MAGPIE

SMART GREEN PORTS

Project Management Plan Rev1

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D1.8 : MANAGEMENT PLAN AND PROJECT PROCESS HANDBOOK REV 1 D1.8

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NAME	ROLE	DATE
R. Will	WP Leader	31-03-2023
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History of Changes

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1. Table of Content

Executive Summary

MAGPIE project is an international collaboration working on demonstrating technical, operational, and procedural energy supply and digital solutions in a living lab environment to stimulate green, smart and integrated multimodal transport and ensure roll-out through the European Green Port of the Future Master Plan and dissemination and exploitation activities. The consortium, coordinated by the Port of Rotterdam, consists of 3 other ports (DeltaPort, Sines and HAROPA), 9 research institutes and universities, 32 private companies, and 4 other organisations. The project is divided in 10 main work packages which include energy supply chains, digital tools, 10 demonstrators for maritime, inland water, road, and rail transport, non-technological innovations and the development of a Masterplan for European Green ports.

This document is the deliverable " D1.8 : MANAGEMENT PLAN AND PROJECT PROCESS HANDBOOK REV 1 " of the European project MAGPIE, s**MA**rt **G**reen **P**ort as **I**ntegrated **E**fficient multimodal hubs. The MAGPIE project is using a standard project management approach based on timelines, regular communications, quality control and risk management.

The MAGPIE Project Management Plan (PMP) is the main planning document and describes how major aspects of the project are managed, monitored and controlled. It is intended to provide guidance and direction for specific management, planning, and control activities such as schedule, cost, risk, communication, quality, etc. The focus of this document is to describe the approaches being taken in the project to manage the various work packages, share and store documents, communicate among consortium members, control the quality of project deliverables, identify and mitigate risks associated with the project.

The PMP is a living document and will be updated continuously throughout the project. This document is the first revision. The Project Management Plan includes amongst others:

- Definition of roles, responsibilities, processes and activities;
- Structure approach to ensure the project will be completed on-time, within budget, and with high degree of quality;
- Assisting the project teams to identify and plan for project activities and how these will be managed (budget, quality, schedule, etc.).

The intended audience of the MAGPIE Project Management Plan consists of Partners of the MAGPIE consortium and the Project Officer.

2. Introduction

Deliverable 1.8 is the Project Management Plan Revision 1 (PMP Rev1) of the MAGPIE Project. The purpose of this document is to provide a documented plan for the management and control of the organizational, developmental and supporting processes.

This PMP describes the goals, objectives, organisational setup, responsibilities and roles of project participants. Specifies the general procedures and management to ensure the success of the project.

The development of the PMP is a continues developing process during the execution of the project. The project is currently 18 month in execution of the total 5 year duration of the overall project. The PMP will be updated periodically through revisions of the project plan and specifically related to budget, schedule and risks. The PM will be responsible for the maintenance and subsequent revisions to the PMP.

The MAGPIE project will be using a standard project management approach based on timelines, regular communications, quality control and risk management. To support the project management the MAGPIE project is using a Share-point environment to work and share between the partners and project teams and is using MS Teams for meetings and conferencing, this besides the more standard work methods of e-mailing and sharing documents.

3. Overview of the MAGPIE project

The MAGPIE consortium, consisting of 4 ports (Lighthouse Port of Rotterdam, Fellow ports DeltaPort (inland), Port of Sines and HAROPA), 9 research institutes and universities, 32 private companies and 4 other institutes, forms a unique collaboration addressing the missing link between green energy supply and green energy use in port-related transport and the implementation of digitisation, automation, and autonomy to increase transport efficiency. MAGPIE accelerates the introduction of green energy carriers (batteries, hydrogen, ammonia, BioLNG and methanol) combined with realisation of logistic optimisation in ports through automation and autonomous operations. The main objective of MAGPIE is to demonstrate technical, operational, and procedural energy supply and digital solutions in a living lab environment to stimulate green, smart, and integrated multimodal transport and ensure roll out through the European Green Port of the Future Master Plan and dissemination and exploitation activities. A living lab approach is applied in which technological and non-technological innovations are developed or demonstrated. Innovations demonstrated are: On-site BioLNG production; Smart Energy Systems; Shore power peak shaving; Port digital twin (GHG tooling and energy matching); Ammonia bunkering; Offshore charging buoy; Autonomous e-barge and transhipment; Green energy container for inland shipping; Hybrid shunting locomotive; Green connected trucking; Spreading of road traffic; Non-technological innovations to increase the use of green energy. Demonstrators will lead into the Master Plan for the European Green including a roadmap and handbook for implementation. To increase the reach and exploitation of the project results, stakeholders will be in the project through stakeholder consultation groups, targeted communication and dissemination activities. Technical collaborations will be set up with other actions to multiply the results of MAGPIE and of the other actions.

3.1 Project purpose and objectives

The purpose of the project is to demonstrate technical, operational, and procedural energy supply and digital solutions in a living lab environment to stimulate green, smart and integrated multimodal transport and ensure roll-out through the European Green Port of the Future Master Plan and dissemination and exploitation activities.

The objectives are to flatten the curve of climate change, urgent actions are needed. In 2019 the European Commission (EC) launched the European Green Deal (EGD) strategy to overcome climate change challenges. Complementary to this the Sustainable and Smart Mobility Strategy was published in December 2020. Greening transport is one of the key objectives of the EGD. Transport accounts for 25% of the EU's greenhouse gas (GHG) emissions . The objective of the EGD is to reduce the GHG emissions of transport by 90%

by 2050. Waterborne transport accounts for approximately 13% of EU's transport GHG emissions, which equals to more than 3% of the total EU GHG emissions

- ✧ : Map the supply chain from source to "plug" of high potential green energy carriers for the green transport sector of the future and demonstrate technologies that complete the missing links.
- ✧ : Demonstrate the technological and logistical innovations for the use of green energy carriers for maritime, inland waterway, road, and rail transport in a living lab environment.
- ✧ : Demonstrate the potential of digitalization as enabler in the energy transition and automation in the energy transition, operational and strategic optimization of transport chains.
- ✧ : Develop and demonstrate market mechanisms and incentive schemes ports can apply to motivate modalities to, from and in port to transition to green energy carriers.
- ✧ : Formulate the role of ports in accelerating green, smart, and integrated multimodal transport sector towards decarbonized transport in 2050.
- ✧ : Achieve wide acceptance of the MAGPIE project results.

3.2 Time Management

Milestones

To management the timing of the project, milestones are created for the various activities within the the workpackages, demonstrations, tools and Masterplan developments. The progress of the project will be monitored and measured against these set milestones and discussed with the workpackages leaders. Milestones are meant to keep track of the progress and to identify points in time where information needs to be shared between partners without having a deliverable. The Coordinator is responsible for keeping track of the Milestones and checking whether they will be reached on time.

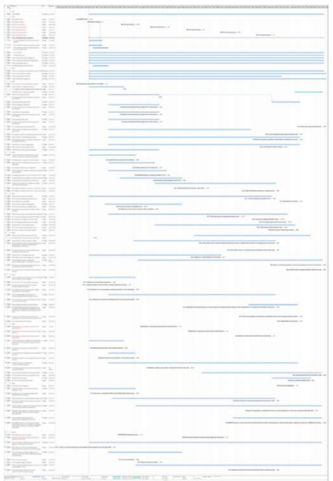
Number	Milestone name	Related WPs	Due date	Partner	Means of verification
MS1	Energy demand input available from modalities	WP 2, 3, 9	M4	EDP	Task 3.1 has received input on energy needs from stakeholder groups and WP 9
MS2	MAGPIE templates	WP 1	M3	POR	Templates of deliverables, presentations, etc available
MS3	MAGPIE linked with other actions	WP 10	M12	POR	Workshop with other actions organised
MS4	First project check-up	All	M12	POR	Memo of demo status shared with partners
MS5	Second project check-up	All	M21	POR	Memo of demo status shared with partners
MS6	Workshop on base practices measurements and impact (interim 1)	WP 8, all	M24	EUR	Workshop held and reported in internal memo to partners

Number	Milestone name	Related WPs	Due date	Partner	Means of verification
MS7	Third project check-up	All	M30	POR	Memo of demo status shared with partners
MS8	Demonstration activities and impact assessment aligned with other actions	WP 10	M36	POR	Workshop held and reported in internal memo to partners
MS9	Workshop on base practices measurements and impact (interim 2)	WP 8, all	M36	EUR	Workshop held and reported in internal memo to partners
MS10	Fourth project check-up	All	M39	POR	Memo of demo status shared with partners
MS11	Final project check-up	All	M48	POR	Memo of demo status shared with partners
MS12	Workshop on base practices measurements and impact (final)	WP 8, all	M48	EUR	Workshop held and reported in internal memo to partners
MS13	Demo input to Master Plan	WP 9, all	M54	POR	All demos have supplied (preliminary) conclusions on results with WP 9

Figure 1, List of milestones

Project Schedule

Activities, milestones, meetings, events are included in the MAGPIE project schedule. The MAGPIE project schedule is planned in MS Project with relations between the activities and interdependencies between the various tasks.



Link to the schedule in MS Project format can be found in

Project Deliverables

Part of the MAGPIE project are 10 Demonstration projects, 4 tool developments a roadmap and Masterplan handbook.

Deliverables have been defined under each workpackage, demonstrations, tool, roadmap and handbook.

