

DEC Plan: Plan for Dissemination, Exploitation, and Communication

Deliverable D5.2

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Table of Abbreviations and Acronyms

Abbreviation	Meaning
ADR	Assisted/automated Defect Recognition
AI	Artificial Intelligence
AM	Additive Manufacturing
ASTM	American Society for Testing and Materials
C	Communication
CA	Consortium Agreement
CAD	Computer Aided Design
CRM	Centre for Metallurgical Research
D	Dissemination
DCU	Dublin City University
DILACERT	Digital Laser Certification
DILAFACT	Digital Laser Factory
DILAPRO	Digital Laser Productions
DIN	Deutsches Institut für Normung
DEC	Dissemination, Exploitation and Communication
DED-LB	Laser-based Directed Energy Deposition
DOI	Digital Object Identifier
D&C	Dissemination and Communication
DQCC	DILAPRO Quality Control Committee
DTI	Danish Technological Institute
DTU	Danmarks Tekniske Universitet
E	Exploitation
EC	European Commission
EFFRA	European Factories of the Future Research Association
EN	European Norm (Standard)
EWF	European Federation for Welding, Joining And Cutting
IMDEA	Instituto Madrileño de Estudios Avanzados
ISO	International Organization for Standardization
FEA	Finite Element Analysis
FSD	Feature Signal Decomposition
GA	Grant Agreement
GDPR	General Data Protection Regulation
IAB	Interactive Advertising Bureau
IoT	Internet of Things
ISO	International Organization for Standardization
IP	Intellectual Property
IPR	Protection of Intellectual Property Rights
NDT	Non-destructive Testing
OEM	Original Equipment Manufacturer
KPI	Key Performance Indicator
KE	Knowledge Exchange
KER	Key Exploitable Results
ML	Machine Learning

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ROI	Region Of Interest
R&I	Research and Innovation
TRL	Technology Readiness Level
WP	Work Package

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Executive Summary

The document entitled D5.2 outlines the preliminary Dissemination, Exploitation & Communication (DEC) Plan for the DILAPRO project. This report details the communication and dissemination aspects, including target groups, stakeholders, and specific measures for planned activities. It also covers the tools to be employed, indicative schedules, and venues for organizing these activities. The Dissemination, Exploitation and Communications plan provides a comprehensive and systematic approach to plan and execute communication and outreach activities to targeted audiences. The goal is to reach specific groups and communities with tailored campaigns and actions that serve specific purposes. The plan outlines a detailed strategy for dissemination, exploitation, and communication activities, with a focus on technical details and specific tactics.

This deliverable, developed under WP5 - Dissemination, Exploitation, Communication and Community Building, covers the dissemination, exploitation, and communication routes that DILAPRO is envisaging during the project, as well as considering opportunities and objectives for the exploitation (and dissemination) of the results after the project. All partners involved in the project will collaborate to implement the DEC measures. The communication measures will be primarily managed by EWF, a highly experienced expert in communicating scientific results obtained through research and innovation activities funded by the European Union.

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Introduction

Deliverable D5.2 "DEC Plan: Plan for Dissemination, Exploitation, and Communication", developed in the framework of WP5 – Dissemination, Exploitation, Communication and Community Building, includes the dissemination, exploitation and communication routes DILAPRO is considering to follow during the project, also considering opportunities and goals for post-project exploitation (& dissemination) of the results. Moreover, this deliverable intends to guide DILAPRO's partners in their activities of dissemination, communication, and exploitation. Therefore, prior to proceeding with this report, it is crucial to clarify three concepts: **communication, dissemination, and exploitation**. According to the EU glossary [1]:

Communication on projects, it is a strategically planned process that starts at the outset of the action and continues throughout its entire lifetime, aimed at promoting the action and its results. It requires strategic and targeted measures for communicating about the action and its results to a multitude of audiences, including the media and the public and possibly engaging in a two-way exchange.

The purpose of the communication activities is to make the research activities known to multiple audiences (in a way that they can be understood by non-specialists) and the activities must address the public policy perspective of EU research and innovation funding, by considering aspects such as (i) transnational cooperation in a European consortium (i.e. how working together has allowed to achieve more than otherwise possible) or (ii) scientific excellence or (iii) contributing to competitiveness and to solving societal challenges."

In essence, the primary objective of communication is twofold:

- To engage with society at large, as well as specific target audiences.
- To illustrate the role of EU funding in addressing societal challenges.

"Dissemination – The public disclosure of the results by any appropriate means, including by scientific publications in any medium." [2]

In succinct terms, the principal goal of dissemination is:

- To facilitate the transfer of knowledge and findings to entities best positioned to utilize them effectively.
- To optimize the impact of research endeavours, thereby extending the potential value of outcomes beyond their initial scope.

Dissemination is a critical element in robust research methodology, preventing the entrenchment of findings and mitigating the risk of their eventual obscurity, while also enhancing the visibility of the project. Table 1 presented below delineates a comparative analysis of these two activities.

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Table 1 - Communication versus Dissemination [2].

Communication	Dissemination
About the project and results	Regarding results only
Multiple audiences Beyond the project's own community (include the media and the public)	Audiences that may use the results in their work e.g.: peers (scientific or the project's own community), industry and other commercial actors, professional organisations, policymakers
Inform and reach out to society Show the benefits of research	Enable use and uptake of results

"Exploitation – The utilisation of results in further research activities other than those covered by the action concerned, or in developing, creating and marketing a product or process, or in creating and providing a service, or in standardisation activities." [2]

- Apply the outcomes: identifying results that are exploitable and their relevant stakeholders.
- Clarify the value and impact of the R&I endeavours concerning societal challenges.
- The exploitation can encompass commercial, societal, political, or informational objectives aimed at enhancing public awareness and response.
- Project partners may either exploit the results autonomously or facilitate their exploitation by external parties (e.g., by releasing results under open licenses).

Table 2 presented below delineates a comparative analysis between dissemination and exploitation.

Table 2 - Dissemination versus Exploitation (2024).

Dissemination	Exploitation
Describing and making available results so that they can be used	Making use of results, for scientific, societal or economic purposes
Audiences that may make use of the results	Groups and entities that are making concrete use of results
All results that are not restricted due to the protection of intellectual property, security rules or legitimate interests	All results generated during project Participant shall make best efforts to exploit the results it owns, or to have them exploited by another legal entity

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In DILAPRO, the following gender considerations will be addressed:

Equipment handling: DILAPRO consortium are committed to creating a fair workplace and will be mindful of biases when developing equipment and software for male-dominated industries. Consortium members have a Gender Equality Plan implemented, which is a key component for institutions and organizations engaged in research and innovation within the EU, and strictly comply with it. Also, the consortium members encourage applications for positions from underrepresented genders.

DILAPRO will focus on using technology to reduce manual work and provide equal opportunities for everyone.

- Outreach: DILAPRO consortium will involve both men and women in our training and stakeholder groups. DILAPRO will also consider gender when sharing our project's outcomes to support women in relevant industries.

If DILAPRO consortium notice any gender differences resulting from our project, it will be taken into account when planning our business strategy. DILAPRO also promotes work-life balance and ensure gender equality in our recruitment process.

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1. Initial Plan for Dissemination, Exploitation and Communication (DEC)

The initial Dissemination, Exploitation & Communication (DEC) plan was formulated during the proposal phase and is presently being implemented. All consortium members will contribute to the execution of the DEC initiatives. Oversight and execution of communication strategies will primarily be spearheaded by EWF, due to the experience gathered in previous collaboration, as the WP leader.

In order to effectively implement the Dissemination, Exploitation, Communications plan, DILAPRO intends to use a range of channels and tools. As dissemination and communication leader, EWF will ensure continued coordination among the project's activities to optimize the value of the content produced within the project. This will be achieved by communicating knowledge using various styles such as infographics, videos, images, etc. through different channels such as the website, social media platforms, media, events, etc. The communication strategy will employ various tools and channels to ensure that the targeted audience receives the appropriate messages.

The following are the key activities that need to be undertaken to raise awareness about the project:

- Disseminate the project results among the target groups by communicating them effectively.
- Use a variety of channels to communicate the project to the main target groups.
- Create printed and digital support materials such as posters, roll-ups, infographics, and videos, as needed.
- Regularly communicate with the target groups, media, and other projects/initiatives through emails, press releases, and newsletters to keep them updated on the project's progress.
- Establish links with other existing projects and initiatives related to the context of DILAPRO.
- Encourage clustering with DILAPRO sister projects.
- Ensure the sustainability of the project beyond its duration by engaging the community.

