered impressions. [Source: [Google Support](#)]

Non-scientific articles/ appearances in the media	5-7	community • General public	Project partners
--	-----	-------------------------------	------------------

5. Dissemination and Exploitation Action Plan

d. Implementation of structured dissemination and exploitation activities: Dissemination and Exploitation Committee (DEC)

During the project, work package 6 leader MAICH, with the support of the Dissemination and Exploitation Committee (**DEC**), will centrally organize and document all dissemination, valorization, and outreach activities, guide and support their planning, coordinate strategy development, provide or arrange for legal support where needed, collect input from all group members, and compile related documents on a consortium level.

The DEC was formed at the kick-off meeting and will be chaired by MAICH and will have as members IPGRI (representing the ECPGR community), EUROS (representing the private seed sector), RSR (representing the *in-situ* seed exchange networks), MPG (representing the research institutes) and BLE (representing the political decision-makers). When necessary, global organizations like GCDT, DIVSEEK and WORLDVEG will participate in DEC meetings, to help define the global outreach of the project.

The DEC is responsible for: (1) Developing and regularly updating the project's overall communication, dissemination and exploitation concept (PDEC); (2) Identifying the target groups and the most appropriate communication and dissemination channels to reach them; (3) including a project logo, formats for presentations and other toolkits, which will be distributed to all partners; (4) setting up and maintaining a public project website ; (5) screening publications from project partners before submission, and identifying possible IP issues and other regulatory issues related to the Nagoya protocol or the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). The project website will be maintained by IPGRI, comprising sections describing the project's structure, partnership and goals, news, announcements, public documentation, scientific publications, and short clips highlighting project milestones. The website also contains a link to the password-protected internal communication and management platform managed by ENEA.

e. Planned dissemination activities and monitoring through Key Performance Indicators (KPIs)

For effective dissemination of results, PRO-GRACE partners are advised to follow the principle of open science: open access, open data, open software, open peer review and citizen science. PRO-GRACE partners shall use diverse and open-access channels for dissemination of results, where no conflict with IP rights-related exploitation pathways is in place.

Dissemination activities will include scientific conferences, symposia, workshops, and training. PRO-GRACE results will be presented at international conferences and symposia such as EUCARPIA (European Association for Research on Plant Breeding) and the Plant and Animal Genome Meeting (PAG), which will provide a platform for immediate presentation of results. Two 4-day workshops will be organized early (M9) and late (M24) during the project, first to understand and collect stakeholders' expectations from the project, and then to disseminate project outcomes. The

workshops will comprise 2-day training sessions targeting small genebank managers, seed collectors, and breeders, and focused on PGR quality management, DNA barcoding, phytosanitary aspects, regulatory aspects (Plant Treaty, Nagoya protocol), *in situ* conservation of PGRs, and use of PGR information systems.

Project partners are requested to document the dissemination activities they participate in by adding information about each activity in the Excel file available on the PRO-GRACE project management platform. Table 4 features the project's dissemination activities, both carried out (till M7) and planned.

Table 4. PRO-GRACE planned and conducted dissemination activities until M7.

Partner	Type	Title	Date	Place	Audience type and approximate number	Status
INRAE	Oral communication	"What's new about the European actions for PGRs where the GAFL Unit is involved?"	6/02/2023	The Solanaceae Network's Annual General Assembly Meeting, at INRAE, GAFL, Montfavet Avignon (France)	Industry, 10	Done
UPV	Other	Presentation of the germplasm bank activities and its link with projects such as PRO-GRACE to Secondary School students from the 4 th year	15/02/2023	The Secondary School of Catarroja (IES Tirant lo Blanch) within the Ciencia Lab programme Valencia (Spain)	Mixed/other, 25	Done
UPV	Other	Visit to germplasm bank and talk, including PRO-GRACE approach, to students of Upper-level Training cycles in Agroecology	16/02/2023	The Secondary School of Meliana (Valencia)	Mixed/other, 20	Done