The following chapters list the deliverables of the MAGPIE project.

Deliverables WP1

D1.1: Management plan and project process handbook (M3)

D1.2: Templates for minutes of consortium meetings (M3)

D1.3: Templates to collect reporting information for periodic EC progress reports (M6)

D1.4: Data management and Quality Plan (M6)

D1.5: IP Portfolio (M60)

D1.6: Exploitation plan (M60)

D1.7: Data Management Plan (M6)

D1.8: Management plan and project process handbook rev 1 (M17)

D1.9: Management plan and project process handbook rev 2 (M35)

Deliverables WP2

D2.1: Communication & dissemination plan (M3)

D2.2: Updated communication & dissemination plan (M30)

D2.3: Website & social media channels (M6)

D2.4: Communication tools & implementation (M58)

D2.5: Dissemination impact evaluation (M60)

D2.6.: Port-City activation plan (incl. both businesses and citizen) (M48)

Deliverables WP3

D3.1: Modalities transport energy requirements specification [POR, M9]

D3.2: Gaps and developments Electricity supply chain for future demand [EDP, M18]

D3.3: Gaps and developments Electricity supply chain for future demand [EDP, M60]

D3.4: Gaps and developments Hydrogen supply chain for future demand [EDP, M18]

D3.5: Gaps and developments Hydrogen supply chain for future demand [EDP, M60]

D3.6: Gaps and developments Ammonia supply chain for future demand [EDP, M18]

D3.7: Gaps and developments Ammonia supply chain for future demand [EDP, M20]

D3.8: Gaps and developments BioLNG supply chain for future demand [POR, M18]

D3.9: Gaps and developments BioLNG supply chain for future demand [POR, M60]

D3.10 Long-term assessment energy supply and demand model [TUD, M54]

D3.11 BioLNG demonstrator specification, implementation, demonstration and roll-out [PPoint, M54]

D3.12 Smart Energy demonstrator software [TUD, M49]

D3.13 Smart Energy demonstrator report [EUR, M49]

D3.14 Conceptual Design of Smart Energy System [BFL, M6]

D3.15 Report on physical mock-up of the integrated system in factory settings [TNO, M12]

D3.16 Report on pilot smart network solution (Caland Peninsula) [ENECO, M18]

D3.17 Report on pilot performance dashboard with real-time surveillance possibility [ENECO, M25]

D3.18 Report on and evaluation of roll-out smart system shore power [TNO, M28]

Deliverables WP4

D4.1: Digital Platforms and Services for Port Operation [R, CO] (M12) (APS) – Description and characterization of existing platforms and potential service adoption in ports.

D4.2: Modular Architecture for Port Digital Twin [R, PU] (M18) (TNO) – Definition of the modular and interoperable architecture, for multi-sources/devices and applications for digital twin.

D4.3: Digital Representation of Assets and Systems in Ports [O, PU] (M20) (TNO) – Establish the common digital representation of assets and systems with which the digital tools will interact.

D4.4: Data Models and Data Analytics for Green Ports [R, CO] (M24) (CEA) – Supply data-driven models of the use of assets and systems for optimization and decision support.

D4.5: Digital Twin Platforms and Services – initial version [O, PU] (M30) (INESC) – First version of the digital tools that compose the digital twin and support the respective use-case.

D4.6: Digital Twin Platforms and Services – improved version [O, PU] (M48) (INESC) – improved version of the digital tools that compose the digital twin and support the respective use-case.

Deliverables WP5

D5.1: Ammonia bunkering demonstration report (M47) [ZCS]

D5.2: Ammonia fuel roll-out plan (M54) [PV]

D5.3: Buoy demonstration and feasibility report (M14) [BES]

D5.4: Business case report and roll-out plan to offshore recharging (M17) [POR]

D5.5: Autonomous barge and transhipment evaluation report (M39) [TUD]

D5.6: Autonomous e-barge demonstration report (M49) [WAR]

D5.7: Port logistics impact report and roll-out plan (M51) [POR]

D5.8: Green Energy Container evaluation report (M50) [ZES]

D5.9: Roll-out plan for Green Energy Containers (M53) [TUD]

Deliverables WP6

D6.1: Demonstration report zero-emission locomotives

D6.2: Demonstration report on electric driving with heavy transport trucks in combination with operation of a decoupling point in the port area

D6.3: Demonstration report on automated docking for recharging of electric heavy trucks

D6.4: Digital tools for peak management of road traffic

D6.5: Report on hinterland hub design for proper road spreading and connection to the last mile

D6.6:: Demonstration report synchro-modal hinterland logistic

D6.7: Logistic model for sustainable hinterland networks and hubs

Deliverables WP7

D7.1: Overview of non-technological issues/barriers (M6)

D7.2: Long list of potential non-tech innovations, described, categorised and ranked (M9)

D7.3: Selected set of non-tech innovations including requirements for the developments (M12)

D7.4: Development, assessment, and feedback system for non-tech innovations (M12)

D7.5: Eight detailed developed and assessed non-tech innovations, where appropriate with readiness for wider implementation in the lighthouse and translated to fellow ports (M48)

D7.6: Policy recommendations for introduction and upscaling of new non-tech innovations including a timeline (M54)

D7.7: Implementation monitoring tool (M54)

Deliverables WP8

D8.1: Measurement requirements, method and KPIs framework, M9 (Lead partner: TNO)

D8.2: Baseline evaluation and prioritization of demo-specific scenarios, M12 (Lead partner: EUR)

D8.3: Baseline comparison report based on measurements 2 years into the project, M26 (LP: EUR)

D8.4: Impact assessment and ex-post evaluation results, M60 (Lead partner: TNO)

D8.5: Scale-up potential at different levels, M57 (Lead partner: TUD)

Deliverables WP9

D9.1: Status report on sustainable and GHG-neutral initiatives within European ports (M12)

D9.2: Vision document for the future green European port with outlook to 2050 (M48)

D9.3: Roadmap for implementation of sustainable solutions and to direct European ports to D9.2 vision document by 2030, 2040, 2050 (M58)

D9.4: MAGPIE Handbook on how to become the future green European port with concrete guidance on planning, implementation, replication and scaling-up of MAGPIE demonstrators (M60)

Deliverables WP10
D10.1: Report on other actions supported by EU addressing similar ecosystems and/or technologies (M6)

D10.2: Joint communication plan (M12)

D10.3: Signed joint alignment strategy (M18)

D10.4: Adjusted demonstration plans with KPI measurement advice to maximize synergy (M48)

Deliverables WP11
D11.1: H -Requirement No,1 (M3)

D11.2: POPD – Requirement no. 2 (M3)

4. Project Organisation

4.1 Management structure

MAGPIE Consortium

The MAGPIE Consortium consist out of 45 partners and is coordinated by the Port of Rotterdam (PoR). Partners of the MAGPIE consortium have considerable experience with EU project and compliment each other in the fields or research, development, implementation and execution. The organization of Port of Rotterdam supports the project on administration, legal and financial tasks.

The MAGPIE consortium, consisting of 4 ports (Lighthouse port Rotterdam, Fellow Ports DeltaPort (inland), Sines and HAROPA Port), 9 research institutes and universities, 32 private companies and 4 other institutes, forms a unique collaboration addressing the missing link between green energy supply and green energy use in port-related transport and the implementation of digitalization, automation, and autonomy to increase transport efficiency.

#	Partner organisation name (Acronym)	Country	Type
1	Port of Rotterdam (POR)	NL	PRC
2	GIE HAROPA Port (HAROPA)	FR	PRC
3	DeltaPort GmbH & Co. KG (DTP)	DE	PRC
4	Administração dos Portos de Sines e do Algarve, SA (APS)	PT	PRC
5	Netherlands Organisation for applied scientific research (TNO)	NL	RES
6	Erasmus University Rotterdam (EUR)	NL	HES
7	Delft University of Technology (TUD)	NL	HES
8	Instituto de engenhardiade sistemas e computadores, technolgia e ciencia (INESC)	PT	RES
9	CNET Centre for new energy technologies (EDP)	PT	PRC

10	Stichting projecten binnenvaart (SPB)	NL	OTH
11	Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping (ZCS)	DK	OTH
12	Association internationale Villes et Ports (AIVP)	FR	OTH
13	Stichting maritime research instituut Nederland (MARIN)	NL	RES
14	Zero Emission Services B.V. (ZES)	NL	PRC
15	Proton Ventures BV (PV)	NL	PRC
16	Stichting Netherlands Maritime Technology foundation (NMTF)	NL	OTH
17	Energiewirtschaftliches Institute ander universitat zu Kolm GmbH (EWI)	DE	HES
18	Planco Consulting GmbH (PLANCO)	DE	PRC
19	Chemgas Shipping BV (CHEM)	NL	PRC
20	DAF Trucks NV (DAF)	NL	PRC
21	VDL Enabling transport solutions BV (VDL)	NL	PRC
22	Volvo Technology AB (VOLVO)	SE	PRC
23	OFP Energies Nouvelles (IFP)	FR	RES
24	H2 Projektentwicklungsgeseellschaft GmbH (H2PEG)	DE	PRC
25	MTS Emmelsum GmbH (MTS)	DE	PRC
26	Imgrund Silogistic GmbH (IMGR)	DE	PRC
27	Fraunhofer Gesellschaft zur Foerderung der angewandten Forschung e.V. (FRAU)	DE	RES
28	Van Oord Ship Management B.V. (VOM)	NL	PRC
29	Air Liquide France Industrie (AIR)	FR	PRC
30	AI in motion BV (AIIM)	NL	PRC
31	Eneco Solar, Bio & Hydro (ENECO)	NL	PRC
32	Bluewater Energy Services BV (BLUE)	NL	PRC
33	Circoe (CIRCOE)	FR	PRC
34	Commissariat a l'Energie Atomique et aux Energies Alternatives (CEA)	FR	RES
35	DHL Global Forwarding (DHL)	NL	PRC
36	Rail Innovators Group BV (RIG)	NL	PRC
37	Heerema Marine Contractors Nederland SE (HMA)	NL	PRC
38	Niederrheinische Verkehrsbetriebe Aktiengesellschaft (NIAG)	DE	PRC
39	Van Oord Offshore BV (VOO)	NL	PRC
40	Goodfuels BV (GFLS)	NL	PRC
41	Prorail BV (PRORAIL)	NL	PRC
42	Blockchain Fieldlab BV (BLAB)	NL	PRC
43	Wartsila Netherlands BV (WTI)	NL	PRC
44	Pitpoint LNG BV (PPOINT)	NL	PRC
45	APM terminals Maasvlakte II B.V. (APMT)	NL	PRC

