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## Executive Summary

Mari4\_YARD is a European funded project that makes use of user-centric solutions for a flexible and modular manufacturing in small and medium-sized shipyards (SME), that need to remain competitive to avoid the drawback in their own market segments. The project started in December 2020 and will last until the end of 2024. The communication of the progress of the project, and the dissemination of its results and findings are key activities of Mari4\_YARD. WP8 is entirely dedicated to dissemination, communication and networking (besides exploitation that is not addressed in this document). It spans the whole duration of the project (48 months) and consists of a variety of actions strategically distributed along the four years of the project. This document represents the updated Plan for Dissemination and Communication (M36) which outlines the strategy for the remaining project dissemination and communication activities.

## Table of Contents

1	Introduction.....	5
1.1	Scope of the document .....	5
1.2	Structure of the document.....	5
2	THE MARI4_YARD PLAN FOR DISSEMINATION, COMMUNICATION AND COMMUNITY BUILDING: OVERVIEW .....	5
3	Dissemination, Communication & Community Building .....	7
3.1	<i>What?</i> The Communication and Dissemination goals and Milestones.....	7
3.2	<i>Who?</i> The Target Audience .....	8
3.3	<i>How?</i> The Communication Approach.....	13
3.3.1	The Mari4_YARD Visual Identity.....	13
3.3.2	Channels & Means.....	14
3.3.3	Products.....	19
3.3.4	Strategic Lines & Targeted Approach .....	21
3.4	Dissemination Actions: Plan .....	23
3.5	Monitoring the Impact .....	24
4	Main deviations from the initial Dissemination & Communication Plan .....	26

## LIST of ACRONYMS

Table 1. Acronyms.

ACRONYM	DEFINITION
CORDIS	Community Research and Development Information Service
CSA	Coordination and Support Action
DIH	Digital Innovation Hub
DoA	Description of Action
DoW	Description of Work
EC	European Commission
EU	European Union
R&I	Research & Innovation
RTO	Research Technology Organisation
SME	Small and Medium-sized shipyards
TRIMIS	Transport Research and Innovation Monitoring and Information System
WP	Work Package

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## 1 INTRODUCTION

### 1.1 Scope of the document

This document contains the update of the Mari4\_YARD Plan for Dissemination and Communication (D8.9). This is the third release (M36) which will be further refined, adjusted and completed, on the basis of the project evolution, the feedback received by the target audience and the changes in the project communication and dissemination needs. The final version of the Dissemination and Communication Plan will be delivered by the end of the project (D8.10).

### 1.2 Structure of the document

This document is structured as follows:

- » Section 1 is the introduction
- » Section 2 provides an overview on the overall Plan for Dissemination, Communication and Community Building;
- » Section 3 focuses on the dissemination, communication and community building strategy, defining goals, target audience and communication approach. It also provides a preliminary dissemination programme and a set of measures to monitor the impact of dissemination actions.
- » Section 4 summarises the main deviations from the initial Dissemination and Communication Plan.

## 2 THE MARI4\_YARD PLAN FOR DISSEMINATION, COMMUNICATION AND COMMUNITY BUILDING: OVERVIEW

Mari4\_YARD is a European funded project that makes use of user-centric solutions for a flexible and modular manufacturing in small and medium-sized shipyards (SME), that need to remain competitive to avoid the drawback in their own market segments. The project started in December 2020 and will last until the end of 2024.

European shipbuilding leading edge relies on the complexity, quality, high level of customization, delivery time and lifecycle services of the vessels manufactured. But the process of technology globalisation has advanced the technological capability of competitors that, sometimes, also benefit from lower labour costs.

In order to avoid a worsening of the already started competitive drawback, the SME-shipyards need to enhance their performance and competitive capability (cost, lead-time, quality), taking advantage of the latest developments within digital production: advanced robotics and co-bots, machine vision, internet of things, flexible production systems, 3D printing, supply chain integration across multiple sites, skills development and deployment strategies.

Therefore, novel holistic approaches capable of improving production performance of EU shipyards to remain competitive are needed. In this regard, the Mari4\_YARD project provides an EU-wide solution for addressing competitiveness of EU shipbuilding in a holistic perspective. Mari4\_YARD gives European shipbuilding companies the opportunity to keep the awareness of new technologies and practically test them. Smart, flexible, eco-friendly and robust solutions for new developments will be adapted to the requirements of SME shipyards and

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in order to implement a novel connected shipyard. Furthermore, an improved working environment with innovative technology and a greener image will increase the attractiveness of the maritime sector for the young generation and will contribute to reducing the gender gap.

The communication of the progress of the project, and the dissemination of its results and findings are key activities of Mari4\_YARD. WP8 is entirely dedicated to dissemination, communication and networking (besides exploitation that is not addressed in this document). It spans the whole duration of the project (48 months) and consists of a variety of actions strategically distributed along the four years of the project. This document represents the updated Plan for Dissemination and Communication which outlines the strategy for the entire project dissemination and communication activities.

Mari4\_YARD communication, dissemination and community building strategy is built upon four corner-stones:

- » Dissemination goals: it identifies and defines the expected impact and the ways to achieve it (see Section 3.1).
- » Target audience: it identifies the key-stakeholders of Mari4\_YARD, as well as their needs and interests towards the project (see Section 3.2).
- » Communication Approach: it defines ad-hoc communication products and selects the appropriate channels and means for each category of stakeholders in order to put in place “customer-oriented” communication actions, maximise their impact, and ensure the achievement of the goals set out (see Sections 3.3 and 3.4).
- » Monitoring the impact: it identifies a set of indicators to monitor the progress of the various dissemination actions and measure their impact (see Section 3.5).

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### 3 DISSEMINATION, COMMUNICATION & COMMUNITY BUILDING

This section describes the communication, dissemination and community building strategy, defining goals, target audience and communication approach. It also provides a preliminary dissemination programme and a set of indicators to monitor the progress of dissemination actions and measure their impact.

