

*Zero waste Heat vessel towards relevant Energy savings also thanks to IT technologies*



**D6.10 | Final Dissemination activities report also reporting Final event, stakeholders and sisters project interaction**

**WP6 – Dissemination, Communication and Exploitation**

*Version 1.0 | April 2026*

HORIZON-CL5-2021-D5-01-10

Clean and competitive solutions for all transport modes -  
Innovative on-board energy saving solutions



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This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101056801.



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## Document History

Project Acronym	ZHENIT
Project Title	ZHENIT - Zero waste Heat vessel towards relevant Energy savings also thanks to IT technologies
Project coordination	RINA-C
Project duration	47 month – from 1/06/2022 to 30/04/2026
Title	D6.10 - Final Dissemination activities report also reporting Final event, stakeholders and sisters project interaction
Dissemination Level	PU - Public
Status	Final version
Version	1.0
Work Package	6
Lead Beneficiary	RINA-C
Other Beneficiaries	All
Author(s)	Martina Losito (RINA-C)
Reviewers	ATTICA, NAVTEC

Date	Ver.	Contributors	Comment
08/04/26	0.1	Martina Losito (RINA-C)	First Draft Writing
16/04/26	0.2	Martina Losito (RINA-C)	Update
22/04/26	0.3	Martina Losito (RINA-C)	Update
23/04/26	0.4	Martina Losito (RINA-C)	Final update
12/05/26	1.0	Fiorella Valenti (RINA-C)	Document ready for submission

## List of Organizations

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1.1	RINA Services Spa	RINA-S	Italy	
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3	Danelec	KYMA	Norway	
4	Fundacion tecnalía research & innovation	TECNALIA	Spain	
4.1	Universidad del pais vasco/ euskal herriko unibertsitatea	UPV/EHU	Spain	
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6	Consiglio nazionale delle ricerche	CNR	Italy	
6.1	Consorzio di ricerca per l'innovazione tecnologica, sicilia trasporti navali, commerciali e da diporto scarl	NAVTEC	Italy	
7	Sorption technologies gmbh	SORTECH	Germany	
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9	Encontech bv	ECT	Netherlands	
10	Gruppo sigla srl	SIGLA	Italy	
11	The university of Birmingham	UoB	United kingdom	

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## Abbreviation and Acronyms

Acronym	Description
B2B	Business-to-business
D&C	Dissemination and Communication
EU	European Union
GA	Grant Agreement
KPIs	Key Performance Indicators
R&D	Research and Development
WHR	Waste Heat Recovery



## Executive Summary

The ZHENIT project aims to promote Waste Heat Recovery (WHR) as key and “ready-to-implement” solutions to achieve 2030 IMO/EU targets for shipping sector decarbonization. ZHENIT goal is to fully untap “on-board WH potential” developing and validating WHR solutions at different temperature levels towards the exploitation of WH for different on-board services (cooling, power, desalination) thus able to valorise heat in different vessel processes.

This report follows up D6.7 “First Dissemination activities report also reporting sisters project interaction and IMO/IACS activities” and gives a final update of the communication and dissemination activities performed in the framework of WP6 under RINA-C coordination.

The communication and dissemination plan was prepared to define the communication tools to be developed and used towards a successful dissemination of the Project and its results. The project Grant Agreement (GA), through the Description of Action, contained the draft of this plan as part of the measures to maximise the Project’s impact. D6.7 described the dissemination goals, target audience and appropriate channels to provide a regular flow of information and it was structured as a “living document” to properly track project Dissemination and Communication (D&C) along project duration.

The report is structured in two main sections:

- ***Description of D&C activities performed from project start up to April 2026 (RINA-C)***: this section collects the communication and dissemination activities performed since M25 up to M47 thus both updating the D6.7 and tracking D&C activities. Based on the key points remarked in the D6.7, and thanks to the effort of all the members of the ZHENIT project consortium, a strong effort has been made in this period of the project progress in order to reach the maximum industrial actors, potential end-users and general public who can be interested in ZHENIT solutions.
- ***Description of Stakeholders’ engagement activities and collaboration with sisters project (RINA-C)***: this section outlines the modalities through which the project engagee with sister projects in order to exchange results and gather insights supporting R&D activities and further development. It also provides an overview of the final event, including the role, participation, and contributions of the sister projects therein.

