

SHIP-AH₂OY

Development and demonstration of zero-emission propulsion technology on board ships using green hydrogen from liquid organic hydrogen carrier in combination with solid oxide fuel cells at MW-scale

Deliverable 1.1 – Project quality management plan

Markus Rautanen, VTT

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Project coordinator: VTT Technical Research Centre of Finland

Coordinator contact: Markus Rautanen, markus.rautanen@vtt.fi



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<p>Summary</p> <p>The project quality management plan, PQMP, complements the Description of Action (DoA, GA Annex 1) and Consortium Agreement by defining practical procedures, templates, internal communication means, online internal platform, contact information, roles and responsibilities and key persons of the project. The purpose of this document is to facilitate partners' cooperation during the project, act as a project handbook.</p> <p>The PQMP is a living document, that is updated during the project when considered necessary.</p>	
<p>Confidentiality</p> <p>Public</p>	
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Document history

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1 Introduction

The objective of the SHIP-AH2OY risk management and quality assurance plan is to ensure a sound and continuous risk and quality management throughout the project duration. The document includes proposed risk management and quality assurance procedures and is partly based on, and refers to the following documents, which it will not replace nor overrule:

- Grant Agreement (GA)
- GA Annex 1 (Description of Action, DoA Part A and Part B) and
- Consortium Agreement (CA)

The plan is a living document, updated along the project lifetime. The latest version of the document is always available for the project partners at the SHIP-AH2OY workspace.

2 General project information

Project name:	Development and demonstration of zero-emission propulsion technology on board ships using green hydrogen from liquid organic hydrogen carrier in combination with solid oxide fuel cells at MW-scale
Short name:	SHIP-AH2OY
Project grant no:	101056723
Call topic:	HORIZON-CL5-2021-D5-01-08
Project duration:	1.1.2023 - 31.12.2027
EU grant:	14 999 509.00 EUR
Project coordinator:	VTT Technical Research Centre of Finland Ltd.
Contact:	Markus Rautanen, markus.rautanen@vtt.fi
Financial contact:	Sanna Salomaa, sanna.salomaa@vtt.fi

Project WP leaders:

WP2	FAU	Patrick Schühle
WP3	OST	Arne Jakob Eide
WP4	SE	Andreas Junglewitz
WP5	HGT	Mrs. Andre Seemann
WP6	OST	Vidar Håheim
WP7	ESI	Elias Chatzidouros
WP8	MCT	Runar Mæland

List of participants:

Number	Short name	Legal name	Country
1	VTT	TEKNOLOGIAN TUTKIMUSKESKUS VTT OY	FI
2	EW	EDDA WIND X AS	NO
3	OST	OSTENSJO REDERI AS	NO
4	JO	JOHANNES OSTENSJO DY AS	NO
5	HGT	HYDROGENIOUS LOHC TECHNOLOGIES GMBH	DE
6	HGM	HYDROGENIOUS LOHC MARITIME AS	NO
7	FAU	FRIEDRICH-ALEXANDER-UNIVERSITAET ERLANGEN-NUERNBERG	DE

8	SE	SIEMENS ENERGY AS	NO
9	DNV	DNV HELLAS SINGLE MEMBER SA	EL
10	ESI	ENGITEC SYSTEMS INTERNATIONAL LIMITED	CY
11	DEM	NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS"	EL
12	GON	ASTILLEROS GONDAN SA	ES
13	MCT	MARITIME CLEANTECH	NO
14	DM	DELTAMARIN OY	FI
15	TTM	TEKNOTHERM MARINE HVAC SPOLKA Z OGRANICZONA DPOWIEDZIALNOSCIA	PL
16	ANEK	ANONIMI NAFTILIAKI ETERIA KRITIS (ANEK) S.A.	EL
17	NTUA	ETHNICON METSOVION POLYTECHNION	EL

3 Project management structure

3.1 Organization chart

The management structure of SHIP-AH₂OY project is presented in Figure 1.