Figure 2, MAGPIE Partners

Governance structure

General governance structure of the MAGPIE project is organized from the General Assembly in which all partners are represented. To further structure the organization a steering committee is overseeing all workpackages. The project management team is responsible for the day to day management of the overall project and the Workpackageleaders are responsible for the respective workpackage. Port of Rotterdam as Project Coordinator (PC) is managing the relation with CINEA.

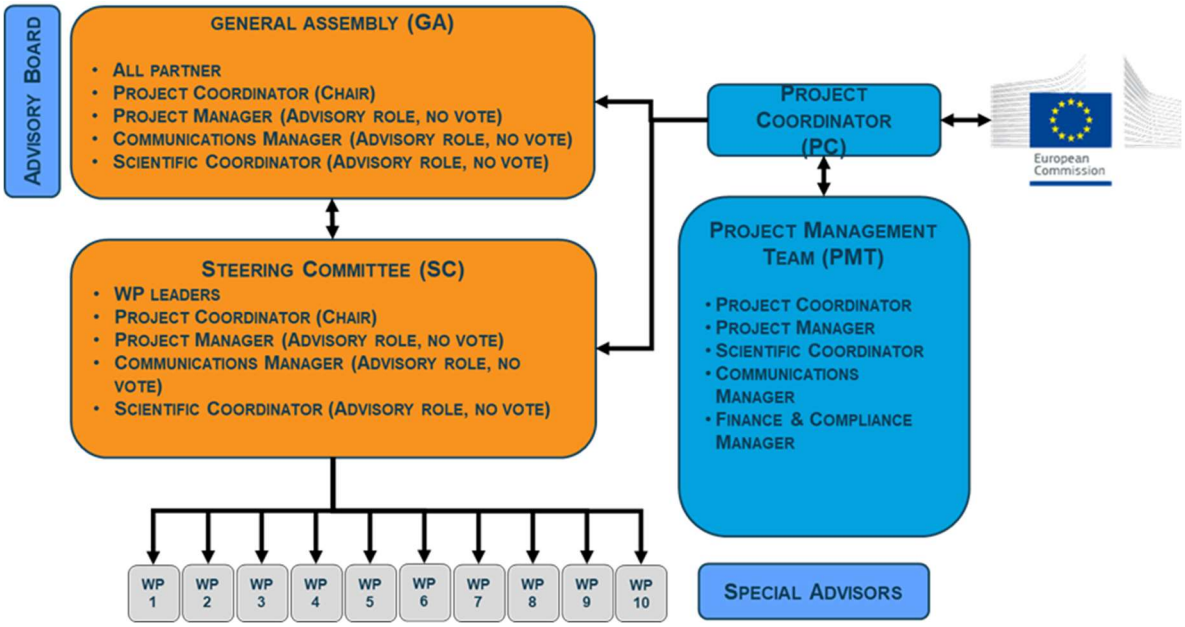


Figure 3 MAGPIE Governance Structure

Project Management

The project management team will be responsible for the day to day management of the project. For this purpose, a professional management framework will be provided, which minimizes the administrative burden for the participants while conforming to all EC regulations. This framework will deliver:

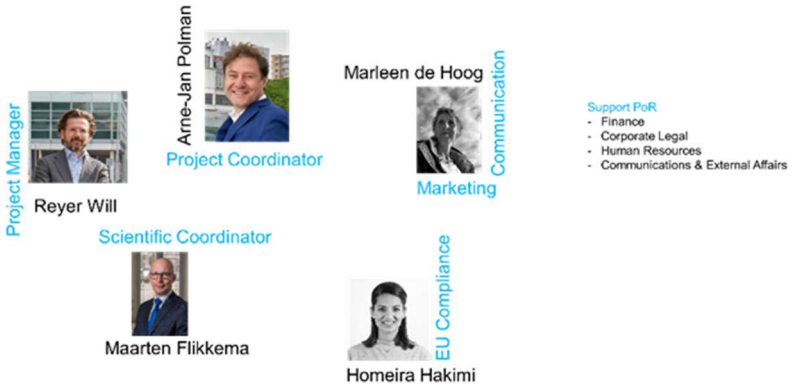


Figure 6 Projectteam

- A one-stop-shop for all management and reporting duties
- The liaison with the EC
- The organization of meetings
- Quality assurance and control
- Securing successful exploitation of the project knowledge

Covered by four main tasks:

- Management and Coordination
- Day to day project management
- Scientific coordination and Quality management

- Exploitation and IPR management

The team consist out of the for roles and persons.

- Project Manager Reyer Will
- Project Coordinator Arne-Jan Polman
- Scientific Coordinator Maarten Flikkema
- EU compliance Homeira Hakimi
- Marleen de Hoog Marketing and Communication

4.2 Roles and responsibilities

Responsibility assignment

- The Project Coordinator, acting in the representative of the MAGPIE project towards CINEA
- The Project Manager, acting as general manager and overseeing the project
- The Scientific Coordinator overseeing the technical progress and quality control
- The Workpackage leaders (WPL), responsible for successful executions of the workpackages (WP)
- General Assembly, chaired by the Project Manager and consisting of one representative of each partner of the Consortium, is the decision-making body of the consortium.
- The Advisory Board an external consultant body to the General Assembly.

The following is the detailed description of the responsibility for the main roles in project.

Role: Project Coordinator (PC)

Appointed person: Arne-Jan Polman (PoR)

Main Responsibilities: The PC is the responsible contact towards the EU for the MAGPIE project and thereby acts as the intermediary between the Consortium and the European Commission. The Project Coordinator is responsible for:

- monitoring compliance by the Parties with their obligations collecting, reviewing and submitting information on the progress of the project, reports and other deliverables to the EC.
- collecting, reviewing and submitting information on the progress of the project, reports and other deliverables to the EC
- Financial Management, managing advance payments, budget tracking actual against estimated;
- assistance to the Project Manager in the day-to-day management of the Project.

The Project Coordinator is assisted in its role and responsibilities by the Project Manager.

Role: Project Manager (PM)

Appointed Person: Reyer Will (PoR)

Main Responsibilities: the PM is the primary responsible for the for the project and responsible for overseeing the Administrative Management of the project. He is also responsible for the overall coordination of the project execution, and works on the day-to-day management of the project in collaboration with the Project Coordinator (PC) and Scientific Coordinator (ScC). The PM also chairs all the meetings of the General Assembly (GA). The PM is working together with the PC and SC in making sure that the project is managed using the highest standards and procedures in compliance with the recognised international standards for project management. He is responsible for ensuring that all key deliverables are met within time, cost and performance constraints and that they adhere to proper quality control mechanisms and standards. The PM must ensure that all assigned resources are effectively and efficiently utilized and that the project is properly resourced with both internal and external resources. He is in charge of:

- regular status reports and updates to executives;
- ensure that all partners are kept informed and up-to-date as to what their responsibilities are in relation to the project;
- preparing the meetings, proposing decisions and preparing the agenda of Project Management Board meetings, chairing the meetings, and monitoring the implementation of decisions taken at meetings;
- assistance to the Project Coordinator on collecting, reviewing and submitting information and financial management;
- maintenance of the Consortium Agreement;
- assistance to individual project partners on specific administrative issues;

The Project Manager is assisted in its role and responsibilities by the Project Coordinator.

Role: Scientific Coordinator (ScC)

Appointed Person: Maarten Flikkema (external)

Main Responsibilities: The scientific coordinator (ScC) will monitor the progress and quality of the project and its demonstration activities. Regular project check-ups of the demos and the scientific progress will be made. Based on the check-ups and status updates, where needed, adaptations to the project plan can be made to ensure the timely delivery of the project results as agreed with the European Commission. Major adaptations need to be approved by the GA.

He is in charge of:

- data management and quality plan (DMQP).
- Collection, documentation, short- and long-term storage as well as access permissions, back up options and terms for sharing of data will be addressed.

The DMQP plan in line with FAIR (Findable, Accessible, Interoperable and Reusable) guidelines.