## 1 Introduction

This deliverable was prepared in the framework of Work Package 6, and it is released at M47 (april 2027) as a public report to present:

- 1) How the project consortium put in place D&C measures described in D6.7 within M25-M47 and how the key objectives, key measures and channels of the dissemination and communication activities have been updated following project's results and feedback from project stakeholders;
- 2) How the project interacted with other R&D Projects for mutual benefit support;
- 3) How the project interacted with relevant international maritime regulatory committee to share project results.

The present document is divided in six chapters, listed as follows:

- Chapter 1: Introduction
- Chapter 2: D&C Objectives, KPIs and their status up to M47
- Chapter 3: Performed communication and dissemination activities up to M47
- Chapter 4: Activities performed with Sisters Project
- Chapter 5: Stakeholder engagement: ZHENIT E-learning programme
- Chapter 6: Conclusions



## 2 D&C Objectives, KPIs and their status up to M47

In order to maximize the impact of the ZHENIT project, the communication and dissemination activities were focused on:

- promoting the project action and activities to raise the awareness beyond the project internal as well as external communities to wider audience, including the media and the general public;
- raising interest among stakeholders and the exploitation-oriented dissemination of the benefits provided by the innovative technology proposed in the project toward potential target endusers/adopters;
- exploitation of the project's results, also drafting a roadmap for their widespread and market introduction.

ZHENIT main objectives within the communication and dissemination strategy are the following:

*O1: to develop a project visual identity and public image*

### STATUS AT M47

As presented in D6.7 a solid visual identity has been built to make the ZHENIT project easily recognisable by potential stakeholders, and to raise awareness and visibility. A solid image, evocative of the project and that captures its uniqueness is therefore needed for long lasting and wide dissemination activities. The project logo is always present in all type of communication and dissemination channels and material. There was no need to update the visual identity of the project as reported in D6.7.



*Figure 1: ZHENIT project logo*

*O1: to communicate the main impacts of the project to specialized and non-specialized audience*

#### STATUS AT M47

Project communication has been promoted via project website, social media and communication materials (more updates are reported in the next sections).

As presented in D6.1 and D6.2, the following promotional material has been developed at the beginning of the project:

- ZHENIT Brochure
- ZHENIT Poster
- ZHENIT Flyers

The project's promotional material according to the Grant Agreement rules, provide information on the EU funding through the EU Emblem and the official disclaimer "The project received funding from the European Union's Horizon research and innovation programme under grant agreement No 101056801".

**The project brochure** was used by project partners during dissemination events, and it is freely available on the ZHENIT website.

The technical messages of ZHENIT project have been translated into simpler messages by the use of representative scheme, vessel and sea images so that the leaflet can be used to disseminate ZHENIT also to the general public.



Figure 2: ZHENIT Brochure

The project poster focuses on the technical messages of ZHENIT as it is meant to disseminate the project’s results to the scientific community and to industry stakeholders during fairs, conferences, booths, events etc. Its contents are similar to brochure ones and, maximising the use of icons, key messages and pictures, it aims to attract people interest to the project via a first glance approach.



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Figure 3: ZHENIT Poster

There was no need to update these materials of the project as reported in D6.7.

**O3: to provide up-to-date information about ZHENIT through the whole duration of the project STATUS AT M47**

The ZHENIT project website creation has been managed by RINA-C and a description of its function and structure can be found in report D6.1 "ZHENIT Project Website" prepared at M3.

The project website was the principal communication and dissemination platform; it was used to increase the visibility of the project as a whole, presenting the news, results, and documents and thus highlighting the consortium work and its role. By the use of more penetrating channels, such as social media and partners' online platforms, the ZHENIT website concentrates all the necessary materials to better engage technical and non-technical audience, translating into simple and easy-to-read content,

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the main project advancements. For this reason, it has been designed to be responsive and accessible from different devices.

Thus, ZHENIT project website defined objectives are:

- 1) Explain and describe project concept and make it clear also for a non-technical public to achieve societal acceptance;
- 2) Provide information about project and thematic events in order to attract sister projects to collaborate creating synergies;
- 3) Allow stakeholders to subscribe to ZHENIT community;
- 4) Make disclosable project results available (public reports, scientific publications, presentations) for the scientific and industrial communities in an unique point.