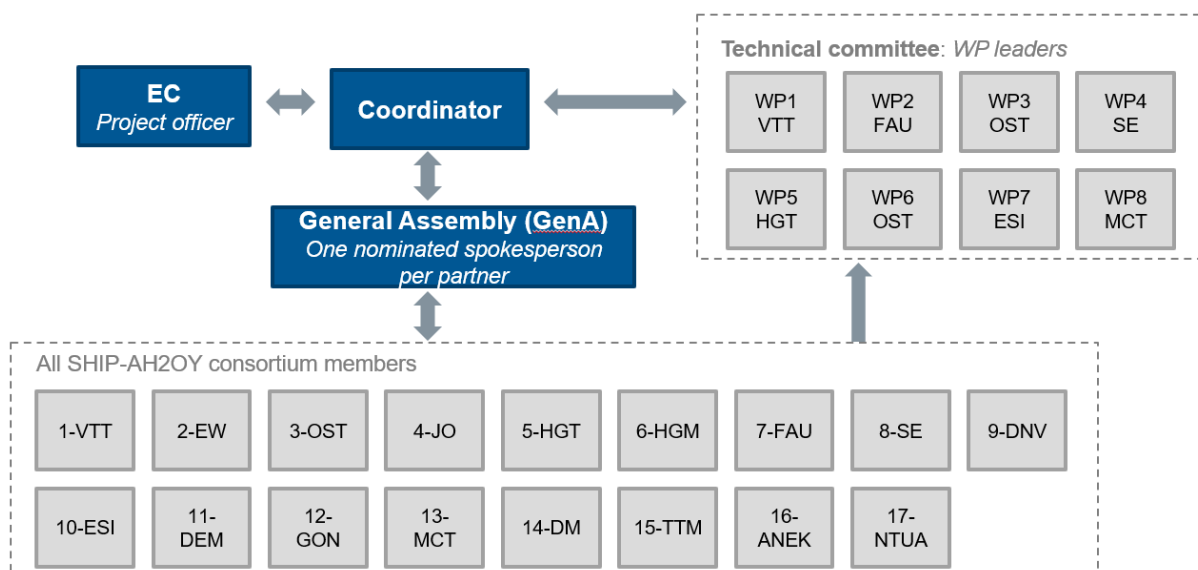


Figure 1. SHIP-AH₂OY consortium organization.

3.2 General Assembly

The General Assembly (GenA) is the decision-making body of the consortium. The GenA consists of one representative from each partner. The GenA ensures that the project is implemented according to the requirements, and its responsibilities include decisions concerning and necessary preparative work on

- Project scope
- Project's unplanned deviations and their mitigation
- Changes in budget allocations

- Changes to Consortium members
- Changes to GA
- IPR related decisions

The coordinator calls an ordinary GenA meeting (at least) every 6 months, commonly arranged aligned with consortium meeting. The coordinator also keeps an updated list of GenA members in the project workspace.

3.3 Project coordinator

The coordinator is the legal entity acting as the intermediary between the parties and the Granting Authority, CINEA. The coordinator monitors that the action is implemented properly. The project coordinator shares the daily technical coordination of SHIP-AH2OY project together with WP leaders. The coordinator manages the project's administrative, financial and legal activities as well as quality assurance.

3.4 Work package leaders

The WP leaders manage the technical work within their work packages. The WP leader is responsible for the work package progress and for the related reporting.

3.5 Technical committee

All the WP leaders together (including coordinator as WP1 leader) form a technical committee that follows up closely the overall implementation of the SHIP-AH2OY project work. Operative management of the project is a joint effort between the coordinator and the WP leaders.

3.6 CINEA

CINEA supervises the project implementation and the use of grant. The Project Officer (PO) acts as a representative of CINEA towards the SHIP-AH2OY project. The PO communicates with SHIP-AH2OY project and project partners primary through project coordinator.

3.7 Milestones

The milestones are intermediate project achievements that are critical for project's progress. The SHIP-AH2OY project has nine milestones (MS), Table 1. After reaching a milestone, the milestone lead prepares a confirmation and sends it to the coordinator by email who submits it into the Funding and Tenders (F&T) portal.

Table 1. SHIP-AH2OY project milestones.