Role: Work Package Leader (WPL)

Appointed Persons: Reyer Will (PoR), Théo FORTIN (AIVP), NUNO MARINHO (EDP), Zenaida Mourão (INESC), Peter Lystrup Christensen (ZCS), Gunnar Platz (PLANCO), Larissa van der Lugt (EUR), Martijn Streng (EUR), Maaike Dalhuisen (PoR)

Main Responsibilities: Each WPL is responsible for the planning, progress and quality management and the successful completion of its WP and of the interactions with the other WPs according to the work plan. Activities to include:

- managing work package;
- keeping it on track and report WP status to the PM and ScC;
- planning and distributing among WP partners actions transmitted by the PC and monitoring their execution.
- supervising the work of the of the WP team, demo and tools teams , identify problems and risks and when necessary revision of the WP plan
- Participate in the Steering committee (SC)

Role: General Assembly (GA)

Appointed Representative, the General Assembly in which all one representative of each partner takes place and in which all members have an equal say in the project. The PM and ScC also participate in the GA but without voting rights.

Main Responsibilities: This Assembly, chaired by the PM, has the highest decision-making responsibilities and policy setting powers; it is the collective decision-making body of the Consortium and is in charge of all technical and management decisions. The GA monitors the performance of the Consortium Agreement.

Meetings: At least every 6 months or as requested by one of the partners to the PM to convene or called for by the PM for specific decisions. Any member of the Project General Assembly should be present or represented at any meeting or may appoint a substitute or a proxy to attend and vote at the meeting.

Role: Advisory Board (AB)

Appointed Person: experts and potential users of project outcomes

Main Responsibilities: An Advisory Board (AB) is appointed and steered by the General Assembly The AB shall assist and facilitate the decisions made by the General Assembly. The AB members interact with the Consortium during regular meetings. The AB members shall be allowed to participate in the General Assembly meetings upon invitation but have no voting rights.

Responsibility assignment

Work done in the project is globally divided in 10 work packages. Each WP is composed of Tasks. Each task has a responsible person that monitors its progress, takes decisions about work distribution at that level, informs about its status to the upper level, transfers actions from the upper level and assigns them to the proper entity. Details about WP and task leaders are given in Figure 9 Workpackages of this PMP.

The summary of each partner main responsibility within the MAGPIE project for WPs, tasks and deliverables are concerned are given in Figure 4, MAGPIE WP and Demos of this PMP.

4.3 Workpackage and Demonstrations

The MAGPIE partners will collaborate topics bundled in dedicated WPs (Figure 7) focussing on green energy supply chains, digital solutions for green energy use and energy efficiency, and demonstrators on the use of green energy and digital solutions in maritime, inland waterway, trucking and rail transport.

WP	Demo / Topic	Goal
WP 1. Project management, Exploitation and Coordination		Design and steer the living lab approach with project and process management including planning of exploitation of project results.
WP 2. Communication, Stakeholder engagement and Dissemination		Engage energy supply and transport stakeholders, governments, and civil society, coordinate communication and dissemination activities for continuous improvement including upscaling.
WP 3 Energy Requirements & Supply Chains	Demo 1. On-site BioLNG production	Production of BioLNG for the use in maritime and inland transport on the site of an LNG terminal.
	Demo 2. Smart Energy Systems	Integrated smart energy solutions for strategic support in congestion points and energy system interventions.
	Demo 3. Shore power peak shaving	Increase utilisation of a shore power hub facility to reduce costs by shaving the peaks using stored energy
WP 4. Digital tools	GHG Tooling	Develop a tool to calculate GHG emissions of transport to reduce emissions and study the effect of strategic decisions.
	Green energy matching	Develop a tool to manage energy carriers with the needs of ports matching green energy supply and demand flexibly.
	Smart Green Logistics	Develop a tool for connecting port traffic and synchro-modality.
WP 5. Maritime and inland waterway transport	Demo 4. Ammonia bunkering	Demonstrate ammonia bunkering to seagoing vessels using a retrofitted bunkering barge.
	Demo 5. Offshore charging buoy	Demonstrate offshore charging of electricity to vessels moored in waiting areas or near offshore wind farms.
	Demo 6. Autonomous e-barge and transhipment	Demonstrate efficiency improvement of autonomous intra-terminal barge and automated cargo transhipment.
	Demo 7. Green Energy Container	Demonstrate the use of green hydrogen and li-ion energy packs providing electricity to an e-barge.
WP 6. Land transport	Demo 8. Hybrid shunting locomotive	Demonstrate the use of hybrid (battery / overhead line) locomotives for in-port shunting operations.
	Demo 9. Green Connected Trucking	Demonstrate electrification of trucks, a central truck decoupling point and autonomous charging of trucks.
	Demo 10. Spreading Road Traffic	Demonstrate the effect of digital connected trucks to prevent congestion in port and along the hinterland.
WP 7. Non-technological innovations		Develop and demonstrate non-technological innovations that enable and accelerate the implementation of low or zero-emission technological and logistical solutions.
WP 8. Monitoring and impact evaluation		Set up and execute an objective method for measurement, monitoring and impact evaluation of the demonstrators.

WP	Demo / Topic	Goal
WP 9. Master Plan for European Green ports		Delivering a Master Plan for the future European green port including a handbook for implementation, replication and scaling-up of innovations.
WP 10. Cooperation with other actions		Achieving synergy with other actions to increase total impact.

Figure 5, MAGPIE WP and Demos

Structure

Figures hereunder show the schematic overview of the Work packages and the relation between Work packages. The WP's are working together to facilitate the dissemination and exploitation of project findings, outputs, and results to achieve maximum impact of the project. The WP structure allows the definition of clear responsibilities, roles and objectives for all project resources.

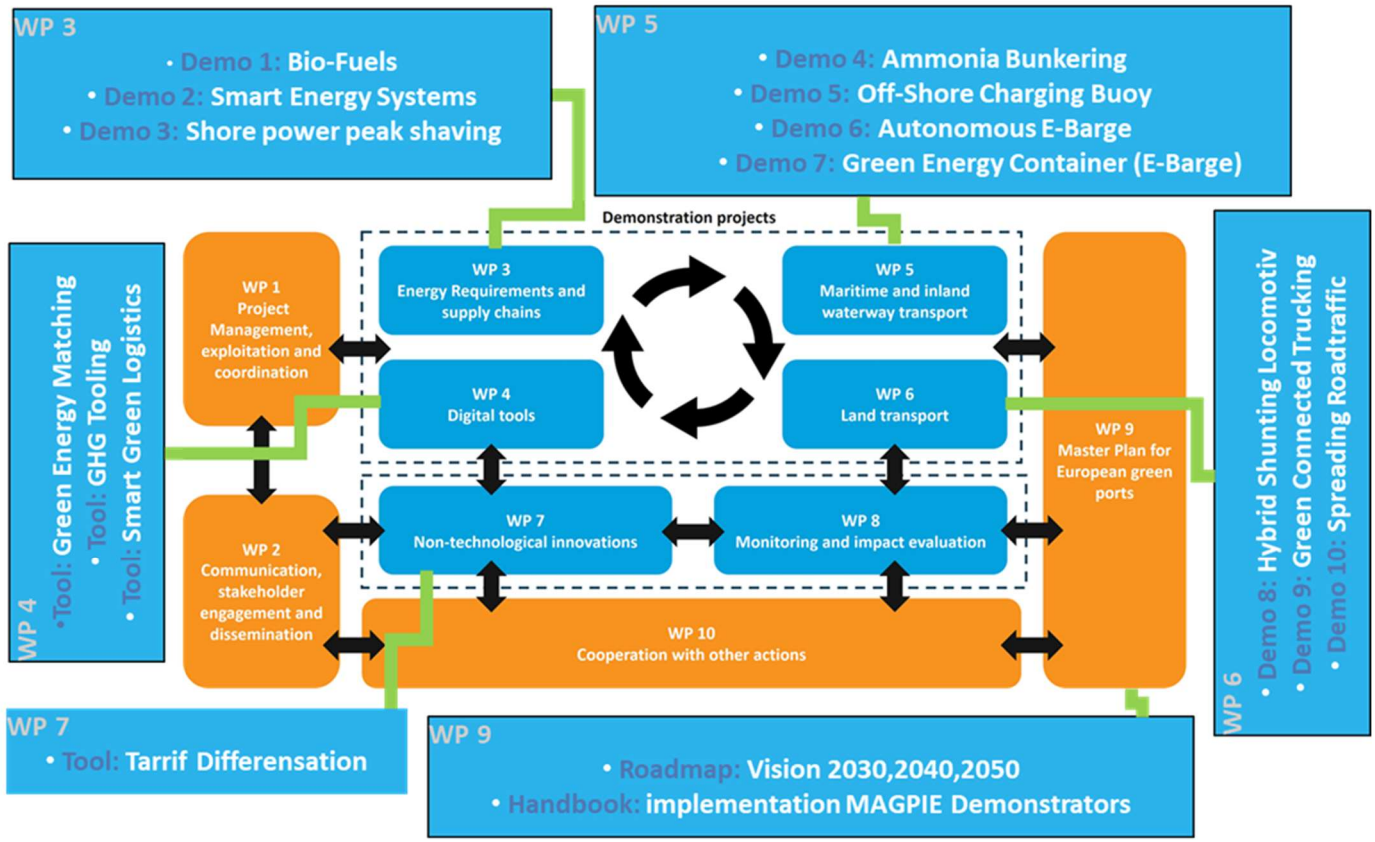


Figure 9, Workpackage structure

Project resources

Within the project each partner has a clear responsibility and lines of reporting: each task activity in a WP is led by one of the partners, with tasks leaders reporting to the work

package leaders, coordinating the technical work for his/her activity according to the project and WP objectives.