There was no need to update the website of the project as reported in D6.1 and website stats up to M47 are reported in the next chapters.

*O4: to communicate the competitive advantages of the project’s novel technologies to selected target Audiences and O7: to disseminate and to ensure public access to the non-confidential project’s results*

**STATUS AT M47**

The overall project results have been communicated mostly to three type of target groups, via different actions:

TARGET GROUP	ACTION
General Audience	With whom the project interacted via project website and social media
Scientific Community	With whom the project interacted thanks to: a) publication of scientific papers (5), b) participation to specific events organized in collaboration with other R&D projects (e.g. ENGIMMONIA, HEMOS, RESHIP...), c) presentation in relevant conferences and symposia (10).
Industrial Stakeholders	Among industrial stakeholders four sub-groups could be identified: ship-owner manager, port authorities, technology manufacturer, policy makers and regulators.

*O5: to support the diffusion of results to the general public and O6: to translate the scientific/technical results into messages for public outreach, comprehensible also by a non-technical public*

**STATUS AT M47**



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This activity has been mostly performed via Social Media and Public website, where main project outcomes will be presented in a simple and accessible way and public deliverables will be available for download. More information are reported in the next chapters.

**Social Media - LinkedIn:** 96% of B2B (business-to-business) organizations rely on LinkedIn for content marketing and distribution<sup>1</sup>, so [ZHENIT LinkedIn page](#) has been created and it is used to inform and engage stakeholders like technology providers, maritime transport companies, industrial manufacturers and certification societies policies. Up to M47, 292 Followers have been engaged since M1 and 50 posts have been published to promote news, results and events related to the project.

**Social Media - X (formerly Twitter)** - X was initially selected by the consortium as a project communication channel due to its conversational nature and its potential to engage stakeholders through short and impactful messages. The ZHENIT X account (<https://twitter.com/zhenit12>) was established from M1 to raise awareness of the project among stakeholders in the maritime technologies and transport sectors, as well as media agencies, partners, and the general public, fostering online discussions and visibility. The account promoted the ZHENIT brand identity through consistent use of the project logo in both the banner and profile picture, and by clearly displaying key project information such as the title, grant agreement number, and EU disclaimer. Engagement strategies included the use of targeted hashtags (e.g. #shipping, #sustainability, #decarbonisation, #ThermalEnergyStorage, #technologyintegration, #maritime, #innovation), the involvement of followers through questions and discussions, the tagging of relevant accounts (e.g. partners, events, Horizon Europe profiles, journalists), and the inclusion of visual content such as images and videos.

However, in the final months of the project, the use of X was progressively discontinued. This decision was taken due to a significant decline in its effectiveness in reaching relevant stakeholders, mainly as a consequence of changes in the platform's algorithm. These changes reduced the platform's suitability for targeting audiences relevant to EU-funded research and innovation projects, leading the consortium to deprioritise X in favour of more effective communication channels, such as LinkedIn and the project website.

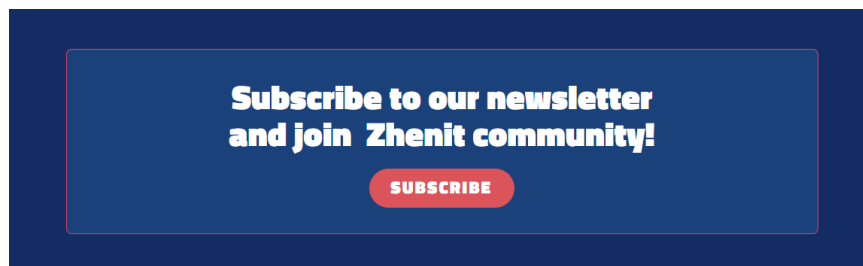
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<sup>1</sup> <https://sproutsocial.com/insights/social-media-statistics/>

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**Newsletter:** The consortium initially intended to set up a periodic project newsletter to be delivered every six months, and a dedicated subscription page was prominently featured on the website homepage (Figure 4). The objective of the newsletter was to keep potential stakeholders regularly informed about project developments and to foster the creation of the ZHENIT community. During the first two years, however, RINA-C, as Dissemination and Communication Leader, prioritised the use of more direct and immediate channels—such as the project website and social media—to promote project activities and results.

