STRENGTHENING THE CAPACITY FOR EXCELLENCE OF SLOVENIAN AND CROATIAN INNOVATION ECOSYSTEMS TO SUPPORT THE DIGITAL AND GREEN TRANSITIONS OF MARITIME REGIONS

Funded by the European Union

DATA MANAGEMENT PLAN – FIRST VERSION
Deliverable 1.1

2024-07-12 by University of Ljubljana

DELIVERABLE INFORMATION

Work package	WP 1 – Project Management and coordination
Task	T1.1 - Project management, including quality assurance, gender and equal opportunities, data and risk management
Due date	30.06.2023
Submission date	First submission for review 12.05.2023 – Closing document 23.06.2023
Deliverable lead	UL
Version	4.0
Authors	Marko Šimic (UL), Hrvoje Marušić (UNIRI), Anna Maria Poljak (UNIRI)
Reviewers	Serge Demeyer (UANTWERPEN), BSC (Gregor Erznožnik), Anna Maria Poljak (UNIRI)
File Name	D1.1_INNO2MARE_Data Management Plan first version_V4.0_09072024

Abstract	This deliverable is the first version of the INNO2MARE Data Management Plan and comprises the way that research data is handled during and after the project, what data will be collected, processed, or generated, the methodology & standards to be applied and the kind of data sharing.
Keywords	DMP – Data Management Plan, Data

Document Revision History

Version	Date	Description of change	List of contributor(s)
V1.0	12/05/2023	1st version for comments and improvement	All partners
V2.0	14/06/2023	2nd improved version	All partners
V3.0	29/06/2023	3rd improved version	All partners
V4.0	12/07/2024	4th version, corrections according to EC experts, Interim review meeting	All partners

Funded by
the European Union

Dissemination level

X	PU - Public
	SEN – Sensitive (limited under the conditions of the GA - Grant Agreement)
	PP - Restricted to other programme participants (including the EC)
	RE - Restricted to a group specified by the consortium (including the EC)
	CO - Confidential, only for members of the consortium (including the EC)

Disclaimer

The INNO2MARE project has received funding from the HORIZON.4.1 - Widening participation and spreading excellence under Grant Agreement No 101087348.

Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency (REA). Neither the European Union (EU) nor the granting authority can be held responsible for them.

Copyright notice

Funded by
the European Union

PARTNERS

The list of INNO2MARE partner's:

1. UL, University of Ljubljana, Faculty of Mechanical Engineering, Slovenia

2. ISKRA, Electro and system solutions, d.o.o., Slovenia

3. DIGITEH, Optimization of production processes, d.o.o., Slovenia

4. BSC, Business Support Centre Kranj – Regional Development Agency of Gorenjska, Slovenia

5. ZOTKS, Association for Technical Culture of Slovenia, Slovenia

6. UNIRI, University of Rijeka, Croatia

    6.1 PFRI, Faculty of Maritime Studies, Croatia

    6.2 RITEH, Faculty of Engineering, Croatia

7. STEP RI, Science and Technology Park of the University of Rijeka, Croatia

8. MS Tech, MS Tech d.o.o., Croatia

9. MCoE, Maritime Center of Excellence d.o.o., Croatia

10. PRIGODA, Regional Development Agency of Primorje-Gorski Kotar County, Croatia

11. CTK Rijeka, Centre of Technical Culture Rijeka, Croatia

12. UANTWERPEN, University of Antwerp, Belgium

13. HZS, Antwerp Maritime Academy, Belgium

14. REA KVARNER, Regional Energy Agency Kvarner, Croatia

15. DBC, Blue Cluster, Belgium

16. URBANEX, Croatia

17. PoAB, Port of Antwerp, Belgium

INNO2MARE partner's LOGOs:

University of Ljubljana
Faculty of *Mechanical Engineering*

UNIRI

University of Antwerp

Iskra

BSC
Poslovno podporni center Kranj
Regionalna razvojna agencija Gorenjske

Sveučilište u Rijeci
POMORSKI FAKULTET

CTK
CENTAR TEHNIČKE KULTURE RIJEKA

STEPRI

METAL SHARK
CROATIA

regionalna razvojna agencija p3

BLAUWE CLUSTER

ZVEZA ZA TEHNIČNO KULTURO SLOVENIJE

DIGITEH

Port of Antwerp Bruges

REGIONALNA ENERGETSKA AGENCIJA KVARNER

Sveučilište u Rijeci
TEHNIČKI FAKULTET

MCE

HZS

URBANEX

EXECUTIVE SUMMARY

This deliverable is the output of Task 1.1 and is formulated in line with the EC Guidelines on FAIR Data management. It represents the first version of the INNO2MARE Data Management Plan (DMP) describing the data management life cycle of the data to be collected, processed and/or generated by the project and laying out the approach for their sound and FAIR management. It will evolve during the lifespan of the project as a living document and provide details on the data (schemas, datasets, etc.) as well as their management (what type of data, how the data will be collected, shared, handled and preserved according to GDPR), ensuring that all aspects of data handling, treatment, reporting and access are clear to partners.

As part of making research data findable, accessible, interoperable, and reusable (FAIR), the DMP will include information on:

- the handling of research data during and after the end of the project;

- what data will be collected, processed and/or generated;

- which methodology and standards will be applied;

- whether data will be shared/made open access (as open as possible, as closed as necessary);

- how data will be treated & preserved (including after the end of the project).

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

CA	Consortium Agreement
CO	Confidential, only for members of the consortium (including the EC)
DECP	Dissemination, Exploitation and Communication Plan
DMC	Data Management Committee
DMP	Data Management Plan
EC	European Commission
EU	European Union
FAIR	Findable, Accessible, Interoperable, Reusable
GA	Grant Agreement
GDPR	General Data Protection Regulation
IC	Innovation Council
INNO2MARE	Strengthening the capacity for excellence of Slovenian and Croatian innovation ecosystems to support the digital and green transitions of maritime regions
MB	Management Board
QAPGM	Quality Assurance Plan including Gender Monitoring
OPR	Official Project Repository
PP	Restricted to other programme participants (including the EC)
PU	Public
QDM	Quality and Data Manager
RE	Restricted to a group specified by the consortium (including the EC)
SEN	Sensitive (limited under the conditions of the GA)
WP	Work Package

DMP COMPONENTS

Table 1: DMP Components (following the H2020 template on Data management plan).

DMP Component	Issues to be tackled
1. Data Summary	- State the purpose of the data collection/generation - Explain the relation to the objectives of the project - Specify the types and formats of data generated/collected - Specify if existing data is being reused (if any) - Specify the origin of the data - State the expected size of the data (if known) - Outline the data utility: to whom will it be useful
2. FAIR Data **2.1 Making data findable including provisions for Metadata**	- Outline the discoverability of data (metadata provision) - Outline the identifiability of data and refer to standard identification mechanism. Do you make use of persistent and unique identifiers such as Digital Object Identifiers? - Outline naming conventions used - Outline the approach towards search keyword - Outline the approach for clear versioning - Specify standards for metadata creation (if any). If there are no standards in your discipline describe what type of metadata will be created and how
2.2 Making data openly accessible	- Specify which data will be made openly available? If some data is kept closed provide rationales for doing so - Specify how the data will be made available - Specify what methods or software tools are needed to access the data? Is documentation about the software needed to access the data included? Is it possible to include the relevant software (e.g. in open-source code)? - Specify where the data and associated metadata, documentation and code are deposited - Specify how access will be provided in case there are any restrictions
2.3 Making data interoperable	- Assess the interoperability of your data. Specify what data and metadata vocabularies, standards or methodologies you will follow to facilitate interoperability. - Specify whether you will be using standard vocabulary for all data types present in your data set, to allow inter-disciplinary interoperability? If not, will you provide mapping to more commonly used ontologies?
2.4 Increase data reuse	- Specify how the data will be licenced to permit the widest reuse possible - Specify when the data will be made available for reuse. If applicable, specify why and for what period a data embargo is needed - Specify whether the data produced and/or used in the project is useable by third parties, in particular after the end of the project? If the reuse of some data is restricted, explain why - Describe data quality assurance processes - Specify the length of time for which the data will remain reusable