MS No	Name of MS	Related WP(s)	Lead	Means of approval	M
1	Kick-off meeting	WP4, WP7, WP3, WP5, WP8, WP2, WP6, WP1	1-VTT	Minutes of the meeting	3
2	Finalization of architecture and concept of LOHC/SOFC system	WP2	7-FAU	Concept description document	12
3	Completion of Pre-engineering and Specifications	WP3	12-GON	Pre engineering document	24
4	Detailed SOFC specification for fabrication & purchasing	WP3, WP5	6-HGM	Specification document issue by supplier	36
5	Risk analysis HAZID	WP4, WP3	3-OST	HAZID carried out and approved by DnV	41
6	Alternative design Approval	WP4, WP5	3-OST	Class approval certificate	48
7	Complete detailed design	WP4, WP3, WP5, WP6	3-OST	Class approved drawing package	48
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8	Installation of system on a vessel	WP4, WP3, WP5, WP6	12-GON	Ready for Starting Commissioning	54
9	Complete Sea Acceptance Test	WP5, WP6	3-OST	Class approval certificate (SAT)	60

4 Project quality assurance

A dynamic project organization structure was presented in Figure 1, and the roles and communication further explained in Chapter 3, to support the SHIP-AH2OY project quality assurance. The external project reporting and communication is further described in this chapter.

4.1 Internal status reporting and meetings

Internal status reporting is actualized in internal project consortium meetings. For these, the partners will prepare an update of the progress of their work and planning of further work. WP leaders will compile the work progress within their WP and summarize it in the meetings.

The SHIP-AH2OY consortium meetings together with all the project partners will be organized twice a year. The coordinator will call a full consortium meeting once every six months, and one technical committee meeting in between each full consortium meetings. One consortium meeting per year is planned as telco meeting and one meeting as face-to-face meeting, hosted by partners. Consortium may also decide to have both yearly consortium meetings as face-to-face meetings if seen necessary, or in case of pressing external and generic need, to hold both yearly meetings online.

In addition to full consortium and TC meetings, the WP (and task) leaders are encouraged to organize regular meetings to manage the work within the WPs (and tasks).

4.2 Communication practices

For written project communication, the dissemination lead MCT has created SHIP-AH2OY project logo, that is available in shared workspace for the partners' use. In addition, project templates for project deliverables (.docx) and presentations (.pptx) will be made available for all project partners.

All project deliverables and presentations are to be delivered using the provided SHIP-AH2OY templates. For periodic reporting, the coordinator will provide a template for the partners in due time.

4.2.1 Internal communication

Internal communication is carried out through project and WP meetings as well as direct communication via emails and other meetings and information stored into shared documents.

A shared online workspace for project purposes is provided by VTT. The workspace is used to store and distribute internal documents. Microsoft Teams is used as workspace software and individual user accounts are provided for secure access. All project files are kept in the workspace.

4.2.2 External communication

A detailed plan for the project external communications will be further explained in D8.1, Dissemination and exploitation plan including communication activities. The plan will provide information upon the project target groups and potential users, the key message to be conveyed, the key project results, and the communication channels used. Dissemination, communication and exploitation WP is led by MCT, yet all project partners contribute to it.

4.2.3 EU acknowledgement and disclaimer to all public communication

All the public communication about the SHIP-AH₂OY project and/or project results must acknowledge EU support and display the European emblem with funding statement (GA, Article 17.2), Figure 2. EU emblem and its acceptable variations can be downloaded from [logo download center](#).



Figure 2. European flag with funding statement, in horizontal and vertical alignment.

In addition, any dissemination activity should indicate the following disclaimer (GA, Article 17.3):

“Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.”

In case a major media impact is expected from a communication or dissemination activity, the granting authority CINEA must be informed in advance (GA, Article 17.1).

4.2.4 Information management

Information management will be clarified in D1.2 Data Management Plan DMP.

4.2.5 Maintenance of contact information

All partner contact information is collected into an excel file that is being shared on the project workspace. Each partner keeps their own contact information updated on the shared file.

4.3 Reporting

The beneficiaries must continuously report on the progress of the project. This reporting includes, e.g., deliverables, milestones, follow-ups on critical risks and other forms on the F&T portal. In addition to continuous reporting, there are 4 reporting periods for SHIP-AH₂OY project. All the partners contribute to the project reporting to CINEA. The coordinator will provide comprehensive instructions for the reporting before the start of each reporting period.