				Valencia (Spain)		
ENEA	Oral communication	"Managing and characterizing plant genetic resources in the post-genomics era"	20/02/2023	Catania (Italy)	Academic, 50	Done
UPV	Paper	"Induction of water stress in major Solanum crops: a review on methodologies and their application for identifying drought tolerant materials"	20/02/2023		Academic	Done
INRAE	Oral communication	"Research activities from the ReDD team at GAFL: involvement in the PRO-GRACE European project"	16/03/2023	The annual meeting between breeders and INRAE GAFL researchers , at INRAE, GAFL, Montfavet Avignon (France)	Industry, 80	Done
UPV	Other	Presentation of the germplasm bank activities and its link with projects such as PRO-GRACE to Secondary School students from the 3 rd year	22/03/2023	Secondary School of Alginet (IES Hort de Feliu) within the Ciencia Lab programme Valencia (Spain)	Mixed/other , 15	Done
UPV	Other	Presentation of the germplasm bank activities and its link with projects such as PRO-GRACE to	29/03/2023	Secondary School of Cullera (IES Blasco Ibañez) within the	Mixed/other , 30	Done

		Secondary School students from the 3 rd year of		Ciencia Lab programme Valencia (Spain)		
INRAE	Oral communication	Presentation of strategic projects of the Plant BRC network to its committee of representatives of supporting research institutes	5/04/2023	Versailles (France)	Academic, 5	Done
UPV	Other	Presentation of the germplasm bank activities and its link with projects such as PRO-GRACE to Secondary School students from the 3 rd year	5/04/2023	The Secondary School of Valencia (IES Francesc Ferrer i Guardia) within the Ciencia Lab programme Valencia (Spain)	Mixed/other, 25	Done
UPV	Other	Presentation of the germplasm bank activities and its link with projects such as PRO-GRACE to Secondary School students from the 4 th year	26/04/2023	Secondary School of Catarroja (IES Berenguer Dalmau) Valencia (Spain)	Mixed/other, 25	Done
IPGRI	Oral communication	Information on ECPGR	3/05/2023	The Cryopreservation Working Group meeting Prague (Czech	Academic, 30	Done

				Republic)		
IPGRI	Other	Update on PRO-GRACE	24/05/2023	ECPGR Bulletin sent to ECPGR Working Group Members and Steering Committee	Academic, 1000	Done
WR	Oral communication	Genebank Certification and Genebank Metrics	30/05/2023	Oeiras (Portugal)	Mixed, 50	Done
IPGRI	Oral communication	ECPGR Secretariat involvement with Horizon Europe: AGENT, Pro-Grace, EURO CWR	30/05/2023	The ECPGR Steering Committee meeting Oeiras (Portugal)	Mixed/other , 50	Done
INRAE	Oral communication	Presentation of strategic projects in progress	31/05/2023	The annual general assembly of the French Network of Plant BRCs for research Toulouse (France)	Academic, 50	Done
INRAE	Paper	Multi-environment association study highlights candidate genes for robust agronomic QTLs in a novel worldwide Capsicum core collection	7/06/2023		Academic	Done
UNITO	Oral communication	Genome-wide association study for agronomically relevant traits and fruit quality-	First week of September 2023	Bari (Italy)	Mixed, 300	Planned

		related metabolites in a worldwide eggplant core collection.				
IPGRI	Oral communication	Update from ECPGR	5/09/2023	the FAO/ITPGR FA Scientific Advisory Committee on the Global Information System of Article 17 Rome (Italy)	Mixed/other	Planned
ENEA, CREA	tbc	tbc	18-21/09/2023	18 th EUCARPIA Meeting on Genetics and Breeding of Capsicum and Eggplant Plovdiv (Bulgaria)	Mixed, 200	Planned
UPV	Oral communication	The potential of genetic resources and new experimental populations for the enhancement of eggplant breeding	19 or 21/09/2023	18th EUCARPIA Meeting on Genetics and Breeding of Capsicum and Eggplant Plovdiv (Bulgaria)	Mixed, 200	Planned
UNITO	Oral communication	A worldwide eggplant core	19 or 21/09/2023	18th EUCARPIA	Mixed, 200	Planned