WP no.	Demo	Description	WP lead	
WP 1. Project Management & Coordination			Port of Rotterdam	Reyer Will
WP 2. Communication, stakeholder engagement and dissemination			AIVP	Théo Fortin
WP 3. Energy Supply chains			EDP	Joao Vieira Silva
	3.7. **Demo 1:**	**BioLNG production**		
	3.8. **Demo 2:**	**Smart Energy Systems**		
	3.9. **Demo 3:**	**Shore power peak shaving**		
WP 4. Digital tools			INSTEC - Port of Sines	Zenaida Mouraro
	4.1. **Tool 1:**	**Green Energy Matching (Digital Twin Platform & Services)**		
	4.2. **Tool 2:**	**GHG tooling**		
	4.3. **Tool 3:**	**Smart Green Logistics**		
WP 5. Maritime and inland waterway transport			Zerro Carbon Shipping	Peter Lystrup Christensen
	5.1. **Demo 4:**	**Ammonia bunkering**		
	5.2. **Demo 5:**	**Off-shore charging buoy**		
	5.3. **Demo 6:**	**Autonomous e- barge and transhipment**		
	5.4. **Demo 7:**	**Green Energy Container (E-barge)**		
WP 6. . Land transport			Planco	Gunnar Platz
	6.1. **Demo 8:**	**Hybrid shunting locomotive**		
	6.2. **Demo 9:**	**Green Connected Trucking**		
	6.3. **Demo 10:**	**Spreading Road Traffic**		
WP 7. Non-technological innovations			Eramus University Rotterdam Erasmus UPT	Larissa van der Lugt
	7.2. **Tool 4: Port tariff Differentiation**			
WP 8. Monitoring and impact evaluation			Eramus University Rotterdam	Martijn Streng
WP 9. Master Plan for European Green ports			Port of Rotterdam	Maaike Dalhuisen

	9.2. **Roadmap: To direct European port to the 2050 vision by 2030, 2040 and 2050**			
	9.3 **Handbook: Handbook for implementation of MAGPIE Demonstrators**			
WP 10. Cooperation with other actions			Port of Rotterdam	Arne-Jan Polman

Demonstration resources

Within the Workpackages the various Demonstrations, Tool development, Roadmap and handbook are included. Each demonstration, tool, Roadmap and Handbook has a separate leader responsible for the task.

WP	Demo	Description	Lead	Lead PoR
WP 3				
	3.7. **Demo 1:**	**BioLNG production**	PMT	Reyer Will
	3.8. **Demo 2:**	**Smart Energy Systems**	Pedro Vergara Barrios	Ruud Meliste
	3.9. **Demo 3:**	**Shore power peak shaving**	Leon Laas	Floor Schipper
WP 4				
	4.1. **Tool:**	**Green Energy Matching (Digital Twin Platform & Services)**	Joao Vieira Silva	Annelore Luning
	4.2. **Tool:**	**GHG tooling**	Leon Laas	Douwe van der Stroom
	4.3. **Tool:**	**Smart Green Logistics**	Bas Gerrits	Annelore Luning
WP 5				
	5.1. **Demo 4:**	**Ammonia bunkering**	Peter Lystrup Christensen	Cees Boon
	5.2. **Demo 5:**	**Off-shore charging buoy**	Govert Wagenaar	Henk Voogt

	5.3. **Demo 6:**	**Autonomous e- barge and transhipment**	Melinda Mossel	Melinda Mossel
	5.4. **Demo 7:**	**Green Energy Container (E-barge)**	Freek Diepeveen	Marjon Castelijns
WP 6				
	6.1. **Demo 8:**	**Hybrid shunting locomotive**	Maurits van Schuylenburg	Maurits van Schuylenburg
	6.2. **Demo 9:**	**Green Connected Trucking**	Jaco van Meijeren	Bob Dodemond
	6.3. **Demo 10:**	**Spreading Road Traffic**	Celeste Muilwijk	Celeste Muilwijk
WP7				
	7.2. **Tool: Port tariff Differentiation**		Larissa van der Lugt	Peter Mollema
WP 9				
	9.2. **Roadmap: To direct European port to the 2050 vision by 2030, 2040 and 2050**		Maaike Dalhuisen	Maaike Dalhuisen
	9.3. **Handbook: Handbook for implementation of MAGPIE Demonstrators**		Maaike Dalhuisen	Maaike Dalhuisen

Figure 11, Demo, Tools, Roadmap, Handbook

4.4 Consortium procedures

Day-to-day scientific and management decision are taken by the PM and ScC. Strategic decisions and major technical and operational decisions (like any reschedule of deliverables, milestones, tasks, effort) are taken by the GA, which has the highest decision-making responsibility and policy setting power.

The GA shall not deliberate and decide validly unless sufficient members are present or represented as per Consortium Agreement (CA). Each member shall have one vote. Defaulting Parties may not vote. In case of conflict resolution voting, a majority as per CA is required. The PM mediates and participates in all important decision. Any decision may also be taken without a meeting if the PM circulates to all members a written document which is then signed by the members (as per CA). Such document shall include the deadline for responses. Decisions will only be binding once the relevant part of the minutes have been accepted.

4.5 Issue Management

Conflict resolution

The primary aim of the PM is to avoid conflicts between partners to escalate to a state where a third party will need to intervene. In case a conflict between partners related to

the project is about to escalate, the PM will have a mediator role. If the conflict concerns an IPR or quality related matter, the CM will be requested to propose a solution to reach an agreement between the partners concerned. If the mediation is unsuccessful within a reasonable time frame, the case will be discussed in the GA, who will arbitrate. In case of a major conflict with possible contractual implications, the GA will take a decision according to the decision-making and voting rules described in the CA.

Stakeholder

Management of stakeholders is the responsibility of WorkPackage 2 (WP2), with a strong link to WP10, Cooperation with other actions. The strong focus on establishing a two-way communications channel with stakeholders will ensure that relevant sectors of society will have access to the research outcomes and will have the opportunity to shape the direction of the research and innovation. MAGPIE partners have a strong track record on public engagement and regularly engage in various activities that positively influence all sectors of the general public formally and informally.

Four main measures to encourage market uptake of the project results:

- Demonstrate the impact of the measures implemented in the demonstrators
- Involve stakeholders for future roll-out
- Consider barriers for exploitation
- Publish results

The prime strategy is to upscale the impacts by:

- Confidence: demonstrations of the technologies and related non-technological measures (WP 3 to 7) and accurate measurement and evaluation methods (WP 8) will ensure confidence in the results of the project and the applicability of the technologies. Universities and research institutes are involved in the accurate measurement and evaluations to ensure high scientific quality of the results.
- Benefit: prove the benefit and the impact of the technologies demonstrated in the project both at the level of individual stakeholders as for society. WP 8 collates all the individual demonstrator impacts and evaluates the rollout and up-scaling potential including the full impact of the (combined) technologies.
- Involvement: continuous interaction with stakeholders will ensure involvement of parties that are needed for large scale roll-out of the technologies.

5. Project Schedule

5.1 Project schedule management

Project schedule management is to ensuring the project schedule created, maintained, and managed. It is a constant dynamic process throughout the project lifetime. With progressive insight the schedule can be refined to reflect with updated information. The Project status is monitored against the baseline on a regular basis and the Work-Plan will

be updated as needed. The PM has primary responsibility for coordinating the gathering of schedule status information from all partners. A digital GANTT chart (MS Project) will be kept throughout the project.

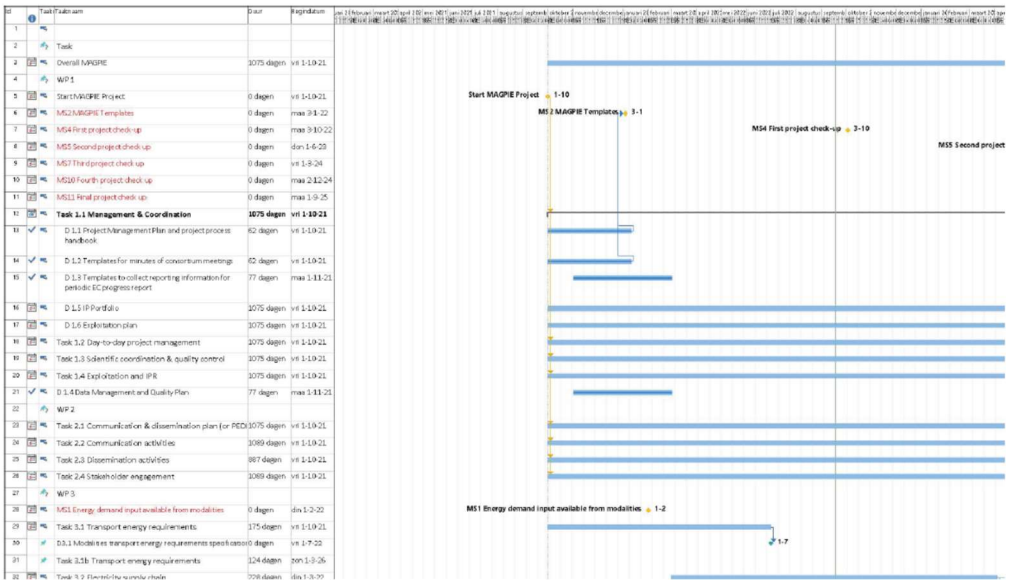


Figure 12, MAGPIE Project Schedule

Revisions to schedule baselines (only in cases in which a milestone is missed) are managed and controlled by the change management plan. The approved schedule Plan is stored on the MAGPIE AIVP Sharepoint site, maintained by the PM and available to all project team.