1.2 - Communication, dissemination, and visibility as required in the GA

It is important to draw attention to the requirements stipulated in Article 17 of the Horizon Europe Grant Agreement, which will govern all dissemination and communication activities throughout the project implementation. The requirements pertaining to communication and visibility carry legal obligations and are supplemented by detailed guidance on specific matters. The responsibility to formally acknowledge receipt of EU funding and to augment the EU's prominence has been enshrined in the financial regulation for an extensive period. Adherence to these requirements is crucial to ensure that the project is executed in accordance with the established guidelines and expectations.

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Article 17 of the GA lists rules on how communication and dissemination should be carried out, in particular the visibility and quality of information:

Visibility – European flag and funding statement

Unless stated otherwise by the granting authority, the communication activities of the recipients, pertaining to the initiative, such as media relations, conferences, seminars, and the production of information materials, including brochures, leaflets, posters, presentations, etc., facilitated through traditional or social media channels, as well as dissemination activities, and any infrastructure, equipment, vehicles, supplies, or significant outcomes financed by the grant, must appropriately acknowledge the support provided by the European Union. The European flag (emblem) and funding statement, translated into local languages, where appropriate, must be prominently displayed, as shown in Figure 1.

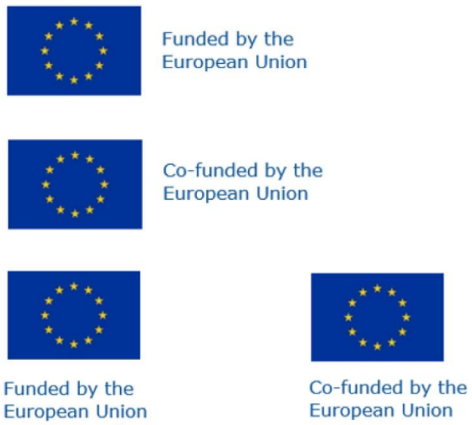


Figure 1 - EU Emblem

The emblem's distinctiveness and separateness must be preserved, and no visual marks, brands, or text may be added to modify it. Additionally, no other visual identity or logo, aside from the emblem, may be used to highlight EU support. When the emblem is displayed with other logos of beneficiaries or sponsors, it must be given equal prominence and visibility.

Beneficiaries may use the emblem for their obligations under this Article without prior approval from the granting authority. However, they do not have the right to exclusive use of the emblem or any similar trademark or logo, whether by registration or any other means.

Quality of information – Disclaimer

All communication or dissemination activities pertaining to the action must be based on factually accurate information. Additionally, it is imperative to include the following disclaimer (translated into the appropriate local languages, where applicable) in all such activities:

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1.3 Contribution to Expected Outcomes and Impacts

The DEC plan has been formulated for the DILAPRO project, structured around key objectives. Each objective is accompanied by delineated measures and corresponding Key Performance Indicators (KPIs).

The intended audience for these measures is detailed in Table 3 provided below. All project partners will actively contribute to the execution of DEC initiatives. The coordination and implementation of communication measures will primarily be overseen by EWF, an established authority proficient in the dissemination, exploitation, and communication of EU-funded research and innovation endeavours. An outline of the proposed measures is presented in the preliminary DEC measures for DILAPRO.

*Table 3 - DILAPRO's Key Target Audiences. * D = Dissemination, E = Exploitation, C = Communication.*

Target Group	Target Audience	Example Organisations	Focus*	Reasons to reach them
Industry	Direct and indirect technology end users, including European & international AM Manufacturers & their suppliers	CECIMO	D,E	Such stakeholders will procure and deploy the DILAPRO technologies within their existing and future manufacturing lines post project – see business case and exploitation strategy
	European and national trade associations	European Additive Manufacturing Group (EuroAM), European Factories of the Future Research Association (EFFRA)	D	
	OEMs and their suppliers in different markets/sectors	European Laser manufacturer and AM manufacturers	D,E	
Research Community	International researchers of all levels active in the fields of innovative production technologies AM and material sciences	Universities & Research Technology Organisations	D	Strengthen scientific development in the field, and ensure both the take-up and continuous development of DILAFACT beyond the project itself
Advisors and regulators	European and global	ISO, CEN, DIN, EN, ASTM, etc.	D,E	Push the result of DILAPRO in the

	standardisation and regulatory bodies		different organisation to help creating standards around digital certifications
General Public	EU Citizens with an active interest in advanced technology and manufacturing topics or R&I investments	DILAPRO LASER C community and e.g. spie.org, ieeephotonics.org, world-of-photonics.com	Demonstrate the societal value of R&D funding in Digital Twin, AM, and laser technologies

2. Dissemination

To cultivate robust pre-market interest for the manufacturing process stemming from the DILAPRO project among prospective customers and end-users, the consortium has delineated an initial roadmap for disseminating the project's advancements and outcomes (see Table 4). The project coordinator (DTI), in collaboration with the EWF, devise a strategy aimed at engaging all pertinent stakeholders, with particular emphasis placed on companies within primary target sectors, followed by secondary target industries.

To maximize the dissemination and exploitation of pivotal research outputs, the following dissemination avenues and associated KPIs have been established:

Table 4 - Dissemination Routes and KPIs.

Dissemination means	Activities Planned	Target group	Success criteria/KPIs	Activities Schedule	Organizer & Status
Workshops & Conferences	Annual DILAPRO workshop with industrial stakeholders	Industrial stakeholders, regulatory bodies	20 relevant attendees per event min. 5 new attendees per event	DILAPRO Annual Workshop 2024	
				DILAPRO Annual Workshop 2025	
				DILAPRO Annual Workshop 2026	
	Conference on the theme of Laser or additive magazine	Industrial stakeholders, researchers in the fields of AM	50 attendees 6 Conference articles in Scopus registered journals by 2026	DILAPRO Conference 2025	
	Interactive workshops to foster synergies with EU R&I projects focusing on similar topics to facilitate knowledge exchange (KE)	R&I projects in the same field as DILAPRO	2-3 interactive workshops	KE Interactive Workshop 1	
				KE Interactive Workshop 2	
				KE Interactive Workshop 3	
	Technical working group/committee meetings and themed sessions	National and EU policy makers and standardisation bodies (as an	1-2 themed sessions per organised conference		

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		example: ISO meetings)			
International trade shows	Exhibit the DILAPRO technologies in trade shows	Industrial stakeholders, research and academia in the field of 3D printing and AM	At least 5 exhibits	Exhibit 1 Exhibit 2 Exhibit 3 Exhibit 4 Exhibit 5	
Newsletters & press releases	Regular press releases following DILAPRO milestones Regular items in the project and partners online newsletters; plus DILAPRO own emailed newsletter	The press; thus general public and political actors Researchers in the fields of laser and AM	A total of 2000 hits on news websites describing PROJECT's developments by project end A total of 10,000 subscribers contacted over the course of DILAPRO	See table 11	The partner responsible for each Project Result reached, based on the responsibility already defined in the Milestones, will be tasked with developing outputs that will be included in the newsletters and press releases
Project website and social media	Video diary of members and explainer video describing benefits of innovative technology	End-users, general public - dedicated communication with the community	A total of 100 views per video over the course of DILAPRO		
	Digital material including infographics summarizing the main benefits of innovative technology	End-users of the use case studies designed taking into account the materials used, the laser technologies and the operational production lines, general public	~2,000 views on project's website and social media accounts		
	Presentation of non-confidential results of use-case demonstration on project website, highlighting the direct business benefits that were accrued by end-users	End-users	~2,000 views on project's website and social media accounts		
Science communication	Publication of scientific findings in Scientific journals, position articles and academic papers in sources such as: TCT magazine, All3DP, 3D metal Printing Magazine, Additive Manufacturing, Metals.	Researchers in the fields of laser and Additive manufacturing	At least 5 publications and 5+ citations in Scopus-registered journals by 2026		
	Presentations at the Annual Conferences (MSE Congress, EUROMET, TMS, MST as example)		At least 10 international academic conferences		

Demo events	Organise open day events at partners' facilities to showcase the demonstrator hybrid manufacturing production line	All targeted audiences	2-3 information/open day events involving 20-25 target customers
Final event	Final DILAPRO event including closed stakeholder meetings and public presentations and tech demos. It will also include group discussions around different aspects of the project compared to the users interests	All targeted audiences	20 relevant attendees beyond project members at stakeholder meetings; 80 attendees for public presentations and tech demos. 500 members at the end of the project.