		collection to study agronomically relevant traits and fruit quality-related metabolites.		Meeting on Genetics and Breeding of Capsicum and Eggplant Plovdiv (Bulgaria)		
PSR	Oral communication	tbc	26-29/09/2023	LiveSeeding Annual meeting Poland	Mixed, 50	Planned
EUROS	Oral presentation + printed material	Developing a concept for a European research infrastructure for plant genetic resources: PRO-GRACE	16/10/2023	Euroseeds 2023 Congress Malta	Seed sector professional s/industry EU policy makers, 150	Planned
PSR	Oral communication	tbc	Oct or Nov 2023	Let's Liberate Diversity - Forum Ireland	Mixed, 100	Planned
EUROS	Oral communication	tbc	tbc	Euroseeds WG Biodiversity Brussels (Belgium) or online	Seed sector professional s/industry, EU policy makers	Planned
EUROS	Oral communication	tbc	tbc	Euroseeds WG Research Brussels (Belgium) or online	Seed sector professional s/industry, EU policy makers	Planned

KPIs will be used to evaluate the performance and impact of specific dissemination activities and are defined in Table 5. The target values for the KPIs are estimates based on the experience of the project partner EUROS as work package leader on communication in the H2020-project [BRESOV](#) and have been adjusted according to the project duration. The target values will be reviewed based on the progress of the project and can be revised by the DEC to optimize dissemination efforts for the project.

Table 5. Key Performance Indicators (KPIs) for dissemination activities

Key Performance Indicators	Total target value at the end of project	Target audience	Ways of verification
Scientific publications			
Number of scientific publications	20	<ul style="list-style-type: none">Scientific community at national and European level	Google Scholar, Scopus
Citations of peer-reviewed publications	200		
Events			
Number of scientific events	30	<ul style="list-style-type: none">Scientific community	Project partners
Number of events addressing national and international agencies dealing with plant biodiversity and seed conservation networks	25	<ul style="list-style-type: none">Biodiversity network	
Number of events addressing gene banks, large research infrastructures dealing with PGR	20	<ul style="list-style-type: none">PGR community	
Number of events addressing seed companies, plant breeders and farmers	15	<ul style="list-style-type: none">Seed and breeding sector, farmers	
Number of events addressing policy makers	10	<ul style="list-style-type: none">EU policy makers	
Number of events addressing the general public	10	<ul style="list-style-type: none">General public	

Number of events organized jointly with other related EU projects	10	<ul style="list-style-type: none"> Scientific community 	
---	----	--	--

f. Open Access practices

Open Access: All consortium partners have been familiarized with the two main open access (OA) routes: the 'green' and 'gold' route. Work package 6 leader MAICH reminded the project partners at the kick-off meeting of the obligation to publish OA and encouraged the partners to publish before formal acceptance in pre-print/reprint repositories, such as [BiorXiv](#) or [Zenodo](#). This aspect will be an integral component of WP6 presentations at each progress meeting, raising awareness of the economic, social, and educational benefits of OA. In the periodically updated PDEC, the current OA status of the PRO-GRACE publications will be provided.

As defined in the CA, regarding planned publications, notice must be given 30 days before submission of the manuscript to the PRO-GRACE consortium. Any objection to the planned publication shall be made in accordance with the Grant Agreement by written notice (by email) to the coordinator and to the Party or Parties proposing the dissemination within 20 calendar days after receipt of the notice. If no objection is made within the time limit stated above, publication is permitted.

PRO-GRACE beneficiaries shall comply with the following **publishing rules for scientific publications**:

- 1) At or before the time of publication, a machine-readable electronic copy of the publication needs to be deposited in a trusted repository.
- 2) Open access should be provided to the deposited publication immediately.
- 3) Provide information about any research output or any other tools needed to validate the conclusions of the scientific publication.
- 4) Sufficient intellectual property rights must be retained to comply with the open access requirements.
- 5) Only publication fees in full open access venues for peer-reviewed scientific publications are eligible for reimbursement.