MAGPIE MASTER Project Schedule:

MAGPIE MASTER
Project Schedule REV

6. Project budget

The MAGPIE project budget in EU contribution is € 24.964.561,99 and the total project cost to the Partners is € 30.825.041,06. The project budget allocation

WP1	Project Management, Exploitation and Coordination	€ 1.810.141,65
WP2	Communication, Stakeholder engagement and Dissemination	€ 1.042.672,03
WP3	Energy Requirements & Supply Chains	€ 4.657.070,55
WP4	Digital Tools	€ 2.640.465,73
WP5	Maritime demonstrations	€ 5.980.618,82
WP6	Greening land-based transport in ports and hinterland	€ 5.469.733,51
WP7	Non-technological Innovations	€ 1.266.182,94
WP8	Monitoring and impact evaluation	€ 905.006,86
WP9	Master Plan for Green European ports	€ 819.932,86

WP10	Cooperation with other actions	€ 331.474,70
Total	Total EU contribution	**€ 24.923.299,65**
		€ 5.901.741,41
Total	Total cost Partners	**€ 30.825.041,06**

6.1 Budget / Cost Management

The cost management is to ensure the project is completed within budget. Cost management will be monitoring, reporting and managing the financial resources of the project during the execution of the project. The management will rely on the input of the partners, Work package reporting, input on demonstration level to ensure correct cost summaries can be produced to control the budget.

The actual cost will be monitored against the overall project budget as included in the Grant Agreement. To keep control on the estimate versus real budget spend by each partner will be reporting to the PMT on a frequent basis (5.2. Reporting).

As specified in the Consortium Agreement, the financial contribution of the funding authority to the MAGPIE Project is distributed by the Project Coordinator according to the:

- Consortium Plan;
- The approval of the reports by the funding authority.

The coordinator will distribute the payments between the beneficiaries with delay as per agreement. This includes, pre-financing, interim payments and payment of the balance.

The coordinator will submit to the European Commission (EC) the technical and financial reports.

The reports needs to be submitted within 60 days following the end of each reporting period. For project management purpose every half year the beneficiary must submit an interim report to the coordinator.

6.2 Reporting

Every half year the beneficiary will provide an update to the coordinator in the provided templates about the high level realized costs. Each beneficiary will receive a notification by the coordinator a month prior to the internal deadline. The interim reports will be replaced by the periodic report and final report when the deadline occurs on the same time. The interim reports provide overall information of the consortium to the coordinator of the realized costs and will not be reported to the EC. The main goal of the internal reporting is to have an overview over the realization of costs for project management purposes. The beneficiary will provide information about the realized costs of the:

- Personnel costs;

- Person month per work package and average hourly rate
- Subcontracting;
- Other direct costs.

Interim report

The deadlines for the interim reports are:

Nr.	Months	Period	
1.	M1-M6	(01-10-2021 – 31-03-2022)	COMPLETED
2.	M7-M12	(01-04-2022 – 30-09-2022)	COMPLETED
-	M1-M18	(01-10-2022 – 31-03-2023)	No interim report
3.	M19-M24	(01-04-2023 – 30-09-2023)	
4.	M25-M30	(01-10-2023 – 31-03-2024)	
-	M19-M36	(01-04-2024 – 30-09-2024)	No interim report
5.	M37-M42	(01-10-2024 – 31-03-2025)	
6.	M43-M48	(01-04-2025 – 30-09-2025)	
7.	M49-M54	(01-10-2025 – 31-03-2026)	
-	M37-M60	(01-04-2026 – 30-09-2026)	No interim report

Periodic reports

The periodic report will contain a technical report and a financial report. The report must be submitted in the funding & tenders portal of the EC to the coordinator. The coordinator will review the submitted reports and submit all the period reports to the EC. The deadlines for the periodic reports are:

Nr.	Months	Period	Deadline submission	
	Deadline EC			
1.	M1-M18	(01-10-2021 – 31-03-2023)	30-04-2023	30-05-2023
2.	M19-M36	(01-04-2023 – 30-09-2024)	31-10-2024	29-11-2024

Final report – Request for payment of the balance

The beneficiary will submit the final report within 60 days following the end of the last reporting

period. The final report must contain a technical report and a financial report. The report must be

submitted in the funding & tenders portal of the EC. The coordinator will review the submitted

reports and submit all the final reports to the EC. The deadlines for the final report is:

Nr. Months Period Deadline submission Dead

Nr.	Months	Period	Deadline submission	Deadline EC
1.	M37-M60	(01-10-2024 – 30-09-2026)	31-10-2026	29-11-2026

The final financial report to containing:

- a final summary financial statement: created automatically by the electronic exchange system, consolidating the individual financial statements for all reporting periods and
  including the request for payment of the balance
- a certificate on the financial statements for each beneficiary and for each linked third
  party, if it requests a total contribution of EUR 325 000 or more, as reimbursement of actual costs and unit costs calculated on the basis of its usual cost accounting practices

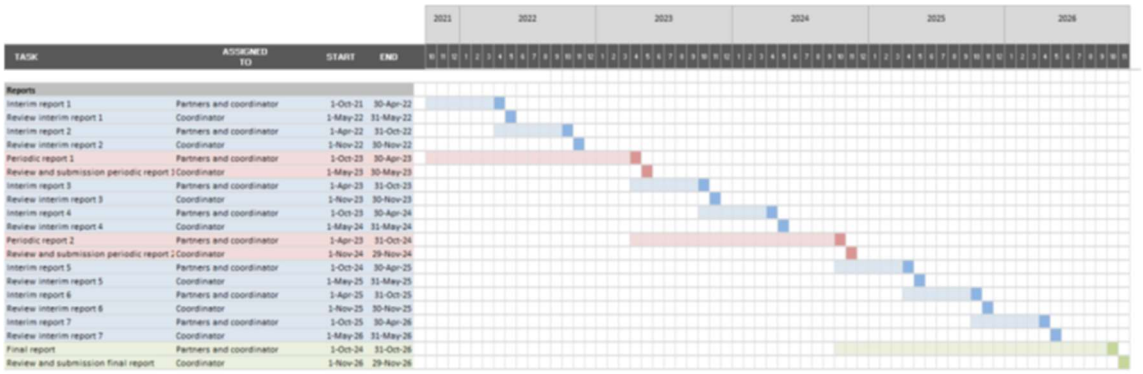


Figure 13, Gantt chart interim, periodic and final reporting

7. Risk Management

7.1 Risk Management Strategy

- no dedicated actions to prevent it from happening, but to be prepared to solve the issues if and when the risk has materialised. This is usually done for risks with a high probability and a low impact.

  - Mitigate the risk by actively preventing the cause to materialise and prevent the risk from happening. This is usually done for risks with a high impact.
  - Reject the risk as the risk raised is either irrelevant or has such a low probability and impact that no further action is required.
  - Transfer the risk to a risk owner outside the project. This is only possible if full influence of the risk materialising and mitigation of the impact is outside the power of the project partners.
- Treatment description: a description of the mitigation measures and risk treatment plan is given based on the chosen treatment strategy.

A total of 19 risks have been identified, the Figure 13 Risk Identification shows only the "significant" and "key" risks, no risks were currently judged to be Ultimate. "Underlying" risks that have been identified are:

- Personnel availability: All partners have been assigned budget which fits their organisation size making the execution of the project feasible. Giving MAGPIE correct the priority in the day-to-day business and activities at partners is needed to have the personnel available for the project. Creating a strong team in MAGPIE will ensure that personnel working on the project will prioritise MAGPIE when needed.
- Location selection of BioLNG terminal: several options for the location are currently under consideration of which at least 1 will materialise. Given the business sensitive nature of these possible locations for partner Pitpoint we can currently not disclose the possible locations.
- No barge operator for autonomous inter-terminal demonstrator: relations with barge operators are strong and multiple have already expressed their interest in providing a barge for the demonstrator. .
- Regulations for autonomous transport take too long: for the demonstration an exception to the regulations will be requested, the speed of exploitation may be affected by this risk.
- Lack of infrastructure investments for follow-up: Implementation of the innovations requires investments which need to be available from companies, bank, or public funding.
- Replicability in fellow ports: due to the impact of boundary conditions at fellow ports the innovations cannot all be implemented at all fellow ports. This risk is accepted although innovations are selected to have a wide applicability.