3. Allocation of resources	- Estimate the costs for making your data FAIR. Describe how you intend to cover these costs - Clearly identify responsibilities for data management in your project - Describe costs and potential value of long-term preservation
4. Data Security	- Address data recovery as well as secure storage and transfer of sensitive data
5. Ethical aspects	- To be covered in the context of the ethics review, ethics section of DoA and ethics deliverables. Include references and related technical aspects if not covered by the former
6. Other issues	- Refer to other national/funder/sectorial/departmental procedures for data management that you are using (if any)

INTRODUCTION

INNO2MARE is a project funded by the European Commission (EC) and is meant to enhance the capacity for excellence of Western Slovenian and Adriatic Croatian innovation with Belgium support within and between these three ecosystems. A set of jointly designed and implemented actions will support the digital and green transitions of the maritime industries and others that are connected with those industries.

The main goal of INNO2MARE is to strengthen the capacity for excellence of Western Slovenian and Adriatic Croatian innovation ecosystems through a set of jointly designed and implemented actions that will support the digital and green transitions of the maritime and connected industries. This can be achieved through several jointly designed and implemented actions proposed with three main steps. (1) Based on an in-depth mapping of the ecosystems and needs & gaps analysis, the consortium will formulate a long-term R&I strategy aligned with regional, national and EU strategies, as a visionary framework, and a joint action & investment plan, with concrete steps for building coordinated, resilient, attractive and sustainable maritime innovation ecosystems. (2) To support the joint strategy and provide a model for the future collaborative R&I of the ecosystems' actors, the project will implement three R&I pilot projects that address some of the key challenges related to maritime education and training, security & safety in marine traffic as well as energy conversion and management systems' efficiency. The pilot projects are focused on crucial digital and I4.0 technologies such as VR/AR (virtual and augmented reality), digital twins of processes including shipyard manufacturing and logistics in ports, AI-based algorithms and machine vision systems that can be used for object recognition, management and usage of alternative energy sources. The developments, results and findings will be the basis for further development, scale-up and translation of the generated research results into innovative business opportunities through the coordinated mobilization of public and private funding. (3) The consortium will also implement innovative programs that will support the engagement of citizens in the innovation processes, knowledge transfer for mutual learning, entrepreneurship & smart skills training and attraction of best talents, involving more than 1.000 participants across the Quadruple Helix. The highly skilled workers who understand the digitalization and green approaches are crucial to achieve digital and green transition of the industry, SMEs. In all the project activities, the two ecosystems will strongly benefit from the sharing of best practices of the Flemish ecosystem, one of the most developed maritime innovation ecosystems globally. The project will contribute to reducing the innovation divide in Europe by systematically connecting the innovation actors within and between the ecosystems and creating synergies in R&I investments' planning and execution, thus developing a true innovation culture.

This Data Management Plan (DMP) is implemented using FAIR data principles (Findable, Accessible, Interoperable and Reusable), and outlines the way that data is collected or generated within the INNO2MARE project and how they will be organised, stored, and shared. It specifies which of the data will be publicly available (open access) and which will be available only to the consortium (confidential), as far as this is possible in this phase.

This DMP describes the standard formats, meaningful metadata, and open repositories to share data and enable other users to build on the knowledge gained during the project.

The first audience to which this report is addressed is the **internal partners**; there are nineteen partner organizations from Slovenia, Croatia and Belgium representing academy, industry, government and societal actors.

The DMP will establish consistent practices among partners to increase the efficiency and robustness of data handling during the lifespan of the project.

The second audience of this report are the **external experts** joining the INNO2MARE Innovation Council (IC) who have interests to become a member. The Council will function as a forum for the exchange of intelligence, ideas, opinions and initiatives concerning the ecosystems' innovative performance and feed the development of the joint R&I strategy and action plan. The Council external members will have the ambassador role and support the recruiting the WP6 participants.

The third audience is the **community of local stakeholders, citizens** especially children and young people in general as well as R&I professionals. For that purpose, the consortium will implement innovative programmes that will support the engagement of citizens in the innovation processes, knowledge transfer for mutual learning, entrepreneurship & smart skills training and attraction of best talents, involving more than 1.000 participants across the Quadruple Helix (Academia, Industry, Public authorities and Societal actors, academia, students, seafarers, maritime professionals, industry, civic society, other place-based ecosystems, stakeholders of other projects aimed to develop innovation ecosystems).

The fourth audience are **business actors in the ecosystem, policy makers, government**, which have an important role in strengthening links between academic and business partners thus fostering academia industry collaboration.

This report is an initial version of the DMP, prepared at the outset of the project. It will be updated as the project progresses, since not all data or potential uses are clear from the beginning.

1 DATA SUMMARY

The INNO2MARE Data Management Plan (DMP) is part of WP1 - Project management and coordination.

Data Management Committee (DMC) will be established at the beginning of project, including the representative of the coordinator and two experts from other beneficiaries appointed by Management board (MB), in charge of ensuring the data availability and utility through the creation and monitoring of implementation of the Data Management Plan (DMP), which elaborates data generation, collection and processing following the FAIR principles.

It aims at setting up a strategy for managing key data generated and collected during the project and enhance access to and reuse of the project's data. This DMP is intended to be a 'living' document, that will outline how the INNO2MARE data will be handled during and after the project, and so it will be reviewed and updated at regular intervals.

It will be reviewed and updated over the course of the project, in months 15, 30 and 48, considering elements such as (but not limited to):

- new data being gathered;
- generation of periodic reports;
- development of final report;
- changes in consortium policies;
- changes in consortium composition and external factors (e.g., new consortium members joining or old members leaving).

University of Ljubljana is responsible for implementing and disseminating this DMP to all project partners.

Each project partner will be responsible for managing their data, metadata, and ensuring their data meet the quality standard set out by the project.

All project documentation will be stored in a dedicated virtual space, with clearly defined access and editing rights. The consortium will be supported by experienced grants management teams in management and reporting of legal, financial and administrative aspects of project implementation.

INNO2MARE requires the collection of meaningful data with a view to producing insights that will successfully inform the project's activities, enabling the project consortium to deliver evidence-based results and ultimately achieve the objectives of the project.

All data collected to this end, e.g., through periodic and annual innovation meetings and events, interviews, questionnaires, training and demonstration activities, other events, etc. to participants, will be controlled and processed on the basis of informed consent, in full compliance with the General Data Protection Regulation (GDPR, EU 2016/679) as well as other relevant, applicable EU and national regulations, protecting the data subjects' rights and freedoms in relation to the processing of their personal data.

Each data set created during the project will be assessed and defined as open, or restricted, at different levels, by the owners of the content of the data set.

All the data sets, regardless of their category, will be stored:

- in each of the participant entities databases and protected cloud storages,

- in the SharePoint folder created as internal data repository of the partners.

The INNO2MARE SharePoint, the website and social medias will be the main sources of general information for the wide audience, and will include the important project updates, news, results and innovations presented in a clear manner. It will be reachable from every partner website through link of INNO2MARE website.