The project newsletter was subsequently reinstated at M26. Since its reactivation, four editions have been published, reaching a total of 30 subscribers. These newsletters have primarily included updates on project progress, news and events, publications, and publicly available deliverables, as well as videos from the project’s e-learning programme, providing stakeholders with a comprehensive overview of ZHENIT’s activities and outputs.



*Figure 4: ZHENIT Website - Newsletter Subscription Page*

*O8: to foster the exploitation of the project’s results and O9: to promote knowledge transfer of project innovative solutions, along with the benefits they can provide, toward potential target end-users/adopters to speed up their adoption.*

**STATUS AT M47**

The ZHENIT project actively pursued its objectives to foster the exploitation of the project’s results and to promote knowledge transfer of innovative project solutions, along with the benefits they could provide, towards potential target end-users and adopters to accelerate their uptake. In alignment with these goals, ZHENIT organized its first exploitation workshop during the General Assembly, held on the 30th and 31st of May 2024 in Milan.

This exploitation workshop was a key event designed to maximize the impact and uptake of ZHENIT's innovative solutions. By bringing together project partners, the workshop facilitated the transfer of

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knowledge and showcased the practical benefits of ZHENIT's advancements in maritime transportation decarbonization and energy storage technologies.

**D&C KPIs TRACKING**

To understand if the above-mentioned objectives are well on-track, in D6.4, the consortium identified Key Performance Indicators and quantitative targets to be reached for specific communication and dissemination activities.

The effectiveness of the project’s communication activities was monitored via the following KPIs in order to track the proper key performance indicators:

- Project Awareness: Website traffic, page views, video views, etc...;
- Engagement: Social media statistics, rate of attendance to the project’s event;
- Lead generation: Newsletter subscription;
- Target loyalty: Percentage of content consumed by target groups.

In particular, the success of ZHENIT communication and dissemination strategy was measured through the KPI presented in Table 1.

*Table 1: ZHENIT D&C KPIs list and status up to M24*

Content	KPI	Value	Status at M47
Project website	Number of visits	Visits: <5000 = poor; 5000-10,000 = good; >10,000 = excellent	= 8000
Public Material	Number of download from the website	<100 = poor; 100-200 = good; >200 = excellent	= 150
Promotional material	Number of distributed copies	<500 copies = poor; 500-1,000 copies = good; >1,000 copies = excellent	= 1500

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Technical project epublication	Number of download from website	<25 = poor; 25-50 = good; >50 = excellent	25
Scientific papers	Number of paper published	5 = poor, 5-8 = good, >8 = excellent	5
Conference presentations	Number of conferences/events presentations	<10 = poor, 10-15 = good, >15 = excellent	10



### 3 Performed communication and dissemination activities up to M47

Communication and dissemination activities have to be performed in a structured way, and they have to be tracked and monitored. At this purpose, RINA Consulting prepared a dynamic sheet (available on consortium project repository) to plan, collect and to monitor all the planned partners’ communication and dissemination activities.

In this section, all the communication and dissemination activities performed in M25-M47 and tracked in above mentioned tracking tool are collected and presented as classified by categories.

#### PROJECT WEBSITE

The Project News section of ZHENIT project website has been regularly updated. It has been the main reference channel for all project communications.

*Table 2: ZHENIT project website posts*

POST	DATE	TITLE
1	June 6, 2022	<a href="#">ZHENIT Kick-off Meeting</a>
2	July, 2022	<a href="#">Visit to the Olympic Champion Vessel</a>
3	August, 2022	<a href="#">ZHENIT Website is online</a>
4	November, 2022	<a href="#">ZHENIT First General Assembly</a>
5	May, 2023	<a href="#">ZHENIT at Eurotherm Seminar</a>
6	May, 2023	<a href="#">Second ZHENIT General Assembly held in Birmingham</a>
7	June, 2023	<a href="#">ZHENIT at Seafuture 2023</a>
8	June, 2023	<a href="#">ZHENIT at Sustainable Places 2023</a>
9	June, 2023	<a href="#">ZHENIT at Nor-Shipping</a>
10	September, 2023	<a href="#">ZHENIT at SUPEHR23</a>
11	November, 2023	<a href="#">ZHENIT GA M18</a>
12	November, 2023	<a href="#">ZHENIT at ENLIT Europe 2023</a>
13	August, 2024	<a href="#">ZHENIT Social acceptance survey</a>
14	August, 2024	<a href="#">Technical Survey in Mazara del Vallo</a>
15	October, 2024	<a href="#">First ZHENIT webinar</a>