IDENTIFICATION						CURRENT ASSESSMENT			TREATMENT
ID	Risk title	Cause	Effect	Risk Owner	Status	P	I	Key Risk	Treatment title
1	Failed IPR protection on project results	Agreements on IPR protection are unclear or unknown	Protected information is made public (unintentionally)	Communication Manager	Raised	L	H	Significant	Make clear agreements and monitor that these are being lived by.
3	Market uptake of the results	Insufficient market uptake of the results of the project.	The impact of the project results on the total renewable energy production is limited.	Communication Manager	Raised	L	M	Significant	Set up a good communication, dissemination and exploitation plan
4	Partners step back from the consortium	Multiple causes are possible for partners to step back.	Part of the work cannot be done by the remaining partners which may jeapordise the total project results	Coordinator	Raised	M	M	Significant	Find a new partner to perform the tasks of the partner stepping back.
5	Quality of deliverables and results	Low technical quality of deliverables and results. Project partners may have varying expectations of the results.	The quality of tasks depending on the "low quality result" may be below expectations as the input is insufficient.	Scientific Coordinator	Raised	L	VH	Key	Quality assurance and communication
6	Delay in tasks	Technical difficulties, personnel availability issues or any other issues which may lead to a delay in a certain task on the critical path	Other tasks following the delayed task will have subsequent delay jeapordising the timely delivery of the project	Coordinator	Raised	M	H	Key	Monitor progress of all tasks with a special attention to the tasks on the critical path
7	Change in energy carriers for transport	New clean energy carriers are developed or existing energy carriers develop such that the transport sector transitions towards this energy carrier not foreseen in the project	Impact of the project will reduce as the results of the demonstrators become less relevant for the transport sector	Scientific Coordinator	Raised	L	M	Significant	Living Lab Learning by Doing approach
9	No suitable receiving vessel available for ammonia bunkering.	Ammonia Poweed vessels are not built and in operation in time or unavailable at the time of the demo.	No Received will be available for the real life demonstration of STS ammonia bunkering	WP 5 leader	Raised	M	M	Significant	Contact relevant operators
10	Low market impact of e-charging buoy	Costs for cables and installations of the e-charging buoy prove to be too high	Roll-out potential is limited to only those locations where already an electricity cable is available	WP 5 leader	Raised	M	M	Significant	Accept possible reduced impact
11	Delay in e-shunting locomtive delivery	A new concept locomotive may be more complex and challenging to produce	The locomotives will be delivered later than scheduled which reduces the duration of the monitoring campaign within the project.	WP 6 leader	Raised	VL	M	Significant	Reduce monitoring time
14	H2 regulations for use in ZES container	H2 is regarded as a dangerous good and cannot be tranported in a 20ft container	Under current regulations the H2 container cannot reach the expected impact.	WP 7 leader	Raised	L	M	Significant	Liaise with regulator in design of H2 container
15	Dependance on govemments for non-technical solutions	Some proposed measures may need memberstates to define ruels and/or laws	Delay in implementation and exploitation of the measures	WP 8 leader	Raised	L	M	Significant	Involve governments
18	Digital platforms' integration	Hetrogenous technologies and proprietary interfaces	May cause limited interconnections and hinder	WP 4 leader	Raised	L	M	Significant	Early characterisation of systems and engage development and integration teams in creating necessary adapters
19	COVID-19	Pandemic situation affecting project personnel and collaboration through meetings	Hinder in te project execution, team building and stakeholder engagement	Coordinator	Raised	M	M	Significant	Create mechanisms for early identification of limitations, set activities as remote-oriented

Figure 14, Risk Identification

8. Quality management

8.1 Quality assurance procedure

Quality is a mindset, a set of agreements between partners of how the work is being done, what is being done and the detail level of information to be shared between partners,

tasks, and Work Packages. A Data Management and Quality Plan (D1.4) will be written where the quality standards and procedures will be stated which will form a handbook for the partners working on the project.

Quality tracking is achieved by partners presenting their work to each other in Work Package meetings and in the General Assembly meetings. This gives partners the opportunity to ask critical questions and to identify their input needs in relation to the presented work. Furthermore, a deliverable review procedure will be in place where the following steps will be followed:

1. Deliverable author clears the deliverable for submitting to the quality assurance process.
2. The WP leader will perform a quality check on the technical work, deliverable content and reporting style. Once the feedback of the WP leader is adequately addressed, the next step in the quality assurance process will be taken.
3. Two peer reviewers, which are not involved in the work reported in the deliverable, will review the deliverables, and provide feedback. Once this feedback is adequately addressed, the next step in the quality assurance process will be taken.
4. A final check will be performed by the Scientific Coordinator checking the quality of work, quality of reporting, consistency with the Description of Action (DoA). Once this feedback is adequately addressed, the next step in the quality assurance process will be taken.
5. The project office performs a final check on deliverable layout and uploads the deliverable to the EC portal.

For this process, authors of deliverables will need to account for one-month lead time. Meaning that when a deliverable is due to the end of a month, it should be with the WP leader for step 1 on the first of that month. Peer reviewers and the reviewer in the Steering Committee (step 3 and 4 above) will be determined at the start of the project in the Data Management and Quality Plan (D1.4).

A key role in quality management is assigned to the Management Committee (MC). The MC will have a strong say in the acceptance of deliverables. Ultimately, in case of dispute regarding quality, it is the Coordinator as chair of the MC who will decide.

Figure 15, Quality Control and Assessment

8.2 Data management and protection

The MAGPIE consortium will adhere to the principles of FAIR data and opt-in to the open data pilot. A detailed Data Management and Quality plan (DMQP) (D1.4) will be submitted in the first 6 months of the project and a data register will be kept throughout the duration of the project. This plan will include the measures to be used to ensure FAIR data storage and the allocation of resources associated with this; data security and recovery; ethics; and a specific plan for each type of data and ensure adequate anonymisation whenever sharing or exchanging data is necessary produced by the project. The data management plan also includes measures to prevent misinterpretation of the data. The table below shows a preliminary version of this plan. By its nature, the consortium comprises various differing disciplines and institutions and it is one of the aims of the project to standardise our usage of certain terms and ensure that our data is accessible and interoperable between disciplines, methodologies and between academic researchers, industry, and the public. We will ensure that the FAIR principles are applied not only to the data that result from the project but also to the workflows, tools and input that led to the data. The project will have a profile on Zenodo that will gather the various datasets and publications into one repository and hence foster public access and incentive research on Green ports.

The DMQP will set the data controllers and data processors within the project defining their roles and responsibilities ensuring strict compliance with the GDPR (General Data Protection Regulation). It will also detail the data collection procedures, data protection schemes, data storage procedures, data retention policies and data destruction compliance. The DMQP will ensure compliance with relevant standards (e.g., ISO/IEC 27001, 27701).

Data type	Example	Open access repository
Measurement data files from demonstrator (WP 3, 4, 5, 6)	CO_{2eq} emissions, energy used, lead/transport/transit times, transport reliability	Yes aggregated; Disaggregated: to be defined during the project

Journals are encouraging publication of supplementary data to the papers. MAGPIE will use this opportunity to make available the data of the project from experiments and simulations. This is an opportunity to promote the work with what can be treated as open reference data to be used by industry for benchmarking.

The Consortium Agreement will detail the legal issues and processes around ownership and sharing of data. In addition, the Management guidelines, and procedures (D1.1) will summarize the process for disseminating and publishing project results to ensure that no conflicts arise. Wherever possible, publications resulting from the project will adhere to the gold model of open access. Costs associated with this will be included in the dissemination budgets of relevant partners.

Knowledge management and protection

Knowledge management will focus on the optimal use of the knowledge (foreground and background) to develop new insights for the energy transition of the transport sector. Each deliverable will include a dedicated appendix on knowledge management, including a statement on the knowledge developed, dissemination level, ownership, and application

area. Collating all these appendices will at the end of the project generate a complete overview of the IP portfolio (D1.5).

With the work plan and the supporting organizational structures, a suitable structure is in place for efficient knowledge sharing and obtaining the envisaged project results and impacts. The knowledge will be reported in an efficient way in the project deliverables and in external communication and dissemination activities.

Knowledge can be stored in numerous ways, most used in MAGPIE will be:

- Deliverable report: document where the results of a task will be discussed. Deliverables will be stored on the EU site and in the project management tool. Public deliverables will be posted on the project public website.
- Internal presentation: presenting progress of work to other partners is confidential, although it will also contain publicly available information.
- External presentation: disseminating project results or communicating about the project will be publicly available. Only possibly limited by the dissemination level of presentations presented at conferences.
- (Scientific) Paper: disseminating project results will be done as much as possible in open access papers, making them publicly available. The papers will then be stored by the organizations responsible for the paper publications and by the partners on the project management tool.
- News item: disseminating and communicating about MAGPIE through news items will be publicly available where the movies will be posted on the project website.
- Movie: disseminating and communicating about MAGPIE through movies will be publicly available where the movies will be posted on the project website and YouTube channels.
- Data: dissemination levels of data is discussed in the previous section and shown in the table above.

Preservation of this knowledge is done storing this on the project management tool and partners are encouraged to store the knowledge on their local servers.

Intellectual Property Rights (IPR) refers to the protection of partner's background knowledge and the foreground developed in the project. The strategy to protect IPR, access rights, sharing and use of knowledge will be agreed on in the MAGPIE Consortium Agreement (CA) which will be based on the DESCA model. The basis for IP management is:

- The principles from the DESCA model Consortium agreement and the Horizon 2020 Annotated Model Grant Agreement will be followed.
- The CA covers all provisions related to IPR management referring to ownership, protection, publication, access right, background knowledge, confidentiality, dispute settlement and liability. Access rights will at least address foreground and background knowledge, exploitation, and non-disclosure issues.
- Ownership of the results and the use of these will be regulated by the CA, for instance:
    - Use of results for further developments and R&D.
    - Licencing and joint ventures within and outside the MAGPIE consortium.
    - Transfer of ownership of results.