#### 3.1 *What?* The Communication and Dissemination goals and Milestones

A clear identification and definition of the dissemination goals is the first key element for the production of an effective and successful communication strategy.

The overall communication and dissemination of Mari4\_YARD concerns a) the development of intuitive human-robot collaborative solutions, handheld and portable AR/MR tools for assisting shipyard workers and AI-assisted exoskeletons for reducing fatigue and physical stress, b) the implementation of a portfolio of worker-centric tools assisting in the execution of the labour intensive tasks by preserving industry-specific workers' knowledge and skills and c) the demonstration of the Mari4\_YARD approach at real-scale targeting both shipbuilding and retrofitting in SME-shipyards.

Mari4\_YARD aims to implement an effective **communication and dissemination strategy** through a clear identification of its primary stakeholders, targeted dissemination actions, the set-up and efficient use of its communication channels, and the adoption of a structured dissemination programme. Moreover, Mari4\_YARD aims to develop a **community building strategy** supported by the involvement of supportive partners in all the project events and activities.

Overall, Mari4\_YARD aims to achieve four high-level communication and dissemination objectives:

1. **Inform**, by promoting the project and its events and sharing relevant information on what's going on in the shipbuilding research community;
2. **Raise awareness**, by informing relevant stakeholders about the project activities, its progresses, findings and results;
3. **Engage**, by promoting the use of the project results within the community, as well as involve them in order to receive feedback. Indeed, Mari4\_YARD will build a network of stakeholders among key EU industrial associations and clusters, with special attention to DIHs in the area of large structure efficient manufacturing. Among these stakeholders, potential supportive partners will be selected and engaged. To this end a specific space will be created in the Mari4\_YARD online community.
4. **Ensure impact**, in terms of guiding research policy and activities and thus ensuring the long-term impact of the MARI4\_YARD research. This is the most ambitious dissemination goal, aiming at ensuring the take-up by key decision-makers (e.g. EC, Certification and standardisation bodies, etc.) of the MARI4\_YARD findings and results.

The four goals stated above represent progressive steps and refer to a wide target audience. Each category of audience is linked to one or more goals and will be approached and engaged with targeted actions and appropriate sets of communication means.

Going more into detail, Mari4\_YARD aims to:

- involve young minds into the development of advanced, flexible and smart manufacturing technologies and, specifically, related to digital and worker-centric solutions & tools, and their importance and impact onto the economy and society;
- help promoting gender equality and integrating the gender dimension in research and innovation activities as well as promoting new gender-neutral career opportunities derived from project results;
- attract qualified workforce and women to the sector;
- achieve societal endorsement linked to research on digitisation due to their potential for contributing to overcome main societal challenges;
- involve key industry sectors and players, potentially open to the adoption of Mari4\_YARD solutions and achieve their support to the project and to future initiatives linked with developing and improving worker-centric approaches. These interested stakeholders will be part of the Mari4\_Alliance;
- contribute to the mobilisation of the European Research Area (ERA) for the adoption of Mari4\_YARD-generated knowledge and the development of new applications, enabling the full potential of the Mari4\_YARD approach;
- raise awareness among EC/public authorities/policy makers fostering cooperation in the Mari4\_YARD long-term sustainability (funding opportunities), spreading the benefits of digital and smart manufacturing in shipbuilding and contributing to easing the regulatory process.

### 3.2 *Who?* The Target Audience

The second key element for an effective and successful strategy is a structured and clear identification of the target audience, their characteristics, needs and main interests in the Mari4\_YARD activities. This is fundamental to be able to tailor the communication and ensure the achievement of the dissemination goals.

In the very initial phase of the project, dissemination is focused on presenting the project to raise awareness among stakeholders (all target audiences). Following the generation of research outputs, it will be more focused to the scientific community, standardisation organisations and key industry representatives. As the project progresses, dissemination will focus on presenting results related to Mari4\_YARD solutions (the whole solution and each of the subsystems and tools) through specific outreach activities to all audiences. By the end of the project, the focus will also be oriented towards industrial demonstration and the technology replication potential.

The Mari4\_YARD stakeholder base is particularly vast, and it will increase during the project implementation. Indeed, one of the main goals of the project will be to build a community of interested stakeholders, that is the Mari4\_Alliance. The main target audiences of Mari4\_YARD Dissemination and Communication are:

- 1) **Institutional bodies and policy makers:**
  - a) EU and EC: DG-INEA, DG-MOVE, JRC, DG-HOME, DG-Connect
  - b) Certification and standardisation organisations: ISO, CEN, IEC, OPC, etc...
  - c) National and regional bodies: National Ministries of Transport, Industry and Economic Development, National Agencies, Regional Governments
- 2) **Specialised audience:**
  - a) Scientific Community



- i) R&I institutes
- ii) Universities
- iii) Private research companies
- iv) Industry field labs
- b) ERA, the European Research Area and EEN, Europe Enterprise Network
- c) European Industry
  - i) Technology providers
  - ii) SME-shipyards (newbuilding and repair yards)
  - iii) Manufacturing services providers
  - iv) Industrial associations and EU initiatives/platforms: WATERBORNE, SEA Europe, EFFRA, I4MS, euRobotics, national shipbuilding associations throughout Europe, etc.
- d) Other EU-funded initiatives
- e) Industries and institutions outside Europe
- 3) **Supportive partners:** Mari4\_YARD is building a network of stakeholders (to be potentially selected as supportive partners) among key EU industrial associations and clusters, with special attention to DIHs, in the area of large structures and efficient manufacturing. This activity will be dealt within a dedicated task, T8.3.
- 4) **General stakeholders:**
  - a) Young minds
  - b) Women
  - c) Qualified workforce
  - d) General public

Each primary stakeholder has different characteristics, specific needs and interest in the project. Therefore, Mari4\_YARD attempts to approach each of them with the most suitable communication means and contents in order to maximise the impact of its dissemination actions.