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16	November, 2024	<a href="#">ZHENIT GA M30</a>
17	March, 2025	<a href="#">ZHENIT at World Maritime Week 2025</a>
18	February, 2025	<a href="#">#2 ZHENIT Webinar</a>
19	May, 2025	<a href="#">ZHENIT at NetZero Milan 2025</a>
20	May, 2025	<a href="#">#3 ZHENIT Webinar</a>
21	June, 2025	<a href="#">ZHENIT GA M36</a>
22	September, 2025	<a href="#">ZHENIT at NEST-LEAP 2025 in Genoa</a>
23	October, 2025	<a href="#">ZHENIT Presented at IMPRES 2025 in Japan</a>
24	February, 2026	<a href="#">#4 ZHENIT Webinar</a>

**SOCIAL MEDIA**

The social media strategy followed by the project consortium aims to ensure the opportune, convenient and prompt dissemination of ZHENIT activities and has allowed a close interaction with the right audiences and profiles of interest.

Table 3: ZHENIT Social Media

SOCIAL MEDIA	LINK	FOLLOWERS
LinkedIn	<a href="https://www.linkedin.com/company/zhenit-project/">https://www.linkedin.com/company/zhenit-project/</a>	293

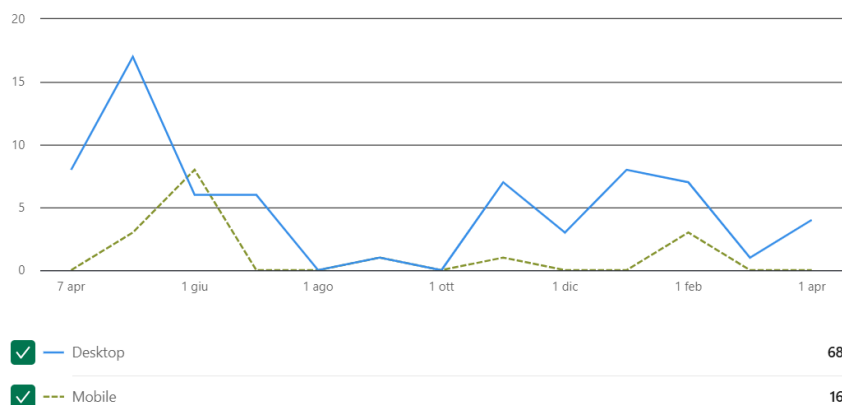


Figure 6: ZHENIT LinkedIn Stats. visitor metrics in the last year



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Figure 7: ZHENIT LinkedIn Stas. Followers in the last year

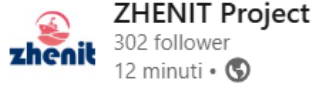
### PROJECT VIDEO PROMOTION

As part of the communication activities carried out at the end of the ZHENIT project, a final comprehensive video was produced to effectively present the project’s scope, activities, and key achievements. The video features the vessel *TESEO I* as a central element, providing visual documentation of the onboard installation and integration of the innovative technologies developed throughout the project. Through a combination of footage and explanatory narration, it illustrates how these solutions were implemented in a real operational environment, highlighting their functionality and practical relevance.

In addition to showcasing the technological installations, the video clearly presents the overall objectives of the ZHENIT project, framing them within the broader context of sustainable maritime innovation and energy efficiency. It also highlights the main results achieved, with particular emphasis on the technological advancements, the performance of the implemented systems, and the potential impact of the project outcomes on future applications.