4.3.1 Reporting guidelines

Periodic reports must be submitted to CINEA within 60 calendar days from the end of the reporting period. Periodic reports consist of technical reporting and financial reporting. While technical reporting is a joint effort of all the project partners, the financial reporting is conducted by each partner individually on their behalf and directly into the portal.

The coordinator will manage the overall reporting and will provide the partners instructions of periodic reporting in due time. Each periodic report is submitted for CINEA as a one whole report package. The coordinator will attach all the parts for the report and, finally, submit the overall periodic report.

4.3.2 Reporting periods

The SHIP-AH₂OY project reporting periods are:

1 st reporting period	M1 – M18
2 nd reporting period	M19 – M36
3 rd reporting period	M37 – M54
4 th reporting period	M55 – M60

Project review with project partners and PO are previewed after each reporting period.

4.3.3 Deliverables

Deliverables are contractual obligations of the Grant Agreement. The SHIP-AH₂OY project has 45 deliverables, as listed in the GA, DoA. Each deliverable has its responsible partner. This leading partner looks after the contents and format of the deliverable, and timely delivery of the finalized deliverable for the coordinator. The coordinator organizes a quality review for the deliverable and submits it into the F&T portal.

SHIP-AH₂OY deliverable template is available for the partners in the workspace of the project, with a definition for style and format. All types of deliverables are required to be complemented with a written document describing the deliverable.

After CINEA's approval, the public deliverables will be automatically published. In addition, the dissemination manager places them available on the project website.

4.4 Publication principles

4.4.1 Basic principles

Dissemination of own and/or jointly owned results requires approval from the other partners:

- Prior notice of planned publications to other partners at least 45 calendar days before the publication.
- Any objection to the planned publication shall be made in accordance with the Grant Agreement by written notice to the Coordinator and to the Party or Parties proposing the dissemination within 30 calendar days after receipt of the notice.
- If no objection is made within the time limit stated above, the publication is permitted

The publication procedure to be followed is described in detail in CA, section 8.4.2.

4.4.2 Open access publishing in Horizon Europe

The partners must ensure open access to peer-reviewed scientific publications relating to their results (GA Article 17 and in more detailed in Annex 5). Partners must ensure that:

- at the latest at the time of publication, a machine-readable electronic copy of the published version or the final peer-reviewed manuscript accepted for publication, is deposited in a trusted repository for scientific publications
- immediate open access is provided to the deposited publication via the repository, under the latest available version of the Creative Commons Attribution International Public Licence (CC BY) or a licence with equivalent rights; for monographs and other long-text formats, the license may exclude commercial uses and derivative works (e.g., CC BY-NC, CC BY-ND) and
- information is given via the repository about any research output, or any other tools and instruments needed to validate the conclusions of the scientific publication.

Publication fees *in full open access* for peer-reviewed scientific publications are eligible project costs.

5 Risk management

Risk management of the SHIP-AH₂OY project is a continuous task, performed throughout the project lifetime. It consists of assessment of risks as well as their mitigation methods when needed.

Task leader responsibilities:

- Communicate potential risks (currently listed, or new) to the WP leader
- Assist the WP leader with risk management activities and mitigation methods
- Give status updates on the risk mitigation when risk has been materialized

WP leader responsibilities:

- Communicate potential risks (currently listed, or new) to the coordinator
- Perform risk management activities and mitigation methods planning and implementation

Coordinator's responsibilities:

- Ensures, that all the WP leaders have been communicated about the potential risks, whose work it relates and affects to
- In case risks materialize in the extend that GenA decisions or preparative work is needed, the coordinator will bring the risk item on GenA meeting agenda.

The preliminary identified critical risks are listed in SHIP-AH₂OY DoA, List of critical risks, and available from there and from the continuous reporting module of F&T portal for all the project partners. The list of critical risks will be updated along the reporting periods, when seen necessary.

Reference documents

This document is subordinate to the following documents that the reader is primary guided to turn to:

Grant Agreement (GA) and annexes

Consortium Agreement (CA)

User guides:

Online Manual:

<https://webgate.ec.europa.eu/funding-tenders-opportunities/display/OM/Online+Manual>