2.1 – Dissemination activities and operational procedures

The DILAPRO project aims to make a significant impact in Europe. To ensure that the project achieves its full potential and to strengthen the exploitation plan, publishing will be a key part of the communication strategy (see Table 5). All publications related to the DILAPRO project will be developed in accordance with the following guidelines:

- DILAPRO partners are required to provide open access to all scientific publications, including peer-reviewed articles, conference proceedings, generated during the project. These publications should be stored in an Open Access repository. Each publication should include an acknowledgement stating that it has received funding from the European Union's Horizon research and innovation programme under grant agreement 101138859. If the publication is written in a language other than English, the disclaimer should be translated.
- To avoid any intellectual property or content issues, the publication process has been defined according to the Grant Agreement contents and is based on regular prior notices.

Table 5 - Scientific dissemination activities.

Partner in charge	Partners' contribution	Prior notice
Participation to fairs and events – All	Each partner should promote DILAPRO in local/national/international event	At least 45 calendar days Before. Any objection to the planned publication shall be made in accordance with the GA by written notice to the Project Coordinator and to the Party or Parties proposing the dissemination within 30 calendar days after receipt of the notice.
Poster presentation – Scientific partners	Validation before presentation + provision of the graphic design by EWF	
Scientific articles & Publications – Scientific partners	Validation process before publication by DQCC	

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DILAPRO will follow the four principles of open science, adhering to the eight ambitions stated in the EU's Open Science policy (see Table 6). DILAPRO Consortium intend to maximise the impact of DILAPRO project results by sharing them as widely and as openly as possible, aiming to achieve the greatest reasonable "Open Access" to all the project's output. Consortium will closely follow the EU's open science policy to ensure that our scientific process and practices focus on spreading knowledge to a broad range of interested audiences. When new platforms, tool or channels are launched by the EU to support their open science ambitions, the consortium will evaluate and define best practices to implement these actions within the project, where relevant. Early and open sharing of research: The university partners within DILAPRO will promote the sharing of fundamental knowledge emerging from DILAPRO through gold open access publications in high visibility journals, as well as hosting pre-prints of such publications on their repositories (e.g., findit.dtu.dk and DCU library websites) for accelerated sharing of research outputs. Where possible, pre-print "green" versions will be made available via OpenAire to provide early access to papers before they are officially published. Where "gold" access is not possible, e.g., for conferences which do not publish proceedings, or where only selected papers are published, access will be provided to repository versions of author's draft of all DILAPRO publications on Zenodo, preferably in the EU Open Research Repository. As such a CC BY license will be available for most DILAPRO publications (i.e., allowing free distribution and adaptation of the document provided credit is given for the original).

Table 6 - DILAPRO adherence to the four principles of Open Science.

Open Methods	Open Access Publication	Open Data	Open Educational Material
Early sharing of methods in Open Access publications. Leverage open tools and software over proprietary ones when possible	Gold Open Access or Green Open Access to peer reviewed publications. Open, trusted repositories, (e.g. Zenodo) for nonproprietary report	Open and FAIR sharing of datasets in open repositories (e.g. Zenodo) as defined in a Data Management Plan and adherent to IPR assessment.	Shared on project website, and during partners upskilling and open science events

The European Union provides a set of tools that DILAPRO believes could be of interest not only to the consortium but also to the stakeholders involved. Table 7 summarises the main tools provided by the European Commission, indicating whether the tools are suitable for communication, dissemination or exploitation and how DILAPRO consortium intent to apply them.

Table 7 - European Commission Tools[1] (D = Dissemination, E = Exploitation, C = Communication).*

European Commission Tools			How DILAPRO will use the tool
Research and innovation success stories	A collection of the most recent success stories from EU-funded Research & Innovation	D,E,C	In a more mature phase of the project, this platform will be used to describe innovative processes and products derived from the project that may be of interest to the community.
Horizon Dashboard	An intuitive and interactive knowledge platform where you can extract statistics and data on EU Research and Innovation programmes – sorting by topics, countries, organisations, sectors, as well as individual projects and beneficiaries	D,E	The Horizon Dashboard platform will be consulted periodically to assess new approved projects in order to maintain partnership synergies and identify research trends within DILAPRO.
Cordis	Multilingual articles and publications that highlight research results, based on an open repository of EU project information.	D,E,C	The DILAPRO project is already listed on this platform and can be accessed here.
Horizon Results Booster	A service free of charge in case you would like to apply to benefit from one of these services: 1. Portfolio Dissemination & Exploitation Strategy 2. Business plan development 3. Go-to-Market Support	D,E	Access to these resources free of charge will be assessed, particularly in order to maximise the impact of the business cases that will be developed in the project, as well as the dissemination and communication portfolio.
Horizon Magazine	The latest news and features about thought-provoking science and innovative research projects funded by the EU	C	The most relevant results of this project and of public interest will be published on this magazine

[1] https://ec.europa.eu/research/participants/docs/h2020-funding-guide/imgs/quick-guide_diss-expl_en.pdf

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Innovation Radar	A data-driven method focused on the identification of high potential innovations and the key innovators behind them in EU-funded Research and Innovation projects	D,E	The most relevant results of this project and of public interest will be published on this platform
Horizon Impact Award	An annual prize to recognise and celebrate outstanding projects that have used their results to provide value for society. The award enables individuals or teams to showcase their best practices and achievements and inspire beneficiaries of research and innovation funding to maximise the impact of their research	C	The consortium will assess whether the results obtained could be candidates for this award, and if so, an application will be made.
Horizon Results Platforms	A public platform that hosts and promotes research results thereby widening exploitation opportunities. It helps to bridge the gap between research results and generating value for economy and society. You can create your own page to showcase your results, find collaboration opportunities and get inspired by the results of others	D,E	The most relevant results of this project and of public interest will be published on this platform

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3 - Communication

DILAPRO communication activities ensure that non-technical audiences are informed of the project's activities and comprehend how the results will aid in developing innovative technology solutions that address major societal issues. DILAPRO consortium will adopt a comprehensive approach to maximize the visibility of project activities and simplify the underlying technical concepts, making it easier for non-technical stakeholders to comprehend the project's outcomes (see Table 8).

Table 8 - Communication routes and key performance indicators (KPIs).

Communication measures	Description	KPIs	Status in M6
Visual and content identity	A DILAPRO project brand book will be compiled at the beginning of the project and will be updated with the project logo, graphic identity and templates.	1 brand book	Completed
Communication kit	A DILAPRO project communication kit will be maintained throughout the project. This kit will contain roll-ups, flyers, posters, press releases, videos, project institutional presentations, etc.	Communication kit deployed at 10 events over the course of the project	Completed
Project website	A DILAPRO project website will be maintained and updated with all relevant project information's and design to reach project stakeholders.	10000+ views	Created and in continuous improvement
Project social media channels	LinkedIn, Facebook, and Twitter accounts will constantly communicate project news and events. An explainer video setting out project goals, and how results can address wider societal challenges	200+ followers per account 2000+ views per account 500+ views	Created
Press and news releases	Several Press releases will be directed to media communicating project achievements, events and milestones. A project newsletter will be released every 3 months	200+ subscribers at the end of the project	The first press release has already been published
Articles for media distribution	General-audience articles will be published in popular science and industry venues, e.g. The Conversation	10 articles	-
Final video and video interviews	Several videos related to milestones or achievements will be compiled and a final video of the project will be released at the end	6 videos, inc. 1 final video	-

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3.1 - Visual and content identity

The identity for DILAPRO was developed in the first two months of the project and will be systematically used in all dissemination and communication actions and materials produced under the frame of the project, such as templates, brochures, website, posters, roll-up banners, videos, etc. DILAPRO brand identity encompasses different noticeable elements (such as colours, font, logo, etc), that can instantly be associated with the project. The development of the project's brand included a thorough background analysis of the project, and assessing the brand values, attributes, positioning, and language. During the WP5 kick-off meeting, the visual identity of the project was discussed. EWF made sure to collect the consortium's inputs on how they envisage the project's communication and keywords like "captivating", "colourful and standing out", "original", "comprehensible and interesting to a variety of stakeholders", and "clear and immediate for all audiences" were mentioned. Keeping this in mind, EWF has developed a presentation of the brand to showcase the initial version to the partners. After gathering inputs from the consortium, a final version was reached.