1.1 Data Management Plan Guiding Principles

The INNO2MARE Data Management Plan (DMP) has been drafted following the compliance with

- FAIR (Findable, Accessible, Interoperable and Reusable) Data Management Protocols;

- "Guidelines on Data Management in Horizon 2020" [1]

   http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

---

[1] http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

The INNO2MARE Data Management Plan (DMP) provides detailed information on:

1) the data that the project will generate or collect and make accessible, including their origin, type, format, scale, update frequency and permitted access level – the categories of data will include physical and digital data - textual, numeric, images and experimental data, whereas data types will include software, algorithms, models, protocols, mapping reports and other procedural, analytical and communication documents, spreadsheets and photographs;

2) application of the FAIR principles in data management;

3) data protection and security actions;

4) informed consent procedures;

5) management of outputs other than data and publications;

6) possible ethics aspects that may arise;

7) required resources, including costs and personnel.

It complies with the principle of Open Access according to the Horizon guidelines summarised in the graphic here below:

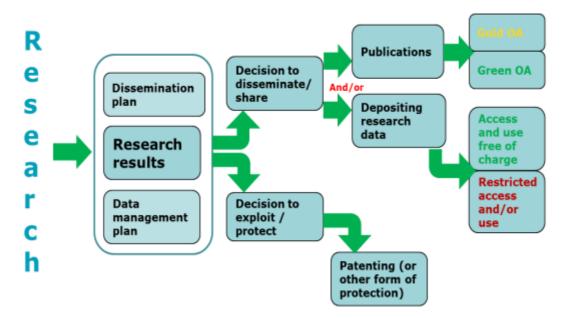*Figure 1: Open access to research data and publication decision diagram* [2].

The main aspects that will be addressed include:

---

[2] *Guidelines to the Rules on Open Access to Scientific publications and Open Access to Research Data in Horizon 2020*

a) **Findability:** Personal data collected during the project WP2, WP4 and WP6 activities will be protected by technical and procedural means and shared in aggregated forms without personal identifiers through public deliverables and communication materials. Persistent identifiers (PIDs) and standardised metadata frameworks will be used to ensure and enhance the findability of research outputs;

b) **Accessibility and reusability:** taking into account potential postponements to allow the appropriate protection of results generated within WP3, the results of Pilot projects (the principle 'as open as possible, as closed as necessary'), not all data generated within the project (technical data, codes) will be made available on the project website, disseminated at conferences and via relevant trusted repositories and Open Access publications. The partners agree to treat these type of data as Sensitive. After the data and technical results are used and published in open SCI Journal, it will be available to wider audience (Agreement in CA).

c) **Interoperability:** data to be collected and generated will be stored in a format that will allow the usage in various computing platforms, complying with open standards and accompanied by adequate metadata;

d) **Curation and preservation:** data will be curated and preserved in dedicated repositories.

1.2 Purpose of data collection/generation and relation to the objectives of the project

The INNO2MARE Data Management Plan (DMP) aims at providing a strategy for managing data generated and collected during the project and to optimise access to and reuse of research data.

The categories of data will include physical and digital data - textual, numeric, images and experimental data, whereas data types will include software, algorithms, models, protocols, mapping reports and other procedural, analytical and communication documents, spreadsheets and photographs. Data generated during the project can be divided into the following groups:

- Data generated by project partners during the analysis and development activities;

- Data generated by the stakeholders participating in the project activities, (i.e., project meetings, project innovation events, ecosystem collaboration, etc.);

- Data generated by Innovation Council (IC) activities (WP1);

- Data generated when developing Cross-border joint R&I strategy within WP2, mapping the ecosystems, main actors;

- Data generated by the Pilot projects, (WP3);

- Data generated by exploring synergies with other projects and the European Institute of Innovation & Technology (EIT), WP4;

- Data generated by developing investment plans for Pilot projects, models for pilots and demonstrator, WP5;

- Data generated by accompanying measures within the WP6 (i.e. citizen engagement activities, knowledge transfer & staff exchange activities, etc.);

The purpose of this data collection is to help achieve the main objectives of the project:

- Develop the joint R&I strategy for strengthening the maritime innovation ecosystems' excellence;

- Contribute to knowledge gaps in maritime R&I through co-design and joint implementation of three pilot projects by ecosystem actors;

- Develop the joint action & investment plan for building coordinated resilient, attractive and sustainable maritime innovation ecosystems;

- Accelerate the uptake of new technologies by the ecosystems' industry through preplanning for pilots and demonstrators based on the three R&I pilot projects;

- Enhance the level of collaboration within and between place-based ecosystems through innovative approaches to knowledge transfer, community engagement and competence building.

These objectives will also foresee a strong engagement of all four types of actors (Academia, Industry, Public authorities and Societal actors) from all three ecosystems (Western Slovenia, Adriatic Croatia and Flemish innovation ecosystem from Belgium).

The DMP is fully connected to the DECP - Dissemination, exploitation and communication plan (D7.1) as well as Report on ecosystems' mapping (D2.1). We are operating with different data that should be collected in a proper way during the INNO2MARE project. Some of the data are public the other data are sensitive. The public data are published in open access while the sensitive data are saved at partners repositories or internal SharePoint platform and are accessible on demand. The partners main contacts, mails, particular websites and social medias of partners are shared for internal use (SharePoint) as well as data from stakeholders and mapping analysis (WP2). Other internal data are related to the list of participants at different WP6 events, data from public sessions, meet-ups, innovation breakfasts (agendas, list of participants, participants feedback), recordings of internal meetings and creating Meeting minutes. Beside general-purpose data we are developing public materials such as E-newsletters, E-brochures, E-factsheets, roll-ups and posters, deliverables, collecting research data, models, algorithm codes that are shared through open access channels, articles at SCI Journals and conference papers.

This document addresses for each data set collected, processed and/or generated in the project the following elements:

1. Title of Dataset, referred to the WP and Task
2. Dataset reference and name: Internal project Identifier for the data set to be produced.
3. WP and Task name;

4. Task and Data Manager: name of the organisation responsible for the Task;
5. Availability: Private, Consortium or PU - Public;
6. Status: planned, in progress, completed;
7. Mandatory Metadata: European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition;
8. Specific Dataset metadata: Keyword(s) that categorise data to make it linked/searchable;
9. Dataset description: description of the data generated or collected, including its origin (in cases where data is collected), nature and scale and to whom it could be useful, and whether it underpins a scientific publication. Information on the existence (or not) of similar data and the potential for integration and reuse;
10. Standards and metadata: reference to existing suitable standards in topic area governing data collection, aggregation, storage and sharing;
11. Data sharing: description of how data will be shared, including access procedures, embargo periods (if any), outlines of technical mechanisms for dissemination and necessary software and other tools for enabling reuse, formats;
12. Identification of the repository where data will be stored, if already existing and identified, indicating the type of repository (institutional, standard repository for the discipline, etc.). In cases where the dataset cannot be shared, the reasons for this will be stated (e.g., ethical, rules of personal data, intellectual property, commercial, privacy-related, security-related).
13. Archiving and preservation (including storage and backup): description of the procedures to be put in place for long-term preservation of the data, including an indication of how long the data should be preserved, the approximate end volume, associated costs, and how these are planned to be covered.

A template for the Dataset by WP/Task has been drafted (see below in the FAIR Section).

1.3 Types and formats of data generated/collected

We have to highlight that we do not provide, collect or share the data related to the bio-medical ethics: genetic data, personal data concerning health, biological samples, animal tissue samples, etc. INNO2MARE will collect and generate data from several project-related activities. These include types and formats of generated and collected data in deliverables listed in the table 2 below.

Table 2: List of Deliverables.