The following table shows Mari4\_YARD main targets and the related key messages and main communication actions.

**Table 2. Mari4\_YARD target audience.**

AUDIENCE	KEY MESSAGE	ACTIVITIES
<b>Young Minds</b>	Impact on youth daily life	Visits, media & didactic materials
<b>General Public</b>	Impact on jobs, energy, environment & life quality	Press releases, articles, radio & TV, web, social media
<b>Women</b>	Career opportunities in smart manufacturing	Participation in the EU Platform of Women in Science, in STEM, etc.
<b>Stakeholders</b>	Project impact in manufacturing industry	Industry events
<b>ERA</b>	Mari4_YARD methodology	Project info in CORDIS & Open Access

<b>EC, Authorities &amp; Policy Makers</b>	Impacts on industry & citizens & existing barriers	Presentation, briefings & fact sheets, and participation in relevant events
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Moreover, the following table shows a preliminary list of dissemination actions that were and will be carried out together with the related target audience and key message.

**Table 3. Dissemination and Communication activities**

ACTIVITIES	TYPE	AUDIENCE	KEY MESSAGE	STATUS
Project website	Online presence	Institutional bodies and policy makers Specialised audience Supportive partners General stakeholders	Objectives, activities, partners, videos	Online and continuously updated
Project press releases & media appearance		Institutional bodies and policy makers Specialised audience Supportive partners General stakeholders	Objectives, activities	1 Press release done, others to be issued
Project in partners' web and/or social media		Industry	Objectives, news, etc.	Continuous interactions
Project Social Media		Institutional bodies and policy makers Specialised audience Supportive partners General stakeholders	Activities, news, partners, etc.	Social Media up and running Activities ongoing
Project brochure/leaflet/newsletters	Project documentation	Institutional bodies and policy makers Specialised audience Supportive partners General stakeholders	Project objectives, activities, partners, public docs.	Project brochure available on the website for download, 3 newsletters released, 3 planned
Online/offline/in-house training & materials on Mari4_YARD technologies and topics: <i>IoT, Machine Learning, advanced manufacturing applications, robot programming, AR/MR, mobile robots, maritime technology, etc.</i>	Event	Industry High-level education	Technology, knowledge and fundamentals, skills.	Started at M24, Videos of the Mari4_YARD technologies published on YouTube and a catalogue of the technologies

				published on the website
Mari4_YARD workshops & Final event		Industry General stakeholders Standardisation organisations	Results & key features	1st Workshop carried out at M15 2 <sup>nd</sup> Workshop carried out at M23 3 <sup>rd</sup> Workshop carried out at M36
Scientific & technical articles: <i>Robotics &amp; Automation Magazine, Schiff &amp; Hafen Magazine, Manufacturing Technology CIRP, Journal of Manufact. Science and Tech., JIDeM, etc.</i>	Project publication	Industry High-level education Scientific community	Results, knowledge and fundamentals	7 scientific papers published
Presentations/lectures/posters in conferences: <i>TRA 2022, TRA 2024, MESIC, EMS Summit, Industry 4.0 Summit, euRobotics Forum, FAIM, ECM, IROS, ICRA, BIOROB</i>	Project documentation	Scientific community High-level education Industry	Project contents, developments and results.	7 scientific conferences attended
Participation in industrial events and fairs: <i>Hannover Messe, Advanced Factories, AUTOMATICA, SPS, BIEMH, GlobalRobotExpo, Robomatica, SMM Hamburg, Europort, Seawork, Navalía, Euromaritime, Schiff&amp;Hafen Conference</i>	Event	Industry General stakeholders	Mari4_YARD (results, services, network). Booths	3 events attended (Waterborne Days 2023, SMM 2022, planned SMM 2024)
Organisation of parallel project events: <i>Hannover Messe, AUTOMATICA, SMM, etc.</i>		Scientific community Industry	Contents, benefits & opportunities	SMM 2022, planned SMM 2024
Networking/Clustering w/EU projects from FoF, ICT, MG and EU digit., manufact. & shipbuilding initiatives: <i>AI4EU, I4MS, SAE, VANGUARD, etc.</i>		Scientific community Industry General stakeholders Standardization organisations	Contents, results and opportunities	1 Joint Dissemination Event with FIBRE4YARDS and RESURGAM

				<p>Sinergy with MATES</p> <p>Other 29 projects contacted</p>
Open Access Repository	Project publication	<p>Scientific community</p> <p>High-level education</p>	Public datasets, results & information	Project website
<p>Liaison and collaboration with standardization organisations: ISO/CEN/IEC/OPC Foundation</p>	Project document	Standardization organisations	Info sharing and workshop	<p>EWF is a liaison member to CEN and ISO with involvement in standardization activities at the European and International level (e.g. CEN/TC 438 - Additive Manufacturing, etc)</p>
<p>Presentations at EU Initiatives/platforms events: WATERBORNE(<a href="https://www.waterborne.eu/projects/ship-design-and-production/mari4-yard">https://www.waterborne.eu/projects/ship-design-and-production/mari4-yard</a>), EFFRA(<a href="https://www.effra.eu/promote-your-projects-results-and-demonstrators-effra-innovation-portal">https://www.effra.eu/promote-your-projects-results-and-demonstrators-effra-innovation-portal</a>), euRobotics, I4MS (<a href="https://spaces.fundingbox.com/c/i4ms">https://spaces.fundingbox.com/c/i4ms</a>), etc.</p>	Event	<p>Industry</p> <p>General stakeholders</p>	Project contents and results.	<p>Booth at Waterborne Days 2023</p> <p>Presentation of the project at the EWF GA 2023</p>
Add the results on Horizon Results Platform	Project publication	Decision makers, industry, investors	Results/opportunities	<p>We contacted the STAND4EU project to include information about the</p>

				project in their platform
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### 3.3 How? The Communication Approach

The identification of the most suitable approach is a key step for a successful and effective communication, dissemination and community building strategy. To ensure the intended impact on the different categories of stakeholders, it is fundamental to create strong links between the dissemination goals and the target audience, and thus to select the type of information and contents to communicate together with the appropriate channels, means, products and formats.