To ensure wide visibility and accessibility, the final video has been disseminated through the project’s main communication channels. It is available on the official YouTube channel, published on the project website, and shared via the project’s LinkedIn profile, thereby reaching a diverse audience that includes stakeholders, industry representatives, researchers, and the general public. The video can be viewed here: <https://youtu.be/84hsqzhdFH0>

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We are pleased to announce the release of the final video of the **ZHENIT Project!**

The video showcases how **#ZHENIT** is contributing to energy efficiency and decarbonisation in maritime transport through innovative waste heat recovery solutions and onboard validation on TESEO I. 🚢 ⚙️

A great milestone for our project and a step forward toward more sustainable shipping. 🌍

👉 Watch the video here: <https://lnkd.in/dRAZjTBP>

**#ZHENIT #HorizonEurope #MaritimeInnovation #Decarbonisation  
#EnergyEfficiency #Innovation #Research #EUProjects**

Mostra traduzione

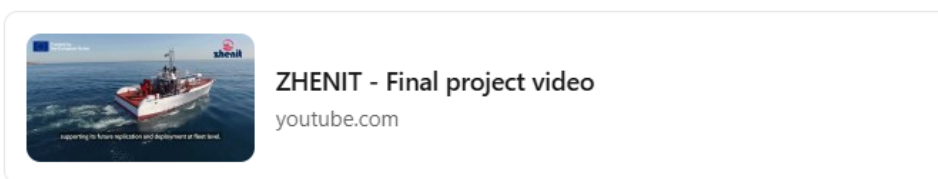


Figure 4 - LinkedIn post about ZHENIT project final video

EVENTS, TECHNICAL CONFERENCES, WORKSHOPS

In the table below, a list containing all the events, conferences and workshops where ZHENIT Project team has participated in M1-M47 is presented. All these events have been a fantastic opportunity for disseminating the ZHENIT project as well as reach to potential end-users and industrial actors.

*Table 4: ZHENIT Project Events*

Type of event	Title	Date	Partner	Place
Trade fair	ACHEMA 2022	22-26 August 2022	ECT	Frankfurt, Germany
Organisation of a conference	Il futuro dell'IT: la digitalizzazione sostenibile	14 October 2022	SIGLA	Genoa, Italy
Exhibition	World Maritime Week 2023	21 March 2023	TECNALIA	Bilbao, Spain
Participation to a conference	Eutotherm Seminar	May 2023	CNR	Lleida, Spain
Exhibition	Nor-Shipping	2 June 2023	RINA	Oslo, Norway
Exhibition	SeaFuture 2023	5-8 June 2023	SIGLA	La Spezia, Italy
Participation to a conference	Nor-shipping	5-9 June 2023	RINA	Oslo, Norway
Participation to a conference	Sustainable Places 23	14-16 June 2023	RINA	Madrid, Spain
Participation to a conference	SUPEHR 23	8 September 2023	RINA	Savona, Italy
Exhibition	Europort 2023	7-10 November 2023	TECNALIA/UPV	Rotterdam, Netherlands
Exhibition	ENLIT Europe 2023	28-30 November 2023	RINA	Paris, France
Participation to a conference	HLF on Education and Standardization	17-18 June 2024	CNR	Delft, Netherlands
Participation to a conference	HEYSUN 2024	26 September 2024	NAVTEC/CNR	Catania, Italy

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Participation to a conference	World Maritime Week 2025	19-21 March 2025	TECNALIA	Bilbao, Spain
Exhibition	NetZero Milan 2025	14-16 MaY 2025	RINA	Milan, Italy
Participation to a conference	NEST-LEAP 2025	4-5 September 2025	RINA	Genova, Italy
Participation to a conference	IMPRES 2025	27-30 October 2025	CNR	Sendai, Japan

**PUBLICATIONS**

During the project, ZHENIT partners presented the following papers to Scientific Journals and Conferences.