Clarifications on authorship shall be discussed among PRO-GRACE beneficiaries when drafting publications. General rules for authorship declarations in scientific publications can be found at the following online resources:

- <https://open-research-europe.ec.europa.eu/about/policies>
- <https://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>
- <https://credit.niso.org/>
- <https://publicationethics.org/guidance/Guidelines>

In addition, public deliverables as a result of the PRO-GRACE project will be made available via the CORDIS platform (<https://cordis.europa.eu/project/id/101094738>) and other C&D channels specified in Table 1 throughout the project.

g. Networking with relevant Research infrastructures and stakeholders

Networking with relevant research infrastructures (RIs) will be a key element of the dissemination and exploitation activities of PRO-GRACE. The goal will be to learn from already existing RIs and to find synergies between the RI concept or RI and related European RIs. These will include handling and coordination of biological data for life sciences (ELIXIR), plant phenotyping (EMPHASIS), digitization of natural science collections (DISSCO), biodiversity and ecosystem research (LIFEWATCH), metrology services for the enhancement of food quality and safety (METROFOOD) and preservation, investigation, and valorization of microbial resources (MIRRI). Contact with the coordinators of these RIs is being established, and it is planned to invite them to the consortium meeting/workshop that will be held in the beginning of October 2023 in Chania. In addition, a workshop will be organized in collaboration with the EMPHASIS research infrastructure on the evaluation of *in-situ* and *ex-situ* PGR collections by M18.

h. Exploitation obligations

Exploitation of project results is an eligibility condition at proposal stage and a requirement according to the PRO-GRACE Grant Agreement, in addition to dissemination and communication activities. At the kick-off meeting, consortium members were made aware of the general conditions under which all Horizon Europe projects are executed, including the basic rules for **IP rights**, as well as the exploitation of project results. All project-specific rules and regulations for management of IP and more detailed provisions regarding confidentiality, dissemination and exploitation are defined in the consortium agreement (CA) based on the DESCA model consortium agreement. The CA complements the Grant Agreement (GA). The CA specifies the pre-existing intellectual property and know-how. In addition, it sets up rules on access rights to both background and results for different purposes, such as use for the implementation of the project, use for further research, or use for commercial exploitation during and after the end of the project. Any type of IP not falling under the provisions of the International Treaty and the Nagoya protocol will be appropriately protected. Valorization potential and interests will be clearly documented and related contracting will be strongly supported.