#### 3.3.1 The Mari4\_YARD Visual Identity

The visual identity is the first key aspect for a clear, attractive, coherent and effective communication structure. The Mari4\_YARD visual identity was initially developed during the proposal drafting; once funded it was renewed in order to reinforce the concepts of construction, shipyard, connection, technology, Internet of things. Based on this concept, a new identity proposal was developed, with two colour palettes. The two proposals (the one developed during the proposal drafting and the new one with the two different colours) are shown in Figure 1- Figure 2. Version 2 of Proposal 2 (see Figure 2) was by far the most voted within the Mari4\_YARD Consortium.



**Figure 1. Proposal 1 – visual identity developed during the proposal drafting**





**Figure 2. Proposal 2 – new visual identity (two colour palettes)**

From a visual design perspective, the chosen proposal offers the possibility of developing a dynamic visual identity system with a number of recognizable variations of the logo, suitable for a variety of uses.

### 3.3.2 Channels & Means

Based on the identification of the relevant stakeholders and their needs, various dissemination channels and means have been selected for the project dissemination. During the project, different mixes of means and channels are used for different types of communication and for building the community of interested stakeholders and supportive partners. Each dissemination means is expected to have a different impact on the target audience which is used appropriately to achieve the dissemination goals.

#### 3.3.2.1 Mari4\_YARD Website

The Mari4\_YARD website (still under construction) will be the main means of communication of the project, highlighting its objectives, vision, missions, activities and results. This is the channel where the Mari4\_YARD events will be advertised, the main news will be published, and the projects' public deliverables and reports will be uploaded.

The Mari4\_YARD website will use WordPress as a Content Management System (CMS). This technical platform eases the management of contents and sections of the website. Furthermore, special attention is given to the usability of the website, aiming to ensure user-friendliness and efficiency.

The website is intended for all categories of stakeholders. It will be updated on a regular basis with information on the progress of the project, its findings, results and events, and any other relevant news. The website will be connected to the project social networks (Twitter and LinkedIn mainly).

The website usage and accesses will be monitored with Google Analytics which allows to record various information, such as visitors, traffic sources, most viewed contents, etc. This is a helpful means to identify opportunities for improvement, increase the communication efficiency and evaluate the website impact and effectiveness.

#### 3.3.2.2 Social Media

Mari4\_YARD uses social media in order to create a community of interested stakeholders and supportive partners and ensure a broader dissemination of its findings and results, as well as exploitation of the developed solutions. In fact, social media applications allow to easily reach a wide range of people and ease the creation of a proper community, grouping persons interested in receiving and exchanging information on the topics addressed by the project.

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Mari4\_YARD has selected mainly three social channels: Twitter, LinkedIn and Youtube. The reason for this choice is that they allow people to get directly in touch with people, groups and other projects, without waiting for them to connect to the project (as it would be in Facebook).

LinkedIn is mostly intended for specialised audiences and institutional bodies. Instead, Twitter aims to speak to a specialised audience and general public. Youtube is used to upload the video materials developed during the project.

Twitter and LinkedIn are used to disseminate articles and news published on the Mari4\_YARD website, to promote events, disseminate project findings and results, and to ensure constant connection with the related projects.

### 3.3.2.3 Other web channels

Mari4\_YARD aims to maximise the resonance of its findings and results. To do so, the Mari4\_YARD project uses any relevant existing channel. A selection of European portals was made and three channels were selected. These are used from time to time for specific news and/or topics.

- » [CORDIS](#) (Community Research and Development Information Service): it is the European Commission's primary public repository and portal aimed at disseminating information on EU-funded research projects and their results. The website includes editorial content to support communication and exploitation (news, events, success stories, magazines, multilingual "results in brief" for the broader public). The area of potential for the Mari4\_YARD dissemination activities are:
  - The CORDIS News and Events: it allows to browse and find the latest news from EU-funded research projects and forthcoming events;
  - CORDIS Wire: it allows the research community to publish their own news and events (access to Wire requires a CORDIS account). Mari4\_YARD aims to make use of this channel to promote its events.
- » [TRIMIS](#) (Transport Research and Innovation Monitoring and Information System): it supports the implementation and monitoring of the Strategic Transport Research and Innovation Agenda (STRIA) outlining future transport R&I priorities to decarbonise the European transport sector. TRIMIS has both Twitter and LinkedIn profiles. Mari4\_YARD will connect to these social channels in order to exploit their networks.
- » The [Research and Innovation area in the European Commission website](#): it contains information about upcoming events. Mari4\_YARD plans to make use of it in order to advertise and promote its events.

The use of these channels is coordinated with the European Commission, asking for support – if needed – to reach and interact with the channel “owners”.

- » The project results are to be published on the portal: [Horizon Results Platform](#) in order to grab the attention of relevant stakeholders, such as policy-makers, investors, researchers, and the general public.

### 3.3.2.4 Videos, demos and interactive webinars

Several hands-on activities will be carried out during the Mari4\_YARD project. The main targets will be:

1. **Students:** in the initial phases of the project, since visits to universities and high-level education institutions will probably not be allowed due to COVID-19 pandemic, RTOs, as well as DIHs will be used to create a contact with universities. This channel will be held open throughout the project in order to increase the reach. Specific material will be produced to disseminate the project results within the

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universities. At the same time, interactive virtual demo sessions will be carried out in order to attract students to the sector. They will be added to physical visits to increase the impact beyond the reach of physical visits to the “hot spot” locations where the Mari4\_YARD workshops will be held. Finally, gaming solutions will be investigated, if possible.