The 3-way spiral symbolizes growth, transformation, and the three key components of the project: DILAPRO, DILAFACT, DILACERT, and their overarching objective (see Figure 3). The lowercase, friendly wordmark complements the circularity of the spiral, conveying openness, inclusivity, and a commitment to sustainable practices. The creative rationale is described in Table 9 - Creative rationale.



Figure 2 - DILAPRO official logo.

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Table 9 - Creative rationale.

Alignment with Project Objectives	Concept	Message
1. Circular Economy: The spiral explicitly references the circular economy, aligning with the project's aim. 2. Innovation and Dynamism: The dynamic spiral reflects the constant adjustment and innovation embedded in the project's DNA, addressing challenges in manufacturing, energy efficiency, and upskilling the workforce.	Collaborative Ecosystem	- Collaboration and innovation through modular contributions for sustainable manufacturing. Visual Representation: - Circular design representing a collaborative ecosystem. - Overlapping laser beams around a central fusion point. - A bold and dynamic colour scheme representing energy and innovation. - A contemporary font with organic curves to reflect both technology and sustainability of the acronym

A brand manual dictating the operational procedures and guidelines on the elements of DILAPRO's identity and how it should be used, has also been developed. The logo is available in the consortium repository in different versions and formats:

- Logo with and without claim
- Logo in black and colour, with the yellow, purple, and green dots
- Logo in ai, jpeg, png, svg formats

3.1 -Website

The DILAPRO project website is a publicly accessible platform that will host the project's authorized materials and reports, allowing external parties to express interest in the project. The website was launched in April 2024. The front-end was designed and customized to meet the project's specific needs and identity, and will be updated regularly with news, events, relevant findings, and public deliverables and reports. It will be maintained regularly for at least two years after the project-end.

The DILAPRO website was designed to provide comprehensive information about the project, including its scope, objectives, main activities, and events. It aims to give access to the project's outputs and public results. It will be a central hub for engaging the target groups in various project-related activities, such as:

- subscribing to newsletters
- registering for co-creation workshops, capacity building sessions, online awareness sessions, and events

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- serve as a platform for keeping the stakeholders informed and updated about the project's progress and developments

The main objective of the project is to increase the conversion rate of the website by directing all the communication actions towards it[2]. The website will be constantly improved using Google Analytics and Google Webmaster Tools, including Search Engine Optimisation (SEO). DILAPRO's website will use Google Analytics as its web analytics service to track website traffic and collect useful statistics, which will aid in optimizing the website and communication and dissemination strategy. The monitoring process will also ensure compliance with GDPR. The relevant statistics that will be monitored include the number of visitors, the time spent on the website, the number of returning visitors, and the number of countries.

The main features of the website are the following:

- The website will be responsive, meaning it will work on different devices such as mobile, tablet and desktop
- social media sharing capabilities for LinkedIn, Twitter, and Facebook
- A mailing list submission form will be available for newsletter subscriptions
- Users will be able to register for upcoming DILAPRO activities such as co-creation workshops and raising awareness sessions

The DILAPRO Website was design and developed using the following tools:

- Adobe Illustrator: It's a professional vector-based design and drawing program, that lets the user to create images and graphics for various digital and graphic applications.

- HTML: It is a markup language used for creating and structuring any type of websites.

- CSS: It is a computer language, that allows the users to style a page created in HTML, to create a more appealing website for the user.

- JavaScript: It is a scripting language, allowing the user to create dynamic content for websites.

It was registered under the domain DILAPRO.eu, and it is hosted on the servers of the partner - European Federation for Welding, Joining And Cutting (EWF) - responsible for the "Work Package" of Communication and Dissemination activities of the project.

The website will be an ongoing task and its structure will evolve dynamically with the project during its lifespan.

[2] The conversion rate is the number of users or website visitors that take a desired action.

The website will feature the structure presented in Figure 3.

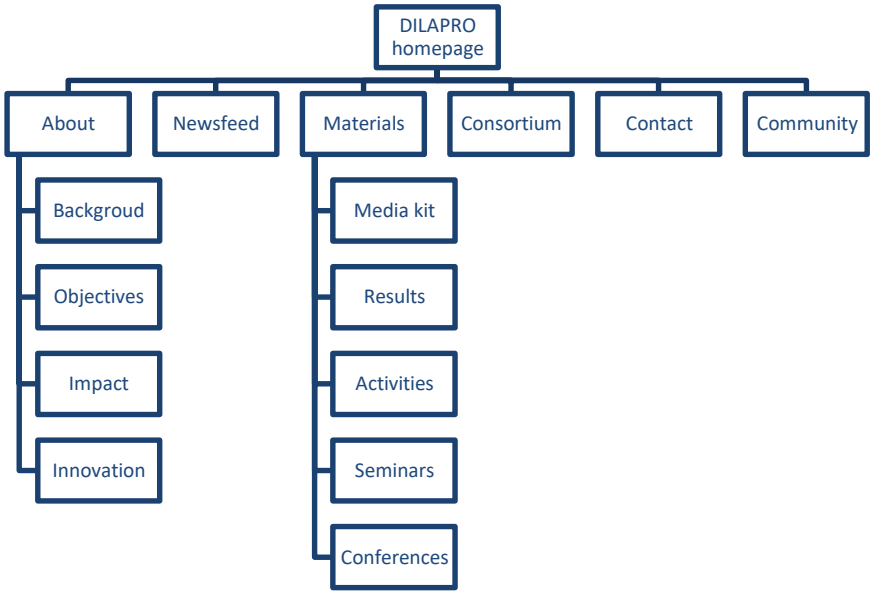


Figure 3 - DIPLAPRO website map.

During the course of the project, new interfaces may be added or modified on the website as required. The website will be linked permanently and advertised on other relevant websites to ensure maximum exposure. It was designed to provide a great user experience, and features such as clickable logos to the homepage and highlighted menu items will be implemented throughout.

3.2 – Social Media

DILAPRO project has already set up official social media pages on Twitter, Facebook, LinkedIn, and YouTube channel to store project videos. The primary objective of these social media channels is to create awareness, increase visibility to stakeholders, redirect traffic to the website, and build a large community. The social media accounts have image banners designed for the page profile, along with template images for posts that provide concise information about the project's scope. The EU emblem and disclaimer are clearly visible, complying with the EU guidelines for Horizon Europe projects. Starting from M4, the project has been updating its social media pages weekly, sharing posts about the latest updates, activities, and materials, as well as relevant news and articles related to the project. The project will also share relevant results in brief to disseminate actionable knowledge effectively and potentially have better engagement rates.

Some contents' type for the social media posts are the following:

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- Events: awareness raising webinars, co-creation events, workshops, conferences, consortium meetings
- Activities
- Newsletters
- Promotional videos
- Articles and News
- Results: scientific publications, public results, and other materials
- Meet the Partners

Partners are encouraged to use their own social media pages (whether institutional or personal) to enhance the visibility of DILAPRO. In doing so, sharing DILAPRO ' website and social media pages, and use DILAPRO ' handles whenever posting project-related content through their own channels.

3.3 – DILAPRO partners websites and their respective social media channels

Since the project partners represent the entire value chain, their websites and social media channels are crucial for sharing the project's messages. Their pre-existing networks will significantly contribute to the overall communication and dissemination project activities, which will reach out to key industrial stakeholders, leading scientific communities, and academics (see Table 10).

Table 10 - Outreach per partners' website and social media channels.

Partner	Channel
DTI	Website: https://www.dti.dk/ LinkedIn: https://www.linkedin.com/company/teknologiskinstitut/
DCU	Website: https://www.dcu.ie/ LinkedIn: https://www.linkedin.com/school/dublin-city-university/
CRM	Website: https://www.crmgroup.be/en LinkedIn: https://www.linkedin.com/company/crmgroup/
DTU	Website: https://www.dtu.dk/ LinkedIn: https://www.linkedin.com/school/technical-university-of-denmark/
Prima Additive	Website: https://www.primaadditive.com/ LinkedIn: https://www.linkedin.com/company/prima-additive/
Fieldmade	Website: https://fieldmade.no/ LinkedIn: https://www.linkedin.com/company/fieldmade/
Pepite	Website: https://www.pepite.com/ LinkedIn: https://www.linkedin.com/company/pepite/
IMDEA	Website: https://materials.imdea.org/ LinkedIn: https://www.linkedin.com/company/imdea-materiales/
AMiquam	Website: https://amiquam.net/ LinkedIn: https://www.linkedin.com/company/amiquam/
AM Entrepreneur	Website: https://weboostam.com/company/am-entrepreneur-gregor-reischle/ LinkedIn: https://www.linkedin.com/company/qualifiedam/
EWF	Website: https://www.ewf.be/ LinkedIn: https://www.linkedin.com/company/ewf-european-federation-for-welding-joining-and-cutting/mycompany/

3.4 – Communication kit

The DILAPRO project has developed a communication kit that includes materials to support the consortium in their formal and informal communication activities. The kit ensures a consistent promotion of the brand identity and helps make it memorable. The materials aid in reporting and participation in meetings and events, while adhering to technical and industry-specific language and standards and it is composed by project's stationery, promotional materials, and merchandising.