D. No.	Deliverable name	WP	D. Lead	Type	Dissemination Level
D1.1	Data Management Plan - first version	WP1	UL	DMP	PU
D1.2	Data Management Plan - final version	WP1	UL	DMP	PU
D1.3	Quality Assurance plan including gender monitoring	WP1	UL	R	PU
D1.4	Report on the IC activity	WP1	UNIRI	R	PU

D2.1	Report on ecosystems' mapping	WP2	BSC	R	PU
D2.2	Report on innovation ecosystems' needs	WP2	PRIGODA	R	PU
D2.3	Long-term joint R&I strategy	WP2	PRIGODA	R	PU
D3.1	Concepts and co-created technology knowledge for pilot projects	WP3	PFRI	R	SEN
D3.2	Prototypes and validation of three joint pilot R&I projects	WP3	RITEH	R	SEN
D3.3	Implementation of Pilot projects and lesson learnt on different areas and for different scenarios	WP3	UL	R	SEN
D4.1	Action and investment plan including monitoring methodology	WP4	BSC	R	PU
D4.2	Report on synergies with other initiatives & new partnerships	WP4	UNIRI	R	PU
D4.3	Recommendations on scalability and sustainability	WP4	HZS	R	PU
D5.1	Action plan for pilot projects scale-up and demonstrator use cases	WP5	ISKRA	R	SEN
D5.2	Models for pilots and demonstrators developed and tested	WP5	MS Tech	R	SEN
D6.1	Report on citizen engagement activities	WP6	CTK Rijeka	R	PU
D6.2	Training and Knowledge transfer plan	WP6	STEP RI	R	PU
D6.3	Talent attraction and retention plan	WP6	MCoE	R	PU
D7.1	Dissemination, exploitation and communication plan – first version	WP7	UL	R	PU
D7.2	Dissemination, exploitation and communication activities report, including the updated plan	WP7	UL	R	PU

Type of the data legend:
DMP - Data Management Plan
R - Document, Report

Dissemination level legend:
PU – Public
SEN - Sensitive

Some of the data, which the project will collect and generate, are classified as personal data.

Participants in the project activities will use Ms Teams SharePoint repository to upload different types of documents with different personal or technical data.

The data collected in INNO2MARE can be grouped according to the following categories (All data marked with "*" are or may be considered "personal data" according to GDPR Art. 4)

Research data

1. Statistical data including, but not limited to, socio-economic, environmental, demographic data;

2. Data from participant observation, interviews, assessments, focus groups, surveys, trainings, and questionnaires (*);

3. Audio, visual, audio-visual recordings (*);

4. Photographs (*);

5. Data generated from Pilot project activities;

6. Stakeholders and networks' mapping data and storytelling (*);

7. Statistics on the attendance to physical and online meetings, workshops and other events and initiatives organised in the framework of INNO2MARE activities;

8. Online data analytics such as website cookies, website visits, social media statistics, etc. (*);

9. Biographical data (e.g., age, education, job, family status, etc.) of participants to any kind of data-gathering activities (*).

Contact and administrative data

1. Personal and contact data such as name, surname, address, phone number, email (*);

2. Administrative, financial, and other professional and/or business-related information (e.g., clients, participants from events, etc.) from companies, local stakeholders in the innovation ecosystem networks (*);

3. Consent forms (*).

Project Management and Consortium Coordination data

1. Contact information of partners' staff members including name, surname, office address, email address, telephone number (*);

2. Partners' project-related costs and expenditure;

3. Reports on partners' activities and achievements;

4. Audio-visual recordings of online meetings (*);

5. Meeting minutes report;

6. Meetings' participant lists (*).

In addition to the categories, INNO2MARE will also collect, store and process personal data through its INNO2MARE MS Teams SharePoint, referring to the participants invitation, following the Terms and Conditions and Privacy Policy.

INNO2MARE will mainly use widely accepted data formats for data generation:

1. Documents/Reports/Publications: PDF/A, txt, doc/docx, ppt or equivalent

2. Spreadsheets: xls/xslx or equivalent

3. Databases: csv or equivalent

4. Audio files: mp3, wav, wma, ra or equivalent

5. Pictures: jpg, png or equivalent

6. Video: avi, flv, mov, mp4, wmv or equivalent

7. Source codes, numerical models, graphical models

8. Others might be considered along the course of the project, and included in the next versions of the DMP.

1.4 Reuse and origin of existing data

INNO2MARE will also refer to already existing knowledge and datasets. In doing so, project partners will mainly rely on the following sources, amongst others:

-       Papers, articles, and other desk research resources;

-       Relevant links, photography, research and/or websites;

-       Data gathered and/or generated in the context of previous/current projects in which INNO2MARE partners are involved;

-       Data/information provided by members of INNO2MARE network of stakeholders.

While it is envisaged that most data collected will be open access and widely disseminated, some results of the project (WP3 - R&I pilot projects and WP5 - Pre-planning for pilots and demonstrators) are treated as sensitive and therefore may need to be protected due to IP rights. The background knowledge of each partner and access rights for different Pilot results are given in Consortium Agreement (CA), Attachment 1. and to Regarding the exploitation of results, there is currently no plan to exploit the information other than in the sense of maximizing communication and dissemination actions to the benefit of the project goals.

1.5 Expected size of the data

The overall size of data is currently not quantifiable. We predict up to 20 GB of the cloud repository, MS Teams SharePoint, to save the different type of materials mentioned in this document as well as the size of the website cloud data storage space is 20 GB. The large size data such as models, numerical results is saved and collected at partners data storages.

1.6 Data utility

Data and information collected by INNO2MARE are aimed to strengthen the capacity for excellence of **Western Slovenian** and **Adriatic Croatian innovation ecosystems** through a set of jointly designed and implemented actions that will support the digital and green transitions of the maritime and

connected industries. To develop excellent and connected place-based innovation ecosystems of Western Slovenia and Adriatic Croatia, it is essential to close certain resource gaps with expertise and knowledge available in a non-widening EU territory. The project will strongly benefit from the transfer of knowledge and good practice from one of the most developed ecosystems in Europe and globally – **the maritime innovation ecosystem of the Flemish Region, Belgium, around the city of Antwerp**.

To support the joint strategy and provide a model for the future collaborative R&I of the ecosystems' actors, the project will implement three R&I pilot projects that address some of the key challenges related to maritime education and training, security & safety in marine traffic as well as energy conversion and management systems' efficiency. These pilots will be the basis for further development, scale-up and translation of the generated research results and data into innovative business opportunities through the coordinated mobilisation of public and private funding.

The consortium will also implement innovative programmes that will support the engagement of citizens in the innovation processes, knowledge transfer for mutual learning, entrepreneurship & smart skills training and attraction of best talents, involving participants across the Quadruple Helix. The project will contribute to reducing the innovation divide in Europe by systematically connecting the innovation actors within and between the ecosystems and creating synergies in R&I investments' planning and execution, thus developing a true innovation culture.

The data collected will be relevant to key areas of Maritime innovation by defining the key enablers and technology breakthroughs. The project results can also have major impact on other industry sectors since Pilot projects developments represents a general solution that can be scaled up and implemented in other sectors.

Information gathered will help identify challenges in the areas related to Maritime and serve also as an input for policy design at national and European level. Finally, the data will inform the wider public about the Pilot project developments and the use of advanced technologies in maritime sector, which can effect on huge improvements in existing maritime industry in Slovenia and Croatia.

2 FAIR DATA

INNO2MARE will manage data according to the principles of FAIR data management (Findable, Accessible, Interoperable and Reusable data).

The Consortium aims at maximising the access to, and the reuse of data generated by the project.

This Section describes how INNO2MARE will adopt each of the FAIR data management principles.

2.1 Making data findable, including provision of metadata

INNO2MARE will use the INNO2MARE MS Teams repository as the main tool to make research data findable in accordance with the H2020 Open Access guidelines. In doing so, the project will ensure that each document and data set shall be uniquely identifiable.

Each deliverable and data set must be associated to a unique document name to ensure version control.

The deliverable and data identifier must be used in the deliverable filename.