*Table 5: ZHENIT Scientific Publications*

Type of publication	Title	DOI	Partner	Target
Peer review publication	On-board waste heat recovery, upgrade and conversion: state-of-the-art review		UoB	Scientific community
Conference paper	Thermodynamic Investigation and Design of a Multi-Generation ORC-Ejector Cooling Cycle Heat Pump for Vessel Waste Heat Recovery	<a href="https://doi.org/10.52202/069564-0067">https://doi.org/10.52202/069564-0067</a>	NTUA	Scientific community
Conference paper	Application of Flat Plate Latent Heat Thermal Energy Storage for Waste Heat Recovery and Energy Flexibility in Maritime Sector	<a href="https://doi.org/10.52202/069564-0211">https://doi.org/10.52202/069564-0211</a>	UoB	Scientific community
Conference paper	Performance analysis of waste heat recovery system for 1 maritime applications to improve ship energy efficiency		UNIGE, RINA-C	Scientific community

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Conference paper	Innovative Waste Heat Valorisation Technologies for Zero-Carbon Ships - A Review	<a href="https://doi.org/10.52202/069564-0250">https://doi.org/10.52202/069564-0250</a>	UoB	Scientific community
Conference paper	Driving decarbonisation of shipping sector by waste heat recovery solutions: a techno- economic assessment on technology selection		UoB	Scientific community
Conference paper	Development of a latent heat thermal energy storage system for waste heat recovery on ships	<a href="https://zenodo.org/records/10245219">https://zenodo.org/records/10245219</a>	UoB	Scientific community
Conference paper	Eurotherm Seminar #116 Innovative solutions for thermal energy storage deployment	<a href="https://doi.org/10.21001/eurotherm.seminar.116.2023">https://doi.org/10.21001/eurotherm.seminar.116.2023</a>		Scientific community
Conference paper	Dynamic modelling of ORC system for vessel waste heat recovery	<a href="https://doi.org/10.52202/069564-0060">https://doi.org/10.52202/069564-0060</a>	NTUA	Scientific community
Conference paper	Optimally integrated waste heat recovery through combined emerging thermal technologies: Modelling, optimization and assessment for onboard multi-energy systems	<a href="https://www.sciencedirect.com/science/article/pii/S0306261924006810">https://www.sciencedirect.com/science/article/pii/S0306261924006810</a>	UoB	Scientific community
Journal publication	Thermodynamic investigation of integrated organic Rankine cycle-ejector vapor compression cooling cycle waste heat recovery configurations for cooling, heating and power production	<a href="https://www.sciencedirect.com/science/article/pii/S0360544224017948">https://www.sciencedirect.com/science/article/pii/S0360544224017948</a>	NTUA	Scientific community



**Zero waste Heat vessel towards relevant  
Energy savings also thanks to IT technologies**

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Conference paper	Comparison of 1-d ejector modelling approach and computational fluid dynamics (cfD) simulation to predict the performance of ejector devices		NTUA	Scientific community
Journal paper	Latent heat thermal energy storage system with pillow-plate heat exchangers topology – Assessment of thermo-fluid dynamic performance and application potential	<a href="https://doi.org/10.1016/j.applthermaleng.2025.125606">https://doi.org/10.1016/j.applthermaleng.2025.125606</a>	UoB	Scientific community



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## 4 Activities performed with Sister Projects

Collaboration with other EU-funded projects has been considered a key element for maximising the impact of ZHENIT, in particular with regard to knowledge exchange, alignment of research and innovation activities, and effective dissemination of project results.

Throughout its implementation, ZHENIT established and maintained interactions with several sister projects operating in complementary domains, namely **HEMOS, ENGIMMONIA, RESHIP, LH2CRAFT, FLEETfor55, SAFeCRAFT, and MARPOWER**. These projects address similar challenges related to the decarbonisation of the maritime sector, including the integration of alternative fuels, energy efficiency improvements, and the adoption of innovative technologies.

The collaboration with these initiatives enabled the exchange of technical knowledge, methodologies, and preliminary results, supporting a better understanding of common challenges and potential solutions. In addition, these interactions contributed to the identification of synergies and complementarities across projects, particularly in relation to technology development, system integration, and environmental impact assessment. Specific synergies were observed with ENGIMMONIA, due to the strong overlap in technical scope and the participation of common partners, which facilitated a more continuous exchange of information and alignment of approaches.

A key milestone for engagement with sister projects was represented by the **final project event**, held on **17 April 2026 in Augusta (Sicily, Italy)**, which marked the conclusion of the ZHENIT project. The event was designed as a platform to present the main project outcomes while fostering dialogue with related initiatives and relevant stakeholders.