2. **Potential qualified workforce/Industrial partners and potential customers:** small interactive sessions in the form of webinars will be organised for these categories of interested stakeholders. In particular, demos will be made available to small groups (maximum 4-5 individuals/companies at a time). The idea is to have a registration phase and then have participants in the webinar divided into several small breakout rooms where they can interact with experts (ask questions, etc...) and view the online demo. Also in this case, the aim is to increase the audience. The webinars will be co-organized in parallel with physical workshops.

In order to guarantee the quality of the events, input will be asked before (in order to collect needs and requests and tailor the event to the demand of the customer, finetune the contents of the webinar and to direct the consortium effort) and after the event (in order to modify and improve the following events). Feedback will be requested in the form of online questionnaires and surveys.

### 3.3.2.5 **Mari4\_YARD matchmaking**

Mari4\_YARD will build a community of interested stakeholders, Mari4\_YARD Alliance, with the final aim to create a strong connection between technology providers (universities and research centres) and technology prosumers that are members of the regional clusters. The community will build on the supportive partners (around 11 maritime clusters and associations confirmed at this stage) that already gave their support to the project in the proposal preparation phase (Aclunaga, Associacao das Industrias Navais, Pole EMCs, Oceano, Rina, Swedish Maritime Technology Forum, Stena Rederi, Offshore Vast, GISBIR, Ulstein Naeringsforum, VSM). The above-mentioned connection will be established through a series of activities such as workshops, showrooms, didactic factories, as well as through Mari4\_YARD communication channels (social media and website). A matchmaking approach will be defined and implemented according to the needs of the regional clusters and how Mari4\_YARD portfolio answers to these. In addition, it must be stressed that Balance is developing an online matchmaking platform that could be used also for the Mari4\_YARD eventually, if it proves to be successful.

Mari4\_YARD matchmaking approach will be twofold:

- i) Support collaboration, linking information to project objectives and improving the flow of information as well as promoting the Mari4 Didactic Factories Network;
- ii) Gather all relevant stakeholders (Mari4 partners, clusters, technology providers, SME-shipyards, Academia, policy-makers, authorities, certification and standardisation bodies, etc.), update them about project evolution and act as a pivotal point for matchmaking and fostering cooperation (exchange of ideas, offer-demand publications, sharing success stories...), helping to collaborate with other networks and initiatives, leveraging synergies and boosting impact (while guaranteeing the best value for money).

### 3.3.2.6 **Mari4\_YARD Workshops**

The collaboration of relevant stakeholders is a critical success factor for Mari4\_YARD. In fact, the workshops, besides being a powerful dissemination channel, consist of significant moments where the top-down process is



accomplished. At least four workshops, focused on 4 relevant “themes”, will be organised within the project duration that will have the main goal to:

- a. disseminate the technologies studied within the project and the related developed solutions and/or
- b. demonstrate such technologies and solutions.

Where possible (for example when the event takes place in a location where a pilot is running) the workshop will cover both goals otherwise it will be more focused on one or the other.

The first workshop was organised remotely in M15 by AIMEN and DBL. The main goals were to present Mari4\_YARD ambitions and collect feedback from its relevant stakeholders in order to provide user-centred solutions.

The second workshop (M23) was organised in presence by EWF, INESC TEC and DBL and held in Porto at INESC TEC. The Mari4\_YARD experts presented the innovative technologies developed for a safer and more effective shipbuilding, showing the advantages of working with the support of exoskeletons, mobile manipulators for logistic operations, collaborative robots, and 3D-scanning drones as well as how to benefit from augmented reality.

The third workshop (M36) was organised by CMT and TUHH, in collaboration with DBL and AIMEN, and held in the TUHH premises in Hamburg, right after the release of the Catalogue of the Mari4\_YARD solutions. The workshop focused on four technological blocks: 3D modelling and digitalisation, robotics, augmented reality, and exoskeletons, with the aim to demonstrate the Mari4\_YARD approach to a public audience coming from shipyards, the shipbuilding industry in general, and research.

The last workshop will be organised in collaboration with supportive partners (European maritime clusters and industry associations) in Spain next autumn. DBL will coordinate and support the structuring of the events, as well as the event implementation itself. This dissemination channel is essential in helping to extend the promotion of Mari4\_YARD project and to perform a European-wide reach. Whenever possible, specific activities such as showrooming demo cases (for trial and assessment of the training material) and technology sharing at regional Clusters (for demonstration and boys & girls’ days) are carried out. The workshops are usually organised in a way that supports the bi-directional exchange of information between the project, the clusters and the entire reference community. Furthermore, they are supported with different technological tools (broadcasting tools, webinars, recording) to increase the impact of each event and multiply its effects in terms of communication and dissemination and to allow all the clusters to take part even if the workshop is not organised in their territory. In order to guarantee their success and effectiveness, workshops are organised around a central hot theme, with a structured agenda, involving high-level speakers to attract a wide audience.

Each workshop are accompanied by ad-hoc dissemination materials and involve a targeted mix of stakeholders, defined in advance according to the workshop topic and objective.

For the remaining workshop, Mari4\_YARD, as it was already done for the first workshop, will:

- » Produce a standard visual format to make them easily recognisable
- » Develop and adopt an engaging format for the promotion of the event, aimed to create curiosity, attract people’s attention and thus raise the number of registrations as much as possible. Ideally, after announcing the date, place, topic and objective of the workshop, the details on the contents of the workshop will be gradually realised. If applicable to the chosen format, the speakers and the focus of their speech will be announced one at a time on the social networks, with catchy posts and tags of the

speakers. This strategy is also intended to raise the visibility of the event and attract new targeted contacts

- » Develop and adopt an innovative format for the event, using live applications and platforms as well as introducing interactive demos, videos, etc..
- » In order to guarantee the quality of the events, feedback will be asked before (in order to collect needs and requests and tailor the event to the demand of the customer, finetune the contents of the workshops and to direct the consortium effort) and after the event (in order to modify and improve the following events). Feedback will be requested in the form of online questionnaires and surveys.