- **The draft versions of the deliverables** will be uploaded to INNO2MARE SharePoint in editable versions named as follows: Deliverable Official No. Deliverable Official Name Version (for example D1.1_Data Management Plan_V1.0). **The final deliverable after the completion of peer-review** will be uploaded to INNO2MARE MS Teams in non-editable version (pdf) named as follows: Deliverable Official No. Deliverable Official Name (D1.1_Data Management Plan). The Project Coordinator will store all submitted final deliverables in the dedicated folder "GENERAL / 03_Deliverables_final", within the INNO2MARE MS Teams SharePoint.

- Specific keywords will be assigned to each dataset;

- Bibliographic metadata will be in a standard format and will include all the following:

  o the terms "European Union (EU)" and "Horizon Europe";

  o the name of the action, acronym, and grant number;

  o the publication date, and length of embargo period, if applicable;

  o a persistent identifier.

The Confidential project datasets and reports will be hosted on the INNO2MARE Consortium private file sharing folder in SharePoint, which allows secure data share across partners. This area provides a space for information exchange and an archive for all the documentation produced along the Project lifespan;

In addition, individual partner's institutional online repositories will host and preserve data until the end of the project.

2.2 Making data openly accessible

To maximise the impact of INNO2MARE data, the results are shared within and beyond the Consortium.

The INNO2MARE project datasets are first stored and organised in a database by the data owners (personal computer, or on the institutional secure server) and on the project database (SharePoint).

Important data focused on project objectives, promotion materials, events notifications will be made available through the INNO2MARE webpage (www.inno2mare.eu).

Selected data and results will be shared with the relevant stakeholders through publications, presentations at workshops/conferences, and social medias of partners. Adhering to the 'as open as possible, as closed as necessary' project partners are encouraged to publish replication packages on open access data repositories such as ZENODO, Figshare, …. This has the added benefit of providing a digital object identifier (DOI) for convenient references.

While it is envisaged that most data collected will be open access and widely disseminated, some results of the project may need to be protected.

All data are made available for verification and reuse, except the results and data treated as Sensitive and are described in CA for each partner separately. The task leader can also justify why data cannot be made openly accessible or have limited access.

To protect the copyright of the project knowledge, Creative Commons license will be used in some cases.

As above mentioned, INNO2MARE will mainly use widely accepted formats for data generation, hence data will be accessible using the most common software tools.

Additionally, Project participants will commit to submit publications to conferences, journals, books based on their work in the project allowing open access to the published content, following the Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020, through "Green" or "Gold" model.

2.3 Making data interoperable

Data will be collected and shared using a standard format. As required, reference will be made to any software needed to run it. In some cases (Pilot projects) specific data will be used as originals (metadata, scientific data). This data can accessible under the conditions of the data owner. The data can be transformed into readable format for the external users. Barriers to access through interoperability issues are not anticipated. As the project progresses and data are identified and collected, further information on making data interoperable will be outlined in subsequent versions of the DMP.

A draft metadata form is set out below and this is subject to review in the next DMP update:

Table 3: Draft metadata form of DMP.

WPXX, Task XX Dataset (Title of Dataset)	
Dataset reference / name	Dataset name
WP and Task Name	Name of the Task as it mentioned in the description
Task & Data Manager	Name of Task leader/data manager (Organisation)
Availability	Private, Consortium or Public
Status	Planned, in progress or completed
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Sustainable Transition
Dataset Specific Metadata	Keyword(s) that categorise data to make it linked/searchable
Dataset description	Data description, origin, nature, scale, if it underpins a publication, who useful to, existence of similar data, possibilities for reuse
Standards	Reference to existing standards in topic area governing data collection, aggregation, storage and sharing
Data sharing	How the data will be shared, identification of repository, existence of embargo period if any, identification of software or tools necessary for reuse, format
Identification of repository	Where data will be stored, if already existing and identified: type of repository (institutional, standard repository for the discipline, etc.). If dataset cannot be shared, explain why (e.g., ethical, rules of personal data, intellectual property, commercial, privacy-related, security-related)
Storage/backup	The procedure for long-term preservation, length of preservation, an estimation of costs and how this will be covered

2.4 Increase data reuse

Dissemination and Exploitation plan will be drafted by the Dissemination and Exploitation Manager in M6 and M48, in collaboration with the project partners, to also tackle the correct knowledge management and reuse of the data during the project and beyond.

At the current stage, unless specifically decided by the Consortium, all project results, etc. will be treated as open access, uploaded to the INNO2MARE website, partners websites, published at social medias, conferences, SCI papers. As stated before, some of the original results and technical solutions from Pilot projects are specific and require dedicated scientific tools to be opened or used. Some files, but not all, can be transferred into text to become visible and ready to use in other tools. In some cases, the developments can be saved as executable version, which can be used as technology demonstrators.

All non-software deliverables of the project will be licensed as Creative Commons where this is legally possible, except for specific publications that will have to comply with licensing terms and rights, following the Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020.

Where applicable for media, all these deliverables and achievements will be placed also on partners web pages and social medias for easy promotion and reuse.

Moreover, the data produced and/or used in the project will be useable by INNO2MARE partners and by third parties after the end of the project in line with individual agreements and limitation defined by each partner for particular data. The Action plan for pilot projects scale-up and demonstrator use cases will be developed during the project (M40) to increase the possibilities of data and results use.

Restrictions on reuse policy are applied for all protected data (Sensitive), whose reuse will be limited within the project partners.

Further specifications will be added in the next version of this DMP.

Regarding the quality assurance process, D1.3_Quality Assurance plan including gender monitoring, foreseen in M6 of INNO2MARE, will set the guidelines, which contain:

- Supply methods, standards and procedures adapted to the specific project objectives, including:

    - Organisation of the implementation team(s);

    - Roles and responsibilities of each participant;

    - Time schedules definition, implementation, monitoring and control;

    - Quality criteria for deliverables, publications and reports;

    - Quality criteria for software development and testing;

    - Procedures for evaluation, acceptance, and quality control;

- Assist and advise the project team in its effort of producing results of highest quality;

- Identify and exercise controls enabling a continuous and critical overview on the project progress regarding the project's objectives.

3 ALLOCATION OF RESOURCES

In the INNO2MARE project no extra costs are foreseen for making FAIR the project's data.

The activities related to making the data/outputs open access are covered within the allocated budget for each WP.

The Project Coordinator will assist/support partners in complying with GDPR regulation when necessary.

The Project Coordinator acts as Quality and Data Manager (QDM), in collaboration with consortium partners, to manage the data generated during the project.

The QDM will identify an appropriate data repository to store and safeguard the datasets, and ensure that data are readily accessible. First, the local data repository can be used at partners and MS Teams SharePoint can be used as final repository for crucial data and results.

The Communication and Dissemination Manager (CDM), UL, the Exploitation Manager (EM), UNIRI, in collaboration with consortium partners, will oversee the identification of which datasets will be disseminated and the most appropriate means of disseminating these data.

Additional details will be reported in the future versions of the DMP, if needed.

Resources for long term preservation, associated costs and potential value, as well as how data will be kept beyond the project and how long, will be discussed by the Consortium in the next meetings.

4 DATA SECURITY

Data security refers to protective digital privacy measures, applied to prevent unauthorised access to servers, computers, websites, and any other kind of data repositories put in place by project partners.

According to GDPR Data Controller is "a natural or legal person, public authority, agency, or other body which alone or jointly with others determines the purposes and means of processing personal data".

The Data Controller is responsible for ensuring that data is processed in compliance with the principles of lawfulness, fairness, transparency, data minimization, accuracy, storage limitation, integrity, and confidentiality. Furthermore, under GDPR, a data processor is as "a natural or legal person, public authority, agency, or other body which processes personal data on behalf of a controller".