The agenda of the event included dedicated sessions involving sister projects, structured as presentations followed by open discussions. In particular, the following projects contributed to the programme:

- **RESHIP** – Presentation and discussion (Daria Matignon)
- **LH2CRAFT** – Presentation and discussion (Alexandros Giannakis)
- **FLEETfor55** – Presentation and discussion (Spyros Pappas)
- **SAFeCRAFT** – Presentation and discussion (Niki Zografou)

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- **ENGIMMONIA** – Presentation and discussion (Martina Vagnoni)
- **MARPOWER** – Presentation and discussion (Fiorella Valenti)

These sessions provided an opportunity to present key objectives, ongoing activities, and main results of each project, while enabling direct interaction among participants. The exchange of views allowed for the identification of common research directions, potential areas for collaboration, and shared challenges in the maritime decarbonisation pathway.

The technical sessions were complemented by a roundtable and open discussion, during which participants further explored cross-project synergies, discussed lessons learned, and reflected on future perspectives for research and innovation in the sector. This interactive format facilitated active participation and contributed to strengthening connections among project consortia.

Overall, the collaboration with sister projects, and in particular the interactions held during the final event, contributed to enhancing the visibility of ZHENIT results, promoting knowledge transfer, and reinforcing the alignment with ongoing European research efforts. Furthermore, these activities supported the establishment of lasting links among projects, fostering the continuation of cooperation and information exchange beyond the formal duration of the project.

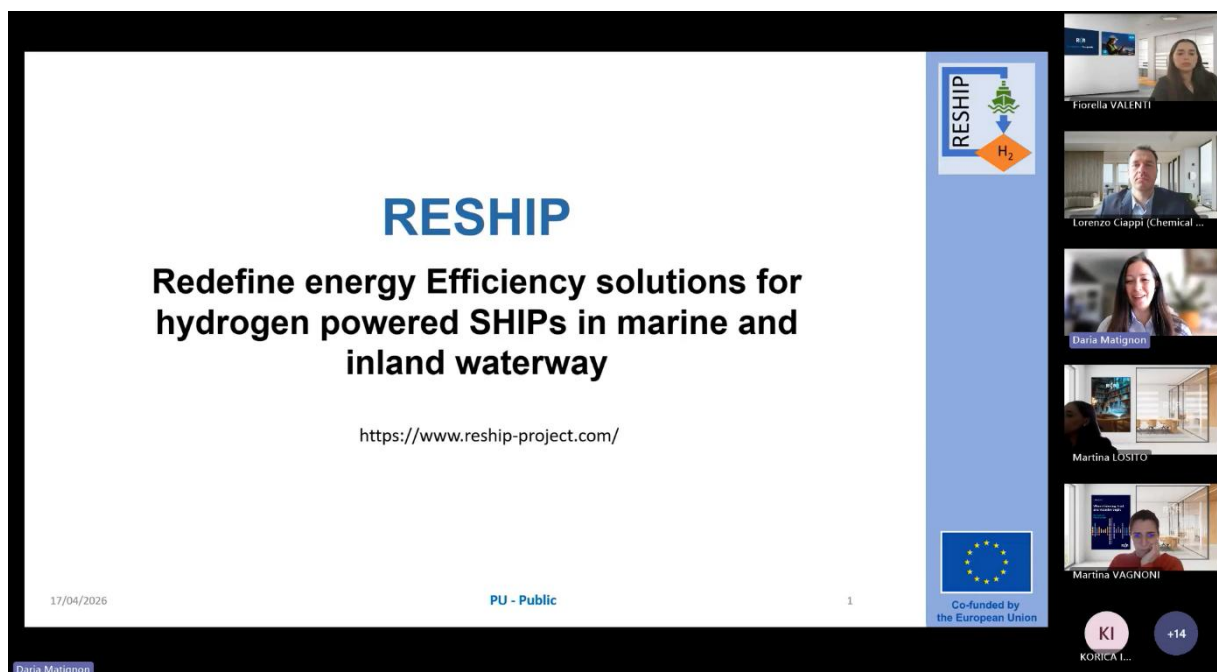


Figure 5 - RESHIP project presentation