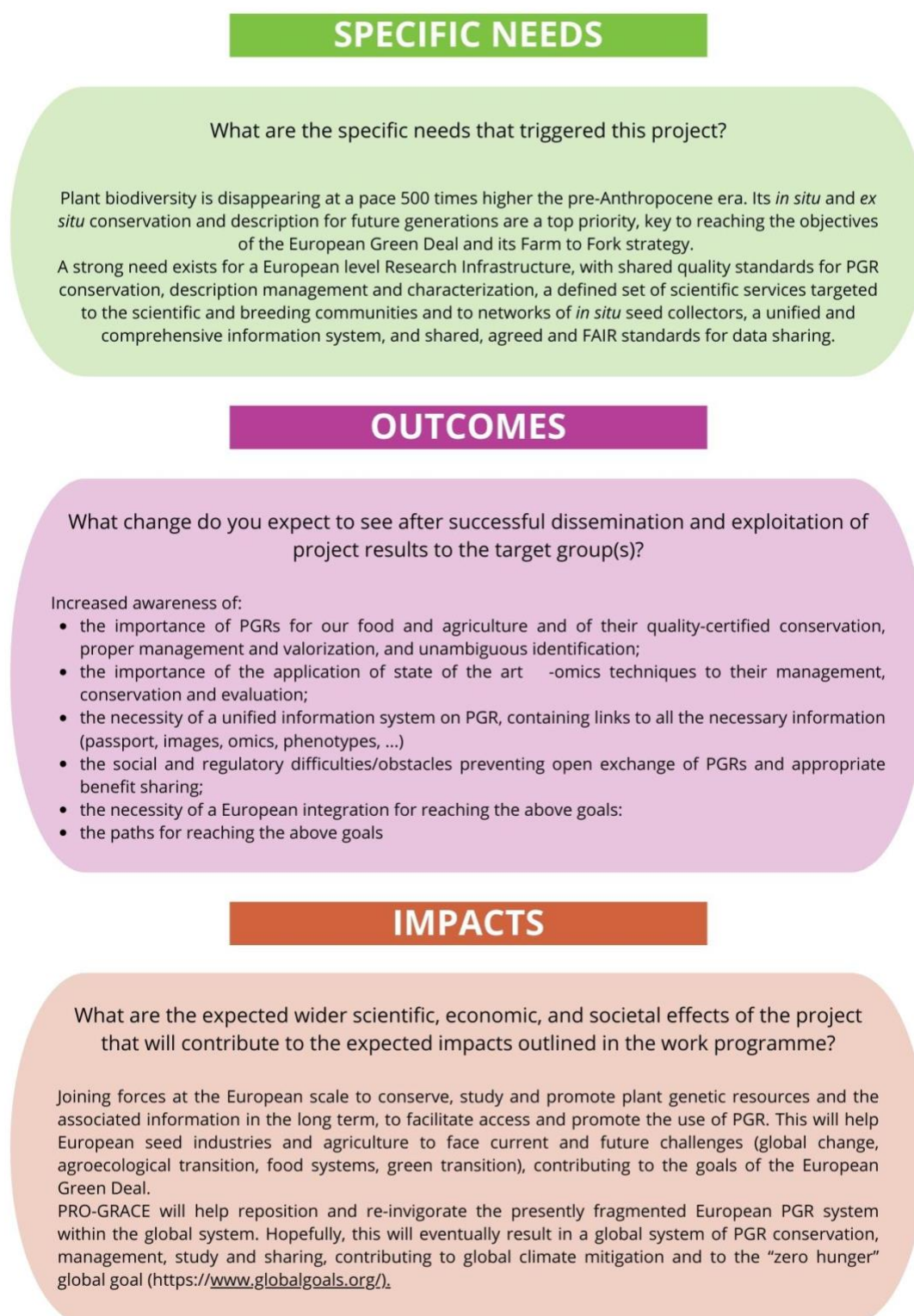
i. Exploitation strategy and pathway to impact

Introduction to the strategy:

[Roadmap 2016](#) of the European Strategy Forum on Research Infrastructures (ESFRI) identified a clear gap in the sector.

“Plant facilities – unlocking green power” i.e., the lack of a European Research Infrastructure (RI) specifically dedicated to PGRs. **PRO-GRACE will undertake the first step to fill this gap, by developing the concept of a novel RI dedicated to the conservation and study of PGRs.** The concept will describe the proposed distributed structure, governance, economic plan, and scientific services of the proposed RI, and will be the basis for a full proposal at the next ESFRI call. If implemented, this new RI will aim to catalogue, describe, preserve, and enhance European plant agrobiodiversity, translate the results into conservation practices and agricultural innovation, and will collaborate with global organizations dedicated to PGRs and with other established ESFRI RIs working on complementary fields. (e.g., ELIXIR, EMPHASYS, DISSCO, LIFEWATCH, MIRRI). In preparation for the GA, key elements for effective exploitation of project results resulting in the concept for a new RI were described (Figure. 1).

Figure 1. Key elements of the PRO-GRACE pathway to impact.



To further pave the exploitation pathway and strategy together with the PRO-GRACE partners, several steps are needed.

As a first step, the **expected exploitable results** (EERs) specified in the proposal stage of the project need to be further developed and elaborated. The expected exploitable results initially identified at the beginning of the project are the following:

- a unified information system for both *ex situ* and *in situ* conserved PGR;
- minimum quality standards for *ex situ* and *in situ* PGR management, a quality certification system and a capacity building programme for reaching these quality standards;
- a defined set of state-of-the-art scientific services targeted to the scientific and breeding communities and to networks of *in situ* seed collectors, and of providers of (other) scientific services, to be included in the proposed RI;
- standardized methods and descriptors for the evaluation of the phenotypic and agronomic characteristics of PGR;
- a governance structure and financial plan for the proposed RI;
- an analysis of the ethical, social and regulatory context enabling the transition of European genebanks to more complex research infrastructure;
- training interested actors/ stakeholders.