In the context of INNO2MARE, UL as Lead Partner, provides the overall framework to facilitate partners in complying with the legal and ethical requirements of data protection. UL will have the responsibility to store the bulk of the collected data.

Each INNO2MARE project partner is fully responsible for guaranteeing that data will be stored securely and safely, to ensure confidentiality, integrity and availability of data.

Each partner is responsible for the data collected within its own activities, in its capacity of Data Controller, and must ensure that they are secured and stored safely and adequately processed.

Each partner is responsible for the use of personal data through INNO2MARE project's channels (website, social media pages). Data will be shared only after explicit, written consent of the data owner or their legal representative (see above).

All project deliverables, and those project data considered sharable by Data Controller, will be stored, and shared in the OPR - Official Project Repository (OPR – MS Teams SharePoint) restricted to the project consortium partners.

Data access and storage

The project has three main levels of data storage and sharing facilities according to the type of data and its intended accessibility.

- **Private:** Data are stored locally by each partner, subject to institutional back up practices.

- **Consortium:** The Project Coordinator will host a common space on web (UL Ms Teams SharePoint), which is accessible to all project partners. Consortium data will be uploaded to this cloud storage for simple, secure access for all partners from within a web browser.

- **Public:** The main facility that will be used during the project is the INNO2MARE website / Platform www.inno2mare.eu managed by UL, will be the first point of contact for public dissemination and promotion of the project. It will be reachable from every partner website through plug-in or INNO2MARE website link. It will host project description, main objectives, main updates about INNO2MARE events and innovation actions. The important news and results will be published at INNO2MARE or partners social medias.

Personal data will be collected by each project partner (Data Controller) through assessments, interviews, trainings, workshops, focus groups, and any other activity involving volunteer participants to INNO2MARE activities.

Participants will be informed, as part of the consent process, of the purpose(s) of data collected.

There will be appropriate backups (UL local repository) and firewall protection (protection of local and cloud-based repositories guaranteed by UL. The public and consortium data will be stored and available 5 years after the project end. The private type of data will be available and protected by UL during the project duration, after the project, the data is restricted to owners and partners.

These data will be used for research purposes only, and the INNO2MARE Consortium will hold the data for the time of research, project duration and after project duration as it is stated in CA, and as for long as the scientific community can benefit from this data, according to FAIR principles (5 years after the project duration).

Personal data meant to be shared outside the Data Controllers' servers, will be made public only under a consent form signed by the individual, to which the data belongs.

5 ETHICAL ASPECTS

The GDPR will be respected for all relevant personal data collected. When the project involves access by the partners to personal data, the partners shall be regarded as responsible for treatment of said data and shall comply with rules.

All partners will assure that the EU standards regarding ethics and data management are fulfilled.

Templates for informed consent forms and information sheet will be made available.

More details in relation to Ethics (and Security) in relation to Data Management can be found in ARTICLE 13 — CONFIDENTIALITY AND SECURITY and ARTICLE 14 — ETHICS AND VALUES of the GA.

6 DATASETS

Datasets will be implemented by the WP leaders along the course of the project and included in the next editions of the DMP. Below datasets implementation of tasks in each work packing.

Table 4: Datasets implementation of task WP1, Task 1.1.

WP1 Project Management & Coordination, Task 1.1	
Dataset reference / name	Project Management
WP and Task Name	WP1 – T1.1 – Project Management, including Quality Assurance, Gender and Equal Opportunities, Data and Risk Management
Task & Data Manager	UL
Availability	Public
Status	In progress, initial versions of DMP & QAP, final version planned for M48
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Project Management, Quality Assurance, Gender and Equal Opportunities, Data and Risk Management, Deliverable, Report, Milestone, Plan, Committee, Budget
Dataset description	This data set refers to Data management plan and Quality assurance plan including gender monitoring, both to be issued in 2 versions, initial and final (M6, M48).
	It refers also on establishing the Internal governance & operational bodies by the end of June 2023 (M6), such as Management board (MB), Quality assurance committee (QAC), Data management committee (DMC), Gender and equal opportunities committee (GEOC) and Working groups (WGs).
	This data set includes periodic internal progress and final reports within the Consortium so as periodic external progress and final reports to the EC (periodic activity reports, periodic management reports, final reports).
	Kick-off meeting was organised in January 2023 (M1), Agenda, Meeting Minutes, and List of participants will be uploaded to the EU Portal by the end of March 2023 (M3).
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 5 : Datasets implementation of task WP1, Task 1.2.

WP1 Project Management & Coordination Task 1.2	
Dataset reference / name	Innovation Council
WP and Task Name	WP1 – T1.2 Strategic Management of Place-based Innovation Ecosystems through the INNO2MARE Innovation Council, a Joint Coordination Body
Task & Data Manager	UNIRI
Availability	Public
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Joint coordinating body, ecosystem, representatives, Adriatic Croatia, Western Slovenia, Flanders
Dataset description	The dataset contains information about the call for expressions of interest to join the INNO2MARE Innovation Council that was disseminated at the project beginning. This dataset is connected to Milestone 2 - Innovation Council establishment, Report with the list of members (M6) and Deliverable D1.4. Report on the Innovation Council activity. Report on the Innovation Council activity, which includes the information on the Council establishment, members, plan and programme of activities, report on the activities of the Innovation Council containing information on its establishment, operations and achievements M (48).
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 6: Datasets implementation of task WP2, Task 2.1.

WP2 Cross Border Joint R&I Strategy Task 2.1	
Dataset reference / name	Mapping the Ecosystems
WP and Task Name	WP2 – T2.1 Mapping the ecosystems: actors, roles, activities, collaborative and competitive links
Task & Data Manager	BSC
Availability	Consortium, Public
Status	Completed
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Ecosystem's data, ecosystem profiles, actors and their roles,
Dataset description	Stakeholders and networks' mapping data from desk research, database search and exercises with different identified actors, their roles, activities and collaborative and competitive links, following the pre-approved "Methodology for an in-depth mapping of the Western Slovenian and Adriatic Croatian maritime innovation ecosystem" and using innovation ecosystem canvas tool, SWOT analysis and "maritime & nautical innovation checklist". \
\
Administrative, financial, and other professional and/or business-related information from companies, local stakeholders in the innovation ecosystem networks. \
\
A visual representation of the ecosystem will be used to understand the structure and dynamics of the ecosystem, identify areas of opportunity and risk, and develop strategies to enhance the sustainability and competitiveness of the ecosystem.
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 7 : Datasets implementation of task WP2, Task 2.2.

WP2 Cross Border Joint R&I Strategy Task 2.2	
Dataset reference / name	Gap Analysis
WP and Task Name	WP2 – T2.2 Gap Analysis
Task & Data Manager	PRIGODA
Availability	Public
Status	Completed
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Gap analysis, R&I needs, challenges & opportunities, workshops with stakeholders
Dataset description	Will be defined
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 8: Datasets implementation of task WP2, Task 2.3.

WP2 Cross Border Joint R&I Strategy Task 2.3	
Dataset reference / name	R&I Strategy
WP and Task Name	WP2 – T2.3 Joint R&I Strategy Formulation
Task & Data Manager	PRIGODA
Availability	Public
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Will be defined
Dataset description	Will be defined
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 9: Datasets implementation of task WP3, Task 3.1.

WP3 R&I Pilot Projects Task 3.1	
Dataset reference / name	Pilot Project 1
WP and Task Name	WP3 – T3.1 Design and prototyping of R&I Pilot Project 1 "Improved Fire Evacuation VR Model of a Ship Engine Room"
Task & Data Manager	PFRI
Availability	Consortium
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	VR, CFD, fire, engine room
Dataset description	Outputs of CFD analysis of fire spread in ship engine room. VR visualization of fire spread in ship engine room.
Standards	No specific standards for this data
Data sharing	Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg., .html, .avi formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 10: Datasets implementation of task WP3, Task 3.2.