The Coordinator will also be responsible for the IP management and advise partners on IPR issues. In case IPR-issues cannot be resolved by the Coordinator these will be addressed by the Steering Committee, any adjustments to the IPR in the CA will require a decision of the General Assembly. IPR-management activities will be carried out within WP 2.

9. Project Communication

Communicating on the project will be a critical success factor to the success of the project. The Project Coordinator (PC) is responsible to manage the information to the project partners, European commission and stakeholders to the project. The project coordinator is responsible for the communication between thew Project and the EC. Workpackage 2 (WP2) is responsible for communication, stakeholder engagement and dissemination of the project.

The MAGPIE project will use a number of communication channels to ensure and frequent and wide covering the of the project between partners and the wider community.

- Electronic mails
- Conference calls (MS Teams)
- Face to face meetings

9.1 Electronic mails and mailing list

E-mail is the main communication between partners within the MAGPIE Project. It can be used for individual and group exchange of information, minutes of meeting, executive summaries and other relevant exchanges or documents. The e-mail distribution list is maintained (and regularly updated) by the Project Manager (PM) and available to all partners on the AIVP MAGPIE sharepoint (MAGPIE website). Any change to the persons involved and contact details shall be communicated to the PM.

For e-mail exchange between the project partners the partners will ensure a responsible and careful exchange of information.

9.2 Conference calls

The MAGPIE Project will continue to use MS Teams being the main system to use for online meetings. Using online meetings will save on time and budget on traveling. Online meetings should as much as possible be scheduled well in advance of the meeting.

Telephone can be used for personal contact, for quicker answers or direct confirmation when needed. When possible to included in the exchanges contact details to ensure follow up if necessary can be done with the correct contact details available.

For each of the workpackages (WP) regular conference calls are scheduled by the respective Workpackage leader (WPL) with workpackage members and on demonstration levels with the members of the specific partners participating.

Conference call minutes are written direct after the meeting in a structure way, which will inform all involved on the content of the meeting and decisions made and/or actions agreed during the meeting. Minutes to be saved under the directory of WP and demo if applicable on the AIVP MAGPIE sharepoint.

9.3 Meetings

Face-to-face project meetings with partners may be scheduled but due to the uncertainty of restrictions due to Corona these will be scheduled on a case-by-case basis.

Different kinds of meeting are envisage

Project management meetings

- Weekly meetings with the project management team
- Chaired by the Project Manager

Steercom (SC) meetings

- Bi-monthly meetings
- Chaired by the Project Manager

General Assembly (GA) meetings

- 6-monthly meeting
- Chaired by the Project Manager

Advisory Board (AB)meetings

- AB frequency to coincide with the GA meeting and on a "as needed" basis
- Chaired by the WP2 lead

Review meetings

- To be scheduled according to deliverables
- To be chaired by the report responsible

Workpackage meetings

- To be scheduled on "as needed" basis
- Chaired by the respective WP leader

Demo meetings

- To be scheduled on "as needed" basis
- Chaired by the respective WP leader

9.4 Partner Document sharing

The MAGPIE project will use the TNO MAGPIE Sharepoint for partner document sharing. During the proposal stage, TNO provide the use of this sharepoint as document collaboration between partners and this is a continuation thereof.

Sharepoint level structure:

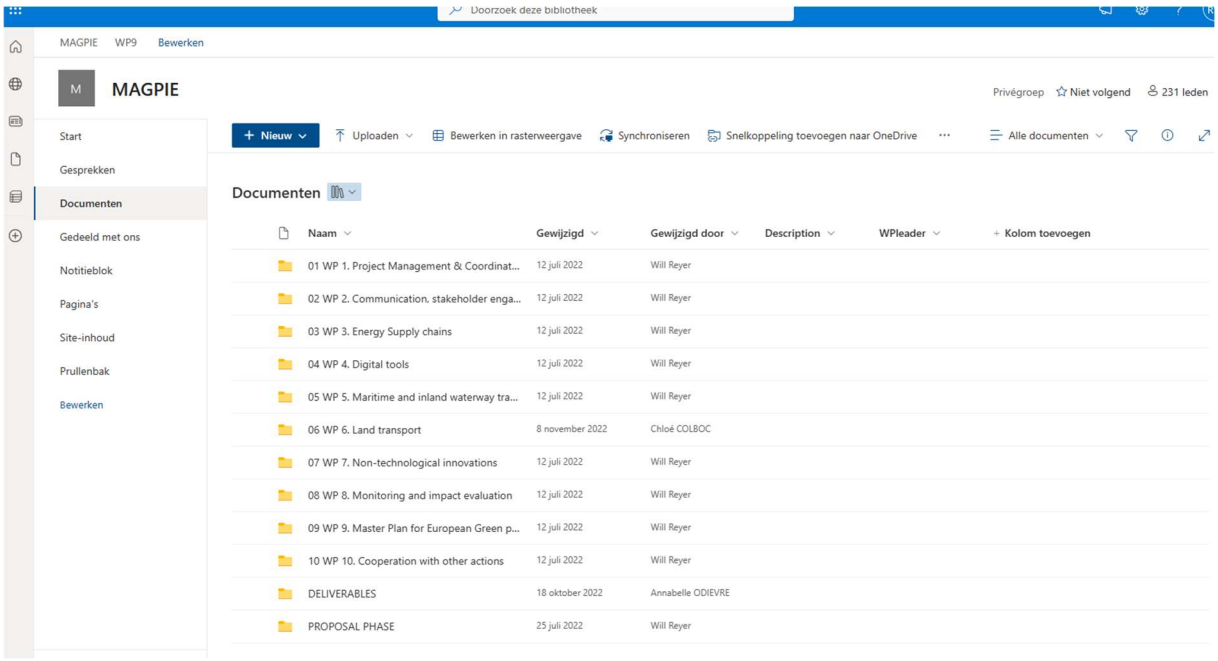


Figure 16, Workpackage level. Directory structure at Workpackage level

Responsibility users AIVP MAGPIE Sharepoint

- Each partner to be responsible for proper use of the AIVP MAGPIE sharepoint. Separate directories are created for each workpackage and demo's and tools. Herewith requested to keep this structure in place and expand under these directories as seen fit;
- For final document please safe these as PDF to ensure version control;
- Each user of the AIVP Sharepoint is bound by confidentiality as included in the Consortium Agreement

Document identification

- The ensure uniformity within the files stored on the AIVP MAGPIE Sharepoint please start the document name with the identification of year (21) month (01) day (01) = 210101

9.5 Website

The MAGPIE project website, https://www.magpie-ports.eu/ , launched on mid-January 2022, is one of the main tools for disseminating information concerning the Consortium, program and results of the project. To provide visitors of the website comprehensive overview of the project, the partners and the program.

The home page hosts also the links to MAGPIE social media accounts:

- https://www.linkedin.com/company/magpie-ports
- https://www.facebook.com/magpieports/

9.6 Project templates

To ensure consistency in the MAGPIE project when communicating with external stakeholders or interested parties, a set of standard templates for various communications activities has been developed. These templates include:

- MAGPIE Deliverable template
- MAGPIE Basic Word
- MAGPIE Gabarit Word
- Standard MAGPIE PowerPoint presentation
- template standard logos for the project.
- MAGPIE flyer
- MAGPIE Poster presentation
- MAGPIE meeting report

For internal communication the following templates were also developed:

- Timesheet reporting template

Legal

- Model Advisor Agreement H2020 Project MAGPIE

10. Project Reporting

Each Partner generates an internal administrative report every 6 months, to be collected by the PM, regarding the administration of project resources and budget. The PM and PC will be informed in case of any inconsistencies, or unexpected management of resources. In addition, an activity report is generated every year, for each WP, by the WPL. Each partner is committed to provide to the PM all the necessary information and documentation to prepare the official periodic reports to be submitted to the European Commission. The reporting includes information about the technical progress, results obtained (e.g. deliverables), the compliance with the work programme and all the relevant information at management level. The PC together with the PM and ScC synthesises the overall project status and planning and compiles the reports due to the EC.

11. Document change process

The record for a change, correction and/or improvements of documents must be clearly documented in the History of Changes of the document. The change reason must clearly be stated and the significant changes to include page numbers to enable traceability.

After a change is requested, the responsible and/or work package leader analyse its impact on the deliverable itself as well as on the other project outcomes. They may consult with the Project Manager (PM), Project Coordinator (PC) and / or Scientific Coordinator (ScC) depending on the specifics of the change. When the change is evaluated, it may become approved or disapproved, respectively. The editor informs the originator of the change request and all contractors involved on the results of evaluation. If the change is disapproved, the editor also presents reasons of his decision within the change request

form, which may lead to a further discussion eventually leading to a clear accept or reject decision.

If the change is approved, the editor must implement the changes. After completion, a new draft version of the deliverable is issued for approval or release.

12. Conclusion

This document presents the approach of the MAGPIE project team to manage the project including the revisions made in the 18 months of project execution. The PMP is to be considered a guiding document to guarantee the project will adhere to the original work plan. In addition, the tools used by the team to manage the project, communicate about the project and control the quality and risks associated with the project have been presented. The project management plan and the various tools and templates used will be continuously updated and refined as the project is progressing. The Project Management Plan will be a living document, changes will be made as the project continues and the partners develop the project.