The project has produced stationery materials to aid in communication and reporting. These materials include Word and PowerPoint templates for reporting and presenting at meetings or events. Additionally, supporting materials such as background for online meetings, and an email signature will be created to facilitate participation in events and meetings while identifying the project in communications.

The project aims to conclude the development of promotional materials during the M8 of its timeline. These materials will be employed for the purpose of showcasing the project's objectives, activities, and expected outcomes during events and meetings with relevant stakeholders. Additionally, flyers will be designed to succinctly explain the project's mission. To increase the project's visibility in events, a poster and roll-up will also be created.

The dissemination of merchandising during events is a popular method for promoting and raising awareness of a brand. Merchandizing's are also employed as a means to attract attendees to a booth and use this opportunity to enlighten them about the project's objectives or involve them in its activities and events. The goodies will feature DILAPRO' logo, URL, and claim.

3.5 – Press Release

Throughout the project, press releases will be set out to specific media outlets and relevant stakeholders to keep them informed regarding important milestones, activities, results, and upcoming events. The first press release will be published by Month 5 to introduce the project. To ensure that the information is disseminated globally, all partners are encouraged to also distribute the press release to relevant stakeholders within their networks.

3.6 – Newsletter

DILAPRO will be distributing a total of 12 newsletters as outlined in Table 11. The consortium will work collaboratively to develop the newsletter content. EWF will be responsible for ensuring the newsletters are distributed to subscribers in compliance with GDPR regulations. The newsletters will be proactively sent to website subscribers, and partners from other synergy projects will also share the newsletters with their personal and professional contacts. Each newsletter will provide subscribers with project updates, event listings, and results in an easily understandable format. It can include articles, interviews, videos, and infographics and will be uploaded to the public section of the website. EWF will track and analyse newsletter statistics based on the number of subscribers, the number of unsubscribers, the number of

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newsletters opened, and the number of clicks. The website will include a subscription area for the newsletter. The newsletters will also be promoted on DILAPRO social media platforms.

Table 11 - Newsletter Plan.

Year	Newsletter #	Release Date	Articles	Tasks Associated	Contributors	Deadline for Info.
2024	1	15th May	1	1.1;1.2	CRM	15th April
			2	1.3	Fieldmade	
			3	1.4	Pepite	
			4	1.5, 1.6	AM.E	
			5	5.2	EWF	
	2	30st July	1	2.1	IMDEA,	14th June
			2	4.1	DTI	
			3	5.2	EWF	
	3	1st October	1	3.1	AMIQ	13th September
			2	3.3	CRM	
			3	2.2	DTU	
			4	5.2	EWF	
	4	2nd December	1	3.5	DCU	15th November
			2	4.2	DTI	
			3	4.3	DTI	
			4	5.2	EWF	
2025	5	1st April	1	4.4	DTI	17th March
			2	6.1	DTI	
			3	5.2	EWF	
	6	1st July	1	2.3	Pepite	16th June
			2	3.2	DCU	
			3	3.6	PRIMA	
			4	5.2	EWF	
	7	1st October	1	8.1	AME	15th September
			2	6.3	DTI	
			3	5.2	EWF	
	8	1st December	1	10.2	EWF	17th November
			2	5.2	EWF	
2026	9	1st April	1	8.2	AME	15th March
			2	7.3	PEPITE	
			3	7.4	DTU	
	10	1st July	1	7.1	DTU	15th June
			2	9.1	DTI	
			3	9.2	PRIMA	
			4	5.2	EWF	
	11	1st October	1	7.2	PEPITE	18th September
			2	8.3	AME	
			3	8.5,8.6	AME	
			4	5.2	EWF	
	12	1st December	1	9.3	DTI	16th November
			2	9.4	EWF	
			3	9.5	DTI	
			4	8.4	AME	
			5	5.2	EWF	

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3.7 – Activities and events

In DILAPRO project, events can be categorized into "internal" and "external" events. The term "internal events" refers to the events that will be organized within the project framework under specific work packages. These events serve technical purposes within the project, but they also provide an excellent opportunity to communicate and disseminate the project's progress and findings.

The promotion and communication of DILAPRO events or partners' participation in events will be carried out according to a specific strategy. These actions will be incorporated in the promotion of the events, depending on the needs and type of involvement of DILAPRO (i.e. organiser, participant, attendee). The strategy will be adjusted accordingly.

Communication BEFORE the event:

- Event upload on the website
- Design of cover image or banner, or other images/videos
- Social media campaign
- Publication in the newsletter
- Press release (if applicable)
- DILAPRO partners dissemination through their networks and channels

Communication DURING the event:

- Social media coverage (photos/quotes sent to EWF for posting)
- Networking and distribution of promotional materials

Communication AFTER the event:

- Article upload in website (conclusions, photos, presentations, recording, etc)
- Event recording uploaded in YouTube channel (for online events when applicable)
- Social media campaign
- Publication in the newsletter

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External events are events organized by other entities, in which partners will participate with the main intention of promoting the project. These events are essential for increasing the project's visibility among specific target groups and presenting its mission, activities, and outcomes. Examples of such events may include workshops, cluster meetings, European fairs/exhibitions, and workshops arranged by the EC or other projects/initiatives. The initial mapping of external events has been completed and shared in Deliverable 5.1. Nevertheless, this task is still in progress and will be updated regularly. For this purpose, a file has been created on TEAMS dedicated to the project where the partners can update the information.

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4 - Exploitation

The DILAPRO project aims to target manufacturing, digitization, and certification. To fully understand the potential behind digitalized certification and qualification, it is important to view market segments of IoT, laser-based manufacturing, and certification. The project includes multiple business cases, ranging from systems development and component optimization to the development of sustainable software.

To generate strong pre-market interest for the novel hybrid manufacturing process resulting from the DILAPRO project among target customers and end-users, certain exploitation measures are planned. These include defining a strategy for securing appropriate IP protection for novel technology outputs, validating pricing strategy for commercializing technology through willingness to pay interviews with 10 to 15 target customers, and preparing a business plan for commercializing major technology IP post-project.

To ensure that key research outputs resulting from the DILAPRO project are optimally exploited by the wider European scientific and academic community, partners will catalyse the new scientific breakthroughs in diverse fields linked to dissimilar material joining and use research outputs to support R&I activities in 2 to 4 national and EU projects running in parallel to the DILAPRO project. Partners will also establish 2 to 3 new PhD summer positions during the project period, and the use cases and insights gained from the project will be used to illustrate industrial applications in Master level courses. PhD internships are gaining traction in the current competitive job landscape, offering doctoral students the chance to enhance and broaden their skill set, build new professional connections, and acquire practical work experience beyond the academic realm. These internships will be coordinated by partners closely affiliated with academia (DCU and DTU).

To ensure the development of a robust regulatory framework that creates the market conditions for the expanded use of laser manufacturing technologies such as AM, whilst maintaining the highest standards of safety, quality, and user trust, the consortium plans to respond to relevant EU public consultations on policy matters that stand to influence the future adoption or use of AM technologies using the project results as proof-points.

4.1 - Business case and Exploitation Strategy

DILAPRO targets manufacturing, digitization, and certification, underscoring the importance of assessing market segments within IoT, laser-based manufacturing, and certification to discern the potential inherent in digitalized certification and qualification processes. The project encompasses various business cases, ranging from system development and component optimization to the creation of sustainable software solutions.

To stimulate robust pre-market interest in the innovative hybrid manufacturing process emerging from the DILAPRO project among its target customers and end-users, thereby facilitating the swift and widespread adoption of key technologies within the European manufacturing sector post-project, the following exploitation measures are planned:

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- Definition of a strategy for securing appropriate intellectual property (IP) protection for novel technological outputs, including patents, soon after project completion.
- Validation of pricing strategies for technology commercialization through willingness-to-pay interviews with 10 to 15 target customers.
- Preparation of a business plan for commercializing major technology IP post-project, such as the planned commercial launch of two software solutions.

To ensure the development of a robust regulatory framework conducive to the expanded use of laser manufacturing technologies such as Additive Manufacturing (AM), while upholding the highest standards of safety, quality, and user trust, the following exploitation measures are planned:

- Consortium engagement in relevant EU public consultations on policy matters that could influence the future adoption or use of AM technologies, leveraging project results as supporting evidence.

Table 12 summarises the most important KERs defined in the DILAPRO project, and Table 13 provides a description of the TRL levels highlighted.

Table 12 - DILAPRO key exploitable results.

Key Exploitable Results	Initial TRL	Final TRL
Know-how gathered during DILAPRO (possible consultation services, other research projects …)	N/A	N/A
DILAPRO software platform	5-6	To be defined
DILAFACT software	5-6	To be defined
DILACERT software	5-6	To be defined
New guidelines for laser processing technologies, especially additive manufacturing	N/A	N/A
Development of a qualification system for photonics	N/A	N/A
Component use cases (C1 – C10) as defined in deliverable 1.1	7	To be defined
Laser processing method	7	To be defined
Process monitoring systems	6	To be defined
Process simulation and monitoring	6	To be defined
Sensor-based methods for common physical tests	4	To be defined

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Table 13 - Description of TRL levels.

TRL Level	Description
1	Basic principles observed
2	Technology concept formulated
3	Experimental proof of concept
4	Technology validated in lab
5	Technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
6	Technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
7	System prototype demonstration in operational environment
8	System complete and qualified
9	Actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)

4.1.1 - Project-Wide Business Case: The DILAFACT & DILACERT software

DILAFACT and DILACERT are poised to address the broader laser manufacturing markets. An overview of the market sizes relevant to the software solution is provided below, along with an estimate of the total market potential. These platforms are designed to bring a step change in process planning, certification, and standardization efforts in the field of laser-based manufacturing.

DILAFACT (Digital Laser Factory) will be a highly sustainable, scalable **software platform** enabling users to plan laser processes via Digital Twinning of laser-material interactions and based on available technology, material properties, economic conditions, and environmental analysis. The goal of DILAFACT is to provide in-process part certification using sensor data, particularly for additive manufacturing. DILAFACT needs to integrate data from different sensors, algorithms, and software components.

DILACERT (Digital Laser Certification) will be a **novel software** that qualifies laser-produced parts based on existing/future standards, aiming to pioneer the development of remote, (semi-)automated "digital certification" of manufactured parts.

Considering conservative estimates of the market potential for digital certification, particularly focusing on metal AM, a potential market for DILAFACT and DILACERT software of over €0.91 billion around the years 2030-2032 is discernible.

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4.2.2 - Business Case A

The initial DILAPRO Grant Agreement stipulated that partner WELLTEC would be responsible for this business case. However, due to its withdrawal from the project in month 2 of the project, this business case had to be restructured and integrated into the other business cases.

4.2.3 - Business Case B: Laser System Manufacturing

Additive manufacturing (AM) components require a qualification model that is sector compliant and adheres to published standards such as ISO, DNV B-203, and DNVGL-ST-203. However, the current qualification process is onerous and time-consuming, as it requires the production and analysis of additional test pieces at dedicated facilities. This approach of manual qualification processes negates the advantages of on-site and fast manufacturing using laser-based technologies. The cost of the qualification increases when using manual testing and ex-situ measurements, which can easily outweigh the production cost of the actual part up to a factor of five to ten. This is especially disadvantageous for one-off parts that need to be quickly produced.

FIELDMADE aims to improve the advantage provided with its on-site production solutions by developing integrated digital certification schemes through DILACERT. The company will demonstrate the validity of the capabilities on a series of parts such as engine mounts, brackets, spare parts, legacy components, and door hinges. By fully developing the on-line monitoring technology and digital certification, it is expected that qualification costs will drop by 50-80%, and qualification lead time will be reduced by 80-100%.

Prima Additive is addressing the market need for repairing applications by developing a new multi-process robotic cell that provides different advanced laser technologies (DED-LB, welding, and even heat treatments) on the same industrial machine. The aim is to develop and integrate DILAFACT to improve the quality of the deposition through continuous in-site monitoring, rely on a Digital Twin to anticipate and optimize the process, and enhance productivity by speeding up the certification process. As an expected outcome, Prima Additive would offer a dedicated optional package to its new customers, consisting of sensors and software integrated into the machine that can give indications to the user about the best strategies and parameters to be adopted.

4.2.4 - Business Case C: Laser surface modification and interference fit

The DCU team, comprising of internationally renowned scientists, will work on the DILAPRO project to implement hyperspectral sensing laser powder bed fusion additive manufacturing and laser surface processing. They will develop a fundamental FEA based model of the thermal field generated and use machine learning to improve quality control and closed loop control within both PBF-LB and laser surface modification.

The research plan is aligned with the DCU team's focus areas and builds on the work they have already completed. The team has expertise in metal additive manufacturing, laser processing, and materials

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characterization. The project will generate new knowledge in the form of high-impact IP and publications and provide support for EU-based companies and the wider economy and society.

Fine surface texture control is important for various applications, including anti-fouling surfaces, increased lubricity, reduced friction, anti-icing, and reduced cavitation formation. Past work at DCU has examined laser surface texturing to produce a well-controlled extent and direction of texture on metal surfaces. This method can be used for interference fit applications to achieve a more defined level of control over the bonding joint while eliminating potential failure problems of conventional interference fit joints. A World patent was filed and granted on this innovation as a new method for achieving better tolerance and load control via the use of laser textured and additively manufactured interference fit pins.

Further research and development work is required to produce the required mechanical bonding force between drill components, allow for repeated bonding and de-bonding, and ensure the longest component lifetime possible. The combination of CAD, ML, and advanced manufacturing can be exploited to produce tailor-made interference fit fasteners with pre-defined bond strength, tighter tolerance, and greater reliability.

4.2.5 - Business Case D: Training and Educating the EU Manufacturing Workforce

EWF is a non-profit association that represents the manufacturing community in Europe. Their goal is to eliminate technical barriers in areas such as additive manufacturing that rely on laser-based technologies. EWF is a liaison member to CEN and ISO and is involved in standardization at the European and International level. EWF has extensive experience in managing an international education system for qualifying and certifying welding personnel, and is expanding this to include a similar system for additive manufacturing. EWF is currently chairing a standardization group in AM that addresses the qualification of professionals in that area.

The lack of knowledge in laser-based technologies such as AM has encouraged EWF to broaden their embrace of manufacturing technologies. EWF's engagement with standardisation bodies ensures that their training programs respond to industry demands and requirements. The results from EU-funded projects, such as DILAPRO, will allow EWF to generate new guidelines for laser processing technologies, especially additive manufacturing. This will initiate the potential development of a qualification system for photonics and position EWF stronger within Standardization, Training, and Certification & Qualification to service the broad European manufacturing industry within laser-based technologies.

EWF expects to reach the following markets with the developed support system:

1) European countries where EWF system is already implemented;

2) non-European countries addressed by IAB Europe;

3) new countries in Europe not addressed by IAB Europe.

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At the end of the DILAPRO project, a recommendation document (D10.4) will be delivered to the relevant standardization bodies with potential activities to be implemented to give response to standardization gaps identified during the project (e.g. creation of new standards, revision of current standards, creation of new work groups, proposal of new work items to be discussed). After results from the DILAPRO project have been implemented, it is expected that EWF may create an EWF industrial working group to deal with the qualifications developed within the project to ensure they remain updated and responsive to industrial needs.

4.2.6 - Business Case E: Associated partners providing and gaining value from DILAPRO

The DILAPRO project is a joint effort between the EU and Swiss company AMiquam SA to develop non-destructive testing (NDT) solutions for industrial parts using Eddy Current (EC) technology. This technology is widely used in industrial NDT procedures. AMiquam retrofit kits can be integrated into existing and new laser systems such as PBF-LB, without requiring the intervention of the machine Original Equipment Manufacturer (OEM). The kits provide sensor coverage and software integration that enables data classification through thresholding and resulting segmentation. The DILAPRO project will also test AMiquam sensor kits for other laser-based systems such as DED-LB and laser texturing. The AMiquam product will generate recurring revenues primarily from the certificates issued at the end of the fabrication by their proprietary system, substituting the existing post process part certification business.

4.3 Management and Protection of Intellectual Property Rights (IPR)

The DILAPRO project aims to develop a range of hardware and software tools, including multi-sensor setups, correlation algorithms, machine learning algorithms, and web portals for data management. The project will follow an impact-driven dissemination, exploitation, and communication strategy to engage key audiences and stakeholders and maximize the project's potential outputs.

The DILAPRO consortium has identified three levels of intellectual property (IP) that will be created from the project: individual and joint IP, generic IP, and publicly available IP. The consortium will determine rules for the distribution of IP rights among partners in accordance with the Consortium Agreement. The detailed contribution of each member of the consortium can be found in Annex 1 of this document.

The project will use advanced machine learning algorithms to extract valuable information from big data. The knowledge generated from the project will be developed in collaboration and will be available to the project partners during the project. Figure 4 provides a detailed overview of DILAPRO IPR and a schematic of the software architecture. A clear agreement will be made regarding both commercialization after the project and publishing restrictions to protect the intellectual property.

The project will use Digital Twins, precise simulation calculations, and algorithms that will be available via Open Source and Educational licenses of the DILAFACT software. This will allow universities and other

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researchers to continue developing new simulation types, and the results of future research will be integrated into the commercial parts of the DILAFACT software. Data collected during and after the project will be anonymized and accessible in Open Access to make other Digital Twins more precise.

The commercial software DILACERT will be integrated into the existing software from AM Entrepreneur. Relevant knowledge will be shared with the wider community through dissemination activities that do not involve IPR-sensitive material. The description of DILAPRO partners background can be found in Annex 1.

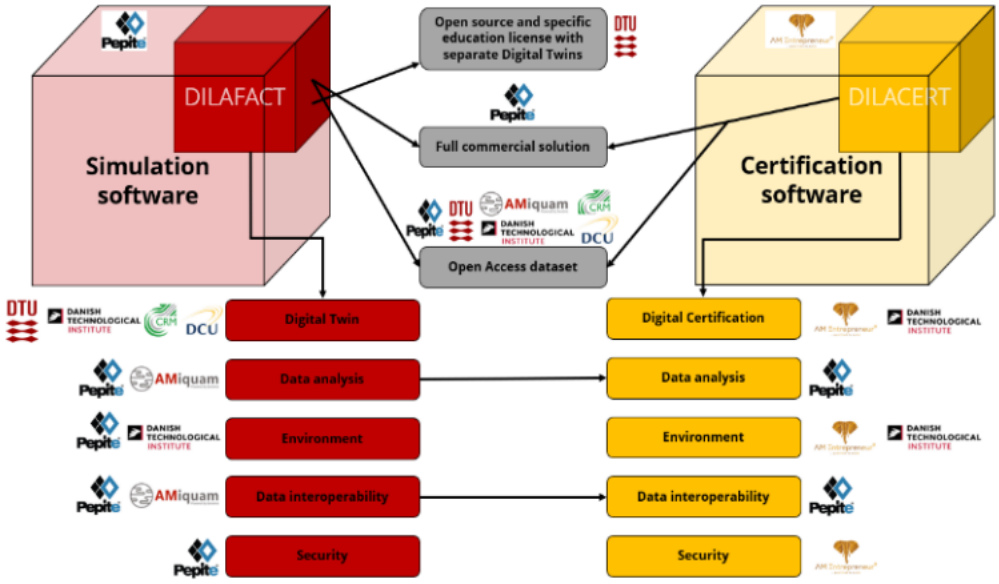


Figure 4 - DILAPRO IPR and Software Architecture Schematic

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5. Timeline

The tactical approach will align with the timeline of the project and will be executed in three sequential phases to progressively enhance target engagement. All tactics will operate in parallel to consistently attract and engage diverse target audiences (see Table 14).

Table 14 - A phased plan for DEC activities.

Stages	Main Objective	Main Action	How? Activities to be conducted
Phase I	Create DEC channels	Develop materials and dissemination channels that will be used in the different phases of the project	✓ Website ✓ LinkedIn, Facebook, Twitter ✓ Youtube channel ✓ Visual Identity ✓ Templates ✓ Flyers and roll-ups ✓ Press release ✓ Newsletter #1, #2, #3, #4 ✓ Organise interactive workshops with the network under development (at least one per year and linked with the project's most relevant milestones). Interactive workshops to foster synergies with EU R&I projects focusing on similar topics to facilitate knowledge exchange - KE Interactive Workshop 1 ✓ Exhibit the DILAPRO technologies in trade shows
Phase II	Boosting the Dissemination and communication	Boost and strengthen the network as dynamically as possible through the active participation of the DILAPRO project partners.	✓ Pitching the project at various events. ✓ Newsletter #5, #6, #7, #8 ✓ Organise open day events at partners' facilities to showcase the demonstrator hybrid manufacturing production line ✓ Conference on the theme of Laser or additive magazine Video diary of members and explainer video describing benefits of innovative technology ✓ Organise interactive workshops with the network under development (at least one per year and linked with the project's most relevant milestones). ✓ Participation in events to disseminate results (fairs, joint synergies with similar European projects, etc) ✓ Interactive workshops to foster synergies with EU R&I projects focusing on similar topics to

Stages	Main Objective	Main Action	How? Activities to be conducted
			facilitate knowledge exchange - KE Interactive Workshop 2 ✓ Exhibit the DILAPRO technologies in trade shows
Phase III	Consolidate Dissemination and communication and Exploitation	Consolidate the participation of network members to ensure the sustainable dissemination of results (in particular DILAFACT and DILACERT) after the completion of the project.	✓ Publication of scientific findings in Scientific journals, position articles and academic papers ✓ Digital material including infographics summarizing the main benefits of innovative technology ✓ Presentation of non-confidential results of use-case demonstration on project website, highlighting the direct business benefits that were accrued by end-users ✓ Newsletter #9, #10, #11, #12 ✓ Organise open day events at partners' facilities to showcase the demonstrator hybrid manufacturing production line ✓ Participation in events to disseminate results (fairs, joint synergies with similar European projects, etc). ✓ Assessment by the network of the possibility of exploiting the results for future collaborations. ✓ Interactive workshops to foster synergies with EU R&I projects focusing on similar topics to facilitate knowledge exchange - KE Interactive Workshop 3 ✓ Exhibit the DILAPRO technologies in trade shows ✓ Final press release ✓ Final DILAPRO event including closed stakeholder meetings and public presentations and tech demos. It will also include group discussions around different aspects of the project compared to the users interests

Summary

SPECIFIC NEEDS	EXPECTED RESULTS	DEC MEASURES
Higher efficiencies are needed in energy and material consumptions in laser-based production of complex parts. System-agnostic technical solutions are required to effectively plan and implement laser-based production of complex parts. New approaches to the current slow processes of certification and standardisation are needed. The European workforce must be upskilled to long-term competitiveness and sustainability in European manufacturing.	**DILAFACT (Digital Laser Factory):** a highly sustainable, scalable software platform enabling users to plan laser processes via Digital Twinning of laser-material interactions and on the basis of available technology, material properties, economic conditions, and environmental analysis. **DILACERT (Digital Laser Certification):** novel software that qualifies laser produced parts based on existing/future standards. **New certified end products** for partners in the energy sector (produced via demonstrator lines), and new improved machines that will enable better qualification and reduced cost of laser production. **Detailed business cases and exploitation routes** planned for all outputs to ensure DILAPRO's long term impact.	**Dissemination to the Scientific Community and Industry:** building of a dedicated DILAPRO laser community; participation in scientific conferences/industry fairs; organisation of 3 DILAPRO workshops; OA publications in scientific journals; Open Data sharing. **Exploitation of End Products:** the end products developed on DILAPRO demonstrator lines will be exploited via dedicated business cases, and IPR measures developed. **Exploitation of DILAFACT and DILACERT:** market analyses and business cases; development of commercial and OS licenses to maximise uptake; contributions to European/global standards via partner involvement in ISO, DIN and ASTM committees. **Communication to Wider Audiences:** articles in general media; SoMe posts; project newsletter.
TARGET GROUPS	OUTCOMES	IMPACTS
EU manufacturing industry: DILAPRO increases competitiveness, drives digitisation, and reduces the environmental impacts of their products. **Laser machine manufacturers**: production setup and trust in	Industrial Partners and early adopters increase their use of laser production and efficiency thereof (60-90% less scrap, up to 5% less energy consumption, up to 20% cost reduction for existing parts, up to 50% faster certification times & up to 25%	**Economic**: Increased laser manufacturing of laser product for helping EU reaching the sustainable goals they target. 25% increase in production with laser technologies compared to 2020. **Economic/Technological:** New markets for DILAFACT and

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their technology will be backed up by software to ensure part quality. **Scientific community**: the fields of digital twins, materials and lasers will benefit from open-source results and open data. **Industry workers**: will be upskilled with courses in laser technologies, moving them towards more qualified jobs and securing employment generally.	reduction in logistics time for thermal treatments). DILAFACT and DILACERT are commercial successes. Within 2 years of project end, they will be sold to 5 laser machines manufacturers and 25 companies producing parts with lasers. New laser technologies and materials (3-5 expected) will be added to DILAFACT and DILACERT based on open-source development and collaboration with nonprojected actors. Fostering of open innovation practices within laser-based processing and process simulation software industries. DILACERT's methodology for digital certification implemented as standard in industry.	DILACERT, leading to expected growth of gross income for partners FieldMade (~ 8M €), and AMIQ (~10M €). Qualification lead time for AM parts expected to be reduced by 80%. DILAPRO will contribute to increased operability and reduced downtime in oil field drilling operations. **Environmental**: Lower climate impact by reducing waste and energy consumption during manufacturing, and from the use of DILAPRO-produced parts in operation. **Societal**: Move manufacturing workers to more skilled employment in laser, sensors, and digital productions. **Scientific**: New breakthroughs in materials development by reductions in testing time, via digital bases in DILAFACT.

Conclusion

In order to effectively promote the DILAPRO project, it is important to establish a strong and consistent brand with a clear mission. This can be achieved by providing useful tools and creating engaging content and requires the full commitment of all partners involved. EWF will take a proactive approach to encourage all partners to contribute and share information about the project at all levels, with the aim of increasing awareness and creating the best possible content.

This Deliverable presents the initial plan for the Dissemination, Exploitation and Communication of the project's outcomes. It is important to note that the plan will be updated in accordance with the latest outcomes and intentions regarding the dissemination and exploitation of the results as the project progresses.

Several considerations that are yet to be agreed upon will be included in future iterations of this report. These include licensing agreements, details on exploitation routes, portfolio results updates, executing common dissemination activities with clustered projects, potential market analysis for exploiting identified KRs, identification of private and public financial instruments for new businesses, and feasibility study of the defined business plan.

It is pertinent to highlight that the report's outcomes will be updated according to the latest developments and intentions as they occur. The aforementioned considerations will be addressed in subsequent iterations of this deliverable as they mature into agreed-upon actions.

There are several considerations that will need to be included in future iterations of this report, but that at the moment are not yet mature to be agreed on, such as:

– Licence Agreements

– Exploitation Routes Details

– Update results portfolio

– Execute common dissemination activities with clustered projects

– Potential market analysis for exploitation of identified KERs.

– Identification of private and public financial instruments for new business.

– Feasibility study of defined business plan.

This document will be updated regularly during the project and the Dissemination and Communication Report will be provided on month 18 (Deliverable 5.3).

A second version of the dissemination and communication plan will also be submitted on Month 19 (Deliverable 10.1 - Plan for Dissemination, Communication and Exploitation) and Dissemination, Communication Report (Deliverable 10.3) will issued in month 36.

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References

[1] dissemination and exploitation [Online] // https://ec.europa.eu/research/participants/data/ref/h2020/other/events/2017-03-01/8_result-dissemination-exploitation.pdf . - 30 05 2024.

[2] Glossary [Online] // https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/glossary . - 30 05 2024.

Annex 1

Table 15 - DILAPRO partners described background

Partner	Describe Background	Specific restrictions and/or conditions for implementation	Specific restrictions and/or conditions for Exploitation
DCU	Dublin City University will provide access to the expertise and intellectual property of Prof Dermot Brabazon as required for the Project	Access Right to Background is only granted to the extent that it is needed for implementation of the action	Access Right to Background is only granted to the extent that said Background is needed for exploitation and is not subject to terms and conditions in other agreements that may prohibit the desired Access Right
EWF	Knowledge and know-how in the elaboration of education and training guidelines in welding, joining, and additive manufacturing technologies. Knowledge in the creation of new professional profiles and new competence units, both for Vocational Education and Training and Higher Education. EWF Guidelines, Operating Procedures and Rules.	Access to the referred elements under fair and reasonable conditions	Access to the referred elements under fair and reasonable conditions
Fieldmade AS	Knowledge and experience in additive manufacturing of metallic and polymer components, design, simulations and how to quality assure them for use in critical applications Knowledge and experience in deployable AM, on how to design and configure and optimize machines for deployed AM. This includes LPBF-M, LPBF-P, DED-LB, DED-WAAM, Extrusions based systems and resin technologies Knowledge and experience on engineering and design methodology for deployed manufacturing and engineering of spare parts on demand	Access limited to the purpose of the Project	Access and usage under fair and reasonable conditions. For use within the DILAPRO Project only, not to be passed outside and subject to strict fulfilment of confidentiality obligations and of the Grant Agreement and this Consortium Agreement. For use outside of the DILAPRO Project framework, an additional written Agreement will be mandatory.

	Knowledge and experience on optimizing part design for deployed AM, focusing on design for printability, ease of post processing and support removal and first time right simulations Knowledge and experience on capturing and processing digital twin data related to deploying mobile manufacturing equipment Algorithms for determining fair value sharing between entities in the AM ecosystem Algorithms for determining economic viability for shifting from conventional to additive manufacturing Data flows, storage, and infrastructure for realizing different usage scenarios for deployed production in military operations (part digitization, digital inventory management, reach-back, production information sharing and quality management)
PEPITE SA	The DATAmaestro platform offers a set of web services for implementing a complete workflow for advanced data analysis in manufacturing industries and industrialized processes. It integrates 4 software components with different characteristics, as follows: 1. DATAmaestro Collectors: To automate data collection from a variety of data sources, including time series databases, relational databases and real-time data. 2. DATAmaestro Lake: Store, consolidate, centralise data flows, resample and prepare cleansed data tables for advanced analysis. 3. DATAmaestro Analytics: Provides advanced analytics services, including visualization and statistical tools, artificial intelligence and machine learning methods to describe and troubleshoot assets or processes and build predictive and prescriptive models.

	4. DATAmaestro Dashboard: To deploy and visualise the results of advanced analysis models in real time via a web-based user interface. The DATAmaestro platform web services are available in the Cloud or on-premise and have been specifically designed for process engineers to accelerate the advanced analysis of industrial process data. Users collaborate across the platform, analysing and sharing process data, wherever they are, on their own devices		
AM Entrepreneur	The Audit scheme for the AM process certification results from Gregor Reischle experience since 2008: • Certification schemes for AM manufacturing sites and processes • QMS Training knowledge • QMS templates and procedures • Report formats and certificate templates Qualified AM software to manage QMS System implementation, audit schemes management incl. know-how, AI supported content creation and fulfilment of certification requirements	Access Right to Background is only granted to the extent that it is needed for implementation of the action.	Access to the referred elements under fair and reasonable conditions
AMiquam SA	signal pattern recognition techniques based on electromagnetic sensors for the layer/pass/ROI detection data segmentation to select particular parts, coupon positions or other region of interest (ROI) signal alignment methods (e.g. to enhance the visualization of the data) visualization methods for eddy current signals including temporal graphs, impedance plane, and 2D/3D views statistical data reduction of eddy current signals in view of their integration into a machine log		

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	integration of calibration components for the verification of an eddy current NDT instrument in the machine methods to process the eddy current signal and compensate offset variations methods to compensate for temperature variations or the probe or analog electronic drifts feature signal decomposition (FSD) techniques which can be used, for instance, to perform assisted/automated defect recognition (ADR) utilization of the AMiquam data for AM parameter optimization or AM machine parameter modifications using the above methods Classifier enabling the separation of acceptable and non-acceptable processes using the multidimensional analysis of the multifrequency eddy current in phase – out of phase signals Transformation of the eddy current electrical signals into lift off and frequency equivalent coordinates.	

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