WP3 R&I Pilot Projects Task 3.2	
Dataset reference / name	Pilot Project 2
WP and Task Name	WP3 – T3.2 Design and prototyping of R&I Pilot Project 2 "Digital Twin of Hybrid Systems Supported by AI for Sustainable and Efficient Energy Conversion and Management or Distributed Networks"
Task & Data Manager	UL
Availability	Private or Consortium – during the project duration and before the results are published in SCI articles. Public – after the SCI publication (open access publication) and after the project duration.
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Keyword(s) that categorise data to make it linked/searchable Digital data, numerical models, numerical codes, numerical algorithms, real measured data, energy related data.
Dataset description	The data representing the simulation models of Pilot project 2, the data required for inputs for simulation models – real, measured input data (date from system network, end user data without personal data), parameters of the real system and simulation models, results from simulation (energy consumption).
Standards	Different standards, definition in progress.
Data sharing	Specific data related to the data and parameters of the real system (in progress), specific data format of simulation parameters and simulation results – transferable to general-use data such as txt, Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats. The data can be shared in standard formats, no specific tools needed.
Identification of repository	Specific data will be stored locally at DIGITEH and ISKRA local repository. The readable data and figures, results, graphs will be stored in the INNO2MARE shared repository on Teams.
Storage/backup	Standard backup in the local repository (DIGITEH, ISKRA) and INNO2MARE MS Teams shared platform.

Table 11: Datasets implementation of task WP3, Task 3.3.

WP3 R&I Pilot Projects Task 3.3	
Dataset reference / name	Pilot Project 3
WP and Task Name	WP3 – T3.3 Design and Prototyping of R&I Pilot Project 3 "Autonomous Shipping Technology"
Task & Data Manager	RITEH
Availability	Private, or Consortium
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Autonomous shipping technology,
Dataset description	Measured data from real environment, numerical models, codes, algorithms, AI-based models, videos.
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 12: Datasets implementation of task WP3, Task 3.4.

WP3 R&I Pilot Projects Task 3.4	
Dataset reference / name	Model Testing
WP and Task Name	WP3 – T3.4 Testing the Models of Collaborative R&I of the Ecosystems' actors
Task & Data Manager	UL
Availability	Private or Consortium – depending on confidentiality related to SME transformation
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Metadata related to all Pilot projects from T3.1, T3.2 and T3.3.
Dataset description	Datasets related to all Pilot projects from T3.1, T3.2 and T3.3.
Standards	No specific standards for this dat
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats.
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 13: Datasets implementation of task WP4, Task 4.1.

WP4 Action and Investment Plan Task 4.1	
Dataset reference / name	Action Plan
WP and Task Name	WP4 – T4.1 Development of the Action Plan for the Implementation of R&I Strategy Leveraging National, Regional and European Funds and Venture Capital
Task & Data Manager	BSC
Availability	Public
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	R&I and knowledge transfer action plan
Dataset description	Data specifying the needed actions, responsible actors, required resources and related funding sources for implementing the R&I Strategy, including data on expected results and timelines for particular action plan components.
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 14: Datasets implementation of task WP4, Task 4.2.

WP4 Action and Investment Plan Task 4.2	
Dataset reference / name	Monitoring
WP and Task Name	WP4 – T4.2 Monitoring for the joint R&I strategy and action plan
Task & Data Manager	BSC
Availability	Public
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Methodology with outcome-based indicators for the strategy and action plan monitoring
Dataset description	Data specifying the methodology for monitoring the progress in realisation of the goals and objectives set in the R&I strategy and action plan. Data specifying outcome-based indicators for assessing the performance and wider economic-societal impact of the actions set in the R&I strategy and action plan. Data specifying outcome-based indicators for enabling R&I and knowledge transfer activities, planned within the WP3, WP5 and WP6, contribute to the action plan realisation.
Standards	No specific standards for this data.
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 15: Datasets implementation of task WP4, Task 4.3.

WP4 Action and Investment Plan Task 4.3	
Dataset reference / name	Exploring Synergies
WP and Task Name	WP4 – T4.3 Exploring Synergies with other Projects and the European Institute of Innovation & Technology (EIT)
Task & Data Manager	UNIRI
Availability	Public
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	European Institute of Innovation & Technology (EIT), Horizon Europe, Digital Europe, INTERREG and national programmes
Dataset description	Dataset contains information about ongoing complementary projects and initiatives within Horizon Europe, Digital Europe, INTERREG and national programmes. Dataset refers to D4.2. Report on synergies with other initiatives & new partnerships.
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 16: Datasets implementation of task WP4, Task 4.4.

WP4 Action and Investment Plan Task 4.4	
Dataset reference / name	Scalability and Sustainability
WP and Task Name	WP4 – T4.4 Scalability and Sustainability Actions
Task & Data Manager	HZS
Availability	Public
Status	Planned
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Will be defined
Dataset description	Will be defined
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

**Funded by
the European Union**

Table 17: Datasets implementation of task WP5, Task 5.1.

WP5 Pre-planning for Pilots and Demonstrators, Task 5.1	
Dataset reference / name	Pre-planning for R&I Pilot Project 1
WP and Task Name	WP5 – T5.1 Pre-planning for Pilots & Demonstrators based on R&I Pilot Project 1
Task & Data Manager	MS Tech
Availability	Private or Consortium, to be agreed.
Status	Planned
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Prototype testing, VR of Ship Engine Room, Fire safety
Dataset description	Testing the feasibility of the developed prototype in industrially relevant and operational environments, including user testing, it is related to the optimisation of a ship engine room for increased fire safety and optimised evacuation pathways. The developed VR model will be tested by industry, experienced seafarers and students and testing results will be used to assess the suitability and reliability of the model.
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 18: Datasets implementation of task WP5, Task 5.2.

WP5 Pre-planning for Pilots and Demonstrators, Task 5.2	
Dataset reference / name	Pre-planning for R&I Pilot Project 2
WP and Task Name	WP5 – T5.2 Pre-planning for Pilots & Demonstrators based on R&I Pilot Project 2
Task & Data Manager	ISKRA
Availability	Private or Consortium to be agreed
Status	Planned
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Prototypes, real system demonstrator, virtual demonstrator.
Dataset description	Technical specifications for hardware and software requirements for implementing the digital twin for virtual platform, numerical models, numerical codes, real system description, measured data, parameters of the systems, graphical and text presentation of results.
Standards	No specific standards for this data, the graphical interfaces will be developed for management, control and visualization.
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats.
Identification of repository	Specific data will be stored locally at DIGITEH and ISKRA local repository. The readable data and figures, results, graphs will be stored in the INNO2MARE shared repository on Teams.
Storage/backup	Standard backup in the local repository (DIGITEH, ISKRA) and INNO2MARE MS Teams shared platform.

Table 19: Datasets implementation of task WP5, Task 5.3.

WP5 Pre-planning for Pilots and Demonstrators, Task 5.3	
Dataset reference / name	Pre-planning for R&I Pilot Project 3
WP and Task Name	WP5 – T5.3 Pre-planning for Pilots & Demonstrators based on R&I Pilot Project 3
Task & Data Manager	MCoE
Availability	Private or Consortium, to be agreed.
Status	Planned
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Prototype testing, Autonomous Shipping Technologies, Real system demonstrator, Virtual demonstrator.
Dataset description	The developed models will be deployed in a prototype system for vision-based sea state detection and detection of objects on the sea surface for collision avoidance. Autonomous ship equipment and algorithms will be tested and validated through simulations. As a succeeding step, the designed algorithms will be applied on full scale ships in collaboration with industrial partners. Field tests are targeted to be carried out offshore Rijeka and parts of Rijeka port.
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats (any other?) Embargo?
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 20: Datasets implementation of task WP5, Task 5.4.