To receive more detailed information on expected exploitable results based on the work and proceedings that were achieved during the first months of the project, PRO-GRACE partners were asked to reflect on their activities in the project and the exploitable results that could be expected because of these activities (Table 6).

Table 6. Expected exploitable results of the PRO-GRACE exploitation strategy

Project partner	Expected exploitable result (EER)	Contributors/related WPs	Result type (e.g., data, protocol, know-how, process, product, policy recommendation, service, ...)	Does this result have a high potential for exploitation?
WR	Blueprint of a certification system for plant genebanks	WP2	Roadmap	When applied in genebank community the impact will be high
IPGR-Sadovo	Method and descriptors for evaluation of PGR	WP1	Policy recommendation	Yes
NASC	Exchange of best practice with partners	All	General awareness and insights	Internally - yes, externally - some potential improvements to customer/funder service.
UPV	Standards for collecting phenotypic data and images in genebanks	WP1	Best practices and tools	It is expected to have an impact in the genebank procedures for a better harmonization of data and image collecting
UPV	Blueprint for constructing national inventories of <i>in situ</i> PGR	WP2	Roadmap	Yes, for the <i>in situ</i> conservation community

WorldVeg	Standard Operation Procedure for optimized seed treatment to prevent contamination with seed-borne pathogens	WP3	Protocol	Yes, for keeping standards for seed health for seed shipments
WorldVeg	Seed treatment manual for training purposes	WP3	Manual	Yes, to train staff in seed treatment methods to keep standards for seed health for seed shipment
IPGRI	Structure, governance and financial plan for GRACE-RI	WP5	Policy recommendation	It would be the basis of the RI if accepted by countries and implemented.
KIS	Blueprint for constructing national inventories of in situ PGR	WP2	Roadmap	Yes, in the genebank community
KIS	Standards and protocols for the evaluation of the phenotypic and agronomic characteristics of PGR	WP4	Protocols	Yes, in the genebank procedures
UNITO, ENEA	Protocols for DNA barcoding, sequencing/resequencing/cytogenomics for accession identification, kinship and duplicate analysis, assessment of the genetic variability, PAVs and assisting gap analysis, ploidy/aneuploidy/genome size determination	WP3	Protocols	Yes, in the genebank procedures as maybe <i>in situ</i> management. Facilitation of interspecific crossing/introgression programs
UNITO, ENEA	Bioinformatic protocols and services for genetic diversity analysis to identify poorly represented species/gaps in ex situ and in situ collections.	WP3	Protocols	Yes, in the genebank procedures. To apply standards for GWAS analyses

	GWAS and QTL protocols			
UOB	System for describing, managing and accessing <i>in situ</i> conserved populations and interfacing them with EURISCO	WP1	Tool, data	It is expected to have an impact on the managers and users of <i>in situ</i> conserved material in documenting and promoting the utilization of this material
UOB	Methods and minimum quality standards for <u><i>in situ</i></u> management of PGR	WP2	Protocols	It is expected to have an impact on the managers of <i>in situ</i> conserved material

Second, during consortium meetings, the PRO-GRACE partners will regularly work on the further development of the EERs and identify **Key Exploitable Results** of the project (Key Exploitable Results characterization table). Third, effective exploitation of results will be ensured by further developing the Key Exploitable Results through the clarification of ownership of results, roles of partners and clear milestones on how and when project results will be exploited (exploitation roadmap). All these EERs and KERs will feed into the concept for a novel Research Infrastructure with the goal to create long-term impact by facilitating the establishment and implementation of a European Research Infrastructure on PGRs.

6. Conclusions

This deliverable will support the PRO-GRACE partners to get acquainted with the basic concepts of communication, dissemination, and exploitation in Horizon Europe projects. In addition, it provides **clear information** on legal obligations, sets milestones, and gives an overview of planned communication, dissemination, and exploitation actions, which will be undertaken until the end of the project. Updates of the PDEC will be compiled and submitted to the EC together with the interim and final reports at M12 and M24. The continuous development and monitoring of the communication, dissemination and exploitation strategies will support the PRO-GRACE partners to pave the way to the conceptualization for a new RI dedicated to the preservation of Plant Genetic Resources in the Europe.