### **3.3.2.7 Mari4\_YARD Dissemination Events**

The project dissemination events are another powerful channel, where the Mari4\_YARD work, findings and results will be presented. Mari4\_YARD planned to organise two dissemination events, to be held in the second (2022) and the fourth (2024) year of the project.

To maximise the impact of dissemination events, Mari4\_YARD aims to raise their attractiveness and level of attendance by:

- » Selecting high-level speakers and planning speeches covering key-points and questions emerged during the Mari4\_YARD work;
- » Planning brief interactive sessions, where questions on hot-topics will be launched to the public and attendees will express their opinion and discuss;
- » Involving a good mix of stakeholders, in order to gather many different points of view in the same room, and thus ensure rich and interesting discussions;
- » Exploring opportunities for joint-dissemination events with other EU-funded projects, or other large events;
- » Developing ad-hoc catchy dissemination materials, for both the promotion phase and the event itself.

The first dissemination event was postponed in May 2023 due to the pandemic situation and jointly organised with two sister projects: Fibre4yards and RESURGAM. It was held in Rotterdam and hosted by the Mari4\_YARD partner NMTF. A webpage of the Joint dissemination event with keynote speakers and full agenda is available at the following link: <https://subscribepage.io/Z4MrR7>.

The second dissemination event will most probably be organised during the SMM 2024 in Hamburg in order to benefit from the SMM audience that is highly relevant for Mari4\_YARD and from the presence of two Mari4\_YARD partners (CMT and TUHH) in the city and two Mari4\_YARD partners (NMTF and Balance) close by.

### **3.3.2.8 Scientific dissemination**

The participation at targeted external events is another relevant channel for both disseminating the Mari4\_YARD Project, its activities and results, and promoting its internal events.

A preliminary list of external events (conferences and Industrial events and fairs) that will be considered for the Mari4\_YARD dissemination includes:

1. Conferences:

- » The European Transport Research Arena (TRA), MARTEC, MESIC, EMS Summit, Industry 4.0 Summit, euRobotics Forum, FAIM, ECMMM, IROS, ICRA, BIOROB, HFES (Human Factors and Ergonomics Society) Europe Chapter, events organised by the MARI4\_YARD Related Projects

Mari4\_YARD took part in the conference Industry Tech 4.0 in February 2022. AIMEN presented the project ambition and the four core technologies of the Mari4\_YARD project. Moreover, Mari4\_YARD took part in the Waterborne Days 2023.

2. Industrial events and fairs:

- » Hannover Messe, Advanced Factories, AUTOMATICA, SPS, BIEMH, GlobalRobotExpo, Robomatica, SMM Hamburg, Europort, Seawork, Navalia, Euromaritime, Schiff&Hafen Conference.

CMT and Balance take part in SMM Hamburg every year.

Finally, the publication of papers will be another relevant channel to disseminate the project results within the scientific community. The papers will be published in international peer-reviewed journals such as Robotics & Automation Magazine, Schiff & Hafen Magazine, Manufacturing Technology CIRP, Journal of Manufact. Science and Tech., IJIDeM, etc...

3.3.3 Products

A variety of dissemination products, summarised in Table 4, is being and will be produced by Mari4\_YARD. The Mari4\_YARD visual identity represented the starting point for the production of each product, which was and will then be customised for the specific aim and audience targeted.

**Table 4. Mari4\_YARD dissemination and communication products.**

Product	Description	Main objective	Target
<b>Website</b>	The website is Mari4_YARD's main means of communication	Inform Raise awareness	Institutional bodies and policy makers Specialised audience Other EU funded projects Supportive partners Interested stakeholders (including young minds, potential qualified workforce and women especially)
<b>Open access repository</b>	Mari4_YARD open access repository aims to support the access to public datasets, as well as to the consolidated project results	Engage Ensure impact	Specialised audience Supportive partners
<b>Brochures/leaflets</b>	These are one of the main means to promote both project workshops and dissemination events, as well as the project itself. They will be short documents (1-2 pages) with a strong visual identity,	Inform	Institutional bodies and policy makers Specialised audience

	stating topic and key-questions of the event and showing its programme. Mainly digital versions will be produced		Other EU funded projects Supportive partners Interested stakeholders
<b>Scientific and technical papers</b>	Articles on peer-reviewed scientific journals	Inform Ensure impact	Specialised audience Supportive partners Other EU funded projects Interested stakeholders
<b>Social media</b>	LinkedIn, Twitter and Youtube social media profiles to promote Mari4_YARD results as well as its events and products	Inform Raise awareness Engage Ensure impact	<b>LinkedIn:</b> Institutional bodies and policy makers Specialised audience Other EU funded projects Supportive partners <b>Twitter:</b> Institutional bodies and policy makers Specialised audience Other EU funded projects Supportive partners General stakeholders <b>Youtube:</b> Specialised audience General stakeholders
<b>Public deliverables</b>	Once approved, all the public deliverables will be made available on the project website.	Raise awareness	Specialised audience Supportive partners Other EU funded projects
<b>Videos/demos/webinars</b>	Videos represent a powerful and effective way to communicate and promote the project, its vision, mission, main goals, as well as its methodology and main findings. The production of videos will be mostly considered in proximity to the Mari4_YARD events. Videos will be made available on the project website and disseminated via any available channel such as the social networks where the sharing of videos is very likely to raise the visibility of the projects and attract new followers. Moreover, demos will be developed to allow the test of the	Inform Raise awareness Ensure impact	Specialised audience Supportive partners Other EU funded projects Interested stakeholders

	Mari4_YARD solutions by interested stakeholders. They will be displayed during webinars organised for small groups of interested stakeholders		
<b>Newsletter</b>	Newsletters are a powerful instrument to maintain and progressively reinforce the relationship with stakeholders. Mari4_YARD will produce periodic newsletters aimed to show the progress of the projects, highlight recent findings and giving some clues on what will come next. Stakeholders can subscribe to the newsletter through the website	Inform Raise awareness Engage	Institutional bodies and policy makers Specialised audience Other EU funded projects Supportive partners Interested stakeholders
<b>Press releases</b>	Press releases will be published by the consortium throughout the project duration in order to raise awareness about the project and its findings and results	Raise awareness	Institutional bodies and policy makers Interested stakeholders
<b>Mari4_YARD matchmaking approach</b>	The matchmaking approach will aim at gathering all relevant stakeholders (Mari4_YARD partners, clusters, technology providers, SME-shipyards, Academia, policy-makers, authorities, certification and standardisation bodies, etc.), update them about project evolution and act as a pivotal point for matchmaking and fostering cooperation	Inform Engage Ensure impact	Supportive partners
<b>Mari4_YARD events</b>	Mari4_YARD dissemination events and workshops, as well as didactic factories, webinars and short interactive sessions for specific audiences	Inform Raise awareness Engage Ensure impact	Institutional bodies and policy makers Specialised audience Other EU funded projects General stakeholders

### 3.3.4 Strategic Lines & Targeted Approach

Building and maintaining a prosperous community of diverse and supportive stakeholders is a big challenge for Mari4\_YARD. To succeed, clear strategic lines and a targeted approach are needed.

#### 3.3.4.1 Strategic lines

Mari4\_YARD has identified three preliminary strategic lines, the effectiveness of which will be monitored and evaluated during the first part of the project and, if necessary, adjusted or replaced by more effective solutions.

- » **Keep stakeholders in the loop:** Mari4\_YARD will keep its stakeholders in the loop of its work, by gradually sharing its results on the social networks and allowing them to test them. This strategic line has a multiple purpose: raise the visibility of the project and its results; involve the relevant stakeholders in the design and development phase; enlarge the Mari4\_YARD network and build the Mari4\_Alliance by collecting interest and commitment from supportive partners.
- » **Practical and hands-on communication:** the Mari4\_YARD communication will make use of demos and test sessions to allow the relevant stakeholders to have real contact with the developed solutions and to give feedback and contribute to the further improvement of the solutions themselves.

- » **Topic-centred communication:** the Mari4\_YARD communication will always be focused on a specific topic which will periodically change. The leading topic will be defined on the basis of the Mari4\_YARD events, findings and results, as well as on the trending and hot themes in the field. The chosen topic will be launched via website and afterwards through social media. This would allow them to mostly attract and engage the type of stakeholders of major interest for Mari4\_YARD in each specific phase of the project.

#### 3.3.4.2 The MARI4\_YARD Targeted Approach

When a project speaks to such a wide and diverse audience, the adoption of a targeted approach is a key-factor for a successful communication strategy. Indeed, the MARI4\_YARD communication and dissemination goals, products and channels illustrated above have been chosen starting from the various needs of the different (primary) stakeholders targeted.

MARI4\_YARD aims to serve **institutional bodies and policy makers** by providing: guidelines on the use and deployment of advanced tools in shipbuilding. The continuous surveillance on standards and regulations will allow an early detection of potential conflicts.

The **specialised audience** includes the research community, the ERA, the European industry and EEN, as well as industries and institutions outside Europe. Mari4\_YARD aims to promote the use of its results and collect feedback from all these three sub-categories. In particular, Mari4\_YARD provides:

- » The research community with:
    - Open Pilot Lines to test new technologies and processes
  - » The European industry, EEN and the industries outside Europe with:
    - A higher quality of the offered service
    - Better quality of work and thus higher possibility to attract qualified workforce
    - Time saving in the shipyards for example for repairing, higher reliability and higher predictability
- 5) The **other EU funded projects** will benefit from the Mari4\_YARD project by sharing knowledge and exchanging best practices.

Mari4\_YARD **supportive partners** will be actively involved in the project implementation and in the creation of a Mari4\_Alliance. They will be invited to promote the attendance to webinars, workshops and matchmaking events with their members, as well as to disseminate the public results of the project through their own channels. The knowledge developed in the project will benefit the members of these supportive partners, especially the industry associations. Accessing the didactic factories network they will directly benefit from the knowledge and skills of other supporting partners and enhance the awareness of the skills required for the use of the innovative technologies developed in Mari4YARD.

Lastly, Mari4\_YARD aims to inform any other interested stakeholders by providing an overview on innovations in the SME-shipyards. Besides the general public, young minds, qualified workforce and women are among the general stakeholders of the Mari4\_YARD project. As already mentioned, the aim is to attract them to the possible jobs in the sector.

### 3.4 Dissemination Actions: Plan

The plan for the Mari4\_YARD dissemination actions is provided in Table 5. This is an updated version, the effectiveness of which was monitored and evaluated during the first part of the project and adjusted as necessary.

**Table 5. Dissemination Actions - Plan.**

Means	Actions	Frequency	Update
<b>WORKSHOPS</b>	Organisation and delivery	Every year	All the workshops will be organised in Autumn, if possible
<b>DISSEMINATION EVENTS</b>	Organisation and delivery	Every 2 years	1st held in May 2023 Final dissemination event planned in September 2024 within SMM Hamburg
<b>PRESENTATION AT EXTERNAL EVENTS</b>	Presentation of the project, its findings, results	On occasion	1 online presentation at Lifetech 4.0 2022 1 in-presence presentation at IROS 2022 1 in-presence presentation at ROBOT 2022 oral presentation, exhibit stand, live demo at LiveWorx2023 1 oral presentation at IIW 2023 1 oral presentation at IEEE ICARSC 2023 1 booth at Waterborne Days 2023
<b>WEBSITE</b>	Publication of news	About 1 every two months	15 published
	Promotion and publication of information on upcoming events	When necessary	6 published
	Publication of MARI4_YARD Products	When produced	1 Catalogue of technological solutions 9 videos of the technologies on the Mari4_YARD Youtube channel
<b>SOCIAL MEDIA</b>	Post/Tweet on MARI4_YARD related events, relevant articles	1 every two weeks (starting from M6)	No update
	Post/Tweet on MARI4_YARD activities: on-going activities,	1 per week (starting from M6)	No update



	assessed projects, findings and results		
	Post/Tweet on Mari4_YARD news and events	When available	No update
<b>NEWSLETTER</b>		Every 6 months, (starting from M6)	Every 6 months starting from M12, 3 published, 1 to be sent in December 2023, 1 to be sent in June 2024, the last to be sent at the end of the project (December 2024)

### 3.5 Monitoring the Impact

Constant monitoring of the results of dissemination actions is fundamental. This allows to pinpoint actual strengths and weaknesses of the strategy pursued, to identify and implement corrective actions, to measure the effectiveness, and to report results.

MARI4\_YARD aims to progressively improve, year after year, the effectiveness of its dissemination actions. A reviewed set of indicators, listed in Table 6, is identified to keep track of the progress of the dissemination. At the end of year 1, the results were measured (see column on the right), and served as a basis for the definition of the targets for the remaining years.

**Table 6. Updated indicators to monitor progress and impact of dissemination.**

<b>Audience</b>	<b>Updated Performance Indicators</b>	<b>Preliminary Results</b>
<b>Young minds</b>	+200 students participated in Mari4_YARD events	About 50 students attended
<b>General public</b>	+1500 people informed about the Mari4_YARD project	Reached (~2510 single users reached through the website and ~332 through social media channels)
<b>Women</b>	Involvement of specific associations/networks such as wista and elles bougent in at least 3 activities	2 associations contacted and invited to take part in the next external training and dissemination events
<b>Stakeholders</b>	+4 presentations +25 partners engaged	7 Presentation in scientific conference 177 stakeholders involved in the three workshops and the dissemination event
<b>EC, authorities and policy makers</b>	+ 4 presentations and/or events	Waterborne Days 2023
<b>Activity</b>	<b>Performance Indicators</b>	<b>Preliminary Results</b>
<b>Website</b>	+2000 visits	8933 visits
<b>Project press releases and media appearance</b>	+6	1 press release 6 times shared on journals/web pages



<b>Project in partners' websites and/or social media</b>	+3000 visits	5000 visits 632 interactions
<b>Project social media</b>	<b>500 reaches</b> <b>LinkedIn:</b> +100 posts +200 contacts <b>Twitter:</b> +100 posts +200 followers	<b>5000 reaches</b> <b>LinkedIn:</b> 77 posts 278 Contacts <b>Twitter:</b> 150 posts 54 Followers (After Twitter migration into X, interactions and followers decreased significantly)
<b>Mari4_YARD workshops and dissemination events</b>	Average 50 participants per event/workshop	1st Workshop M15 (56 participants) 2nd workshop M23 (28 participants) 3 <sup>rd</sup> Workshop (M36) (33 participants) 1 <sup>st</sup> Joint Dissemination event M30 (60 participants)
<b>Scientific and technical articles</b>	+4 articles +1000 readers	7 published
<b>Presentations and posters in conferences</b>	+8 conferences	1 LifeTech 4.0 2022 1 in-presence presentation at IROS 2022 1 in-presence presentation at ROBOT 2022 oral presentation, exhibit stand, live demo at LiveWorx2023 1 oral presentation at IIW 2023 1 oral presentation at IEEE ICARSC 2023
<b>Participation in industrial events and fairs</b>	+5 industry events and fairs	Waterborne Days 2023
<b>Open access repository</b>	+3 open access publications +40 downloads	7 publications open access
<b>Networking with other EU projects</b>	+2 activities +5 projects contacted	29 Projects contacted
<b>Liaison and collaboration with standardisation organisations</b>	+2 relevant liaison activities	EWF is a liaison organisation of: - ISO TC 261 - Additive Manufacturing - ISO TC 44 - Welding and allied processes - ISO/IEC JTC 1/SC 42 - AM and AI

#### 4 MAIN DEVIATIONS FROM THE INITIAL DISSEMINATION & COMMUNICATION PLAN

As already mentioned, this document is an updated version of the Dissemination and Communication Plan of the Mari4\_YARD project based on the results of the activities carried out until now. There are no major deviations from the first update of the Dissemination and Communication Plan.

The pandemic emergency officially ended in May 2023 but the possibility to travel to Europe under certain conditions was granted already in autumn 2022. Mari4\_YARD therefore organised its first in-person workshop in October 2022 and postponed the first dissemination event in May 2023.

Table 7 below shows the preliminary plan for the remaining Mari4\_YARD events.

**Table 7. Mari4\_YARD preliminary event plan.**

Event	Duration, proposed date and venue	Proposed responsible partner	Other partners involved
4th workshop	1 day, 10/2024, Spain	AIMEN/DBL	NODOSA (pilots) and ALL
Final Dissemination Event*	½ day within <b>SMM the leading international maritime trade fair</b> 3-6/09/2024	AIMEN/DBL	CMT/TUHH

\*An alternative could be to merge the 4<sup>th</sup> workshop with the final dissemination event and organise both in October 2024 in Spain.

Even though this document is not a report of dissemination and communication activities, Table 6 shows Mari4\_YARD preliminary results. More effort will be put on further building and growing the community of stakeholders in the remaining years and the start of activities such as the Didactic Factories and training will certainly foster such growth.