WP5 Pre-planning for Pilots and Demonstrators, Task 5.4	
Dataset reference / name	Models for pilots and demonstrators' development in complex ecosystems
WP and Task Name	WP5 – T5.4 Models for Pilots and Demonstrators' Development in Complex Ecosystems
Task & Data Manager	ISKRA
Availability	Private or Consortium
Status	Planned
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Models for Pilots and demonstrators, Metadata related to Pilot 1, 2 and 3.
Dataset description	Data related to the Pilot projects 1, 2 and 3.
Standards	No specific standards for this data.
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats.
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 21: Datasets implementation of task WP6, Task 6.1.

WP6 Accompanying Measures Task 6.1	
Dataset reference / name	Citizen Engagement Activities
WP and Task Name	WP6 – T6.1 Citizen Engagement
Task & Data Manager	CTK Rijeka
Availability	Public
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition.
Dataset Specific Metadata	Citizen engagement, innovation, local communities, skills development, training programs, thematic camps, digital events, green events, Innovation Council.
Dataset description	This dataset contains information on the citizen engagement activities implemented under Task 6.1 of the INNO2MARE Project. The dataset includes details on four programmes, including Citizens' skills development, Thematic camps, Digital & green events, and Citizens Connect, which aim to engage citizens and promote innovation in the local communities of the two involved ecosystems in the INNO2MARE Project. The dataset also includes a report (D6.1) summarizing the outcomes and impact of these activities, as well as best practices and recommendations for future initiatives.
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats, depending on the specific citizen engagement activities. Personal data that will be shared only in aggregated forms without personal identifiers.
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 22: Datasets implementation of task WP6, Task 6.2.

WP6 Accompanying Measures Task 6.2	
Dataset reference / name	Knowledge Transfer and Staff Exchange
WP and Task Name	WP6 – T6.2 Knowledge Transfer & Staff Exchange for Mutual Learning.
Task & Data Manager	UNIRI
Availability	Public
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Knowledge transfer, staff exchange, entrepreneurship training, smart skills development, demand-driven knowledge transfer, technology transfer, creative thinking, short-term secondments, mutual learning
Dataset description	This dataset contains information on the activities implemented under Task 6.2 of the INNO2MARE Project, which focused on knowledge transfer and staff exchange for mutual learning. The dataset includes details on entrepreneurship training and smart skills development, as well as training cycles for ecosystems' actors on demand-driven knowledge transfer, advisory support on knowledge and technology transfer, the INNO2MARE Challenge, and short-term secondments and missions for staff of ecosystems' actors. It also includes a Training and Knowledge Transfer Plan (D6.2) summarizing the objectives and implementation of these activities.
Standards	No specific standards for this data.
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats, depending on the specific citizen engagement activities. Personal data that will be shared only in aggregated forms without personal identifiers.
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform.

Table 23: Datasets implementation of task WP6, Task 6.3.

WP6 Accompanying Measures Task 6.3	
Dataset reference / name	Entrepreneurship Training and Smart Skills Development
WP and Task Name	WP6 – T6.3 Entrepreneurship training & smart skills development
Task & Data Manager	STEP RI
Availability	Public
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Entrepreneurship training, smart skills development, research management, innovation management, start-up entrepreneurship, business growth, leadership skills, talent attraction, talent retention.
Dataset description	This dataset contains information on the entrepreneurship training and smart skills development activities implemented under Task 6.3 of the INNO2MARE Project. The dataset includes details on annual training sessions for ecosystem actors focused on research and innovation management, start-up entrepreneurship, business growth, and leadership skills. The training sessions will be attended by a total of about 150 people in both ecosystems. The dataset includes also talent attraction and retention plan (D6.3) that outlines activities to attract and retain the best talents in all categories of innovative actors in the involved ecosystems. A set of best practices and a list of activities used during the project will be created.
Standards	No specific standards for this data.
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats, depending on the specific citizen engagement activities. Personal data that will be shared only in aggregated forms without personal identifiers.
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform.

Table 24: Datasets implementation of task WP6, Task 6.4.

WP6 Accompanying Measures Task 6.4	
Dataset reference / name	Attraction of Talents
WP and Task Name	WP6 – T6.4 Attraction of talents and career development
Task & Data Manager	MCoE
Availability	Public
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Talent attraction, career development, recruitment, R&I pilot projects, Career Connector platform, Innovation Council, Bootcamp training programme, INNO2MARE Project
Dataset description	This dataset contains information on the talent attraction and career development activities implemented under Task 6.4 of the INNO2MARE Project. The dataset includes details on the four major action areas of the task, which include the recruitment of new highly skilled workforce for R&I pilot projects, the development of the INNO2MARE Career Connector platform, brainstorming sessions on talent attraction and retaining of the Innovation Council members, and the Bootcamp IT training programme for junior developers. The dataset also includes a report (D6.4) summarizing the outcomes and impact of these activities, as well as best practices and recommendations for future initiatives.
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats (any other?) Embargo?
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Table 25: Datasets implementation of task WP7, Task 7.1.

WP7 Dissemination, Exploitation and Communication 7.1	
Dataset reference / name	Dissemination and Communication Tools
WP and Task Name	WP7 – T7.1 Dissemination and communication
Task & Data Manager	UL
Availability	Public
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Dissemination, Communication, Promotion, Deliverable, Report
Dataset description	This data set includes the project's visual identity and dissemination/communication materials: ▪ ad hoc graphics, banners, leaflets, brochures, badges, posters, etc. ▪ social media banners, GIFs, etc ▪ logos, standards manual; templates (Letterhead, Word, PowerPoint) ▪ website ▪ social media channels ▪ articles, presentations, publications, etc. ▪ list of events ▪ final event materials (registered participants, invitations, etc.) The data set refers to the Communication and Dissemination Activity Report
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .ppt, .jpg, MP4, MOV, WMV, AVI formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

Funded by the European Union

Table 26: Datasets implementation of task WP7, Task 7.2.

WP7 Dissemination, Exploitation and Communication 7.2	
Dataset reference / name	Exploitation
WP and Task Name	WP7 – T7.2 Exploitation
Task & Data Manager	UNIRI
Availability	Public
Status	In progress
Mandatory metadata	European Union, Horizon Europe, INNO2MARE, Innovation, Maritime, Digital Transition
Dataset Specific Metadata	Exploitation plan, Deliverable, Report
Dataset description	Dataset contains exploitation plan for each of the KERs. Dataset refers to D7.1 Dissemination, exploitation and communication plan – first version and D7.2. Dissemination, exploitation and communication activities report, including the updated plan.
Standards	No specific standards for this data
Data sharing	No specific software is required for reuse. Uploaded files will be in Microsoft Office .doc, docx, .xls, .xlsx, .pdf, .jpg. .html formats
Identification of repository	Data will be stored in the INNO2MARE shared repository on Teams and in the partners' project folders.
Storage/backup	Standard backup in the shared platform

7 CONCLUSIONS

This document introduces the first plan for INNO2MARE Data Management, identifies the datasets criteria of data that will be generated or collected, and describes how they will be stored and shared.

It specifies the level of dissemination, as far as possible, for the time being.

In addition, repositories for managing and sharing data are identified.

INNO2MARE Data Management plan will be updated with more details in each 12-month period (for internal storage in SharePoint). The final version will be issued at the end of the project in Month 48.

8 REFERENCES

[1] Guidelines on Data Management in Horizon 2020

[2] Annotated Model Grant Agreement - Open access to research data

[3] Template for the Data Management Plan

[4] INNO2MARE website: www.inno2mare.eu (in preparation), functional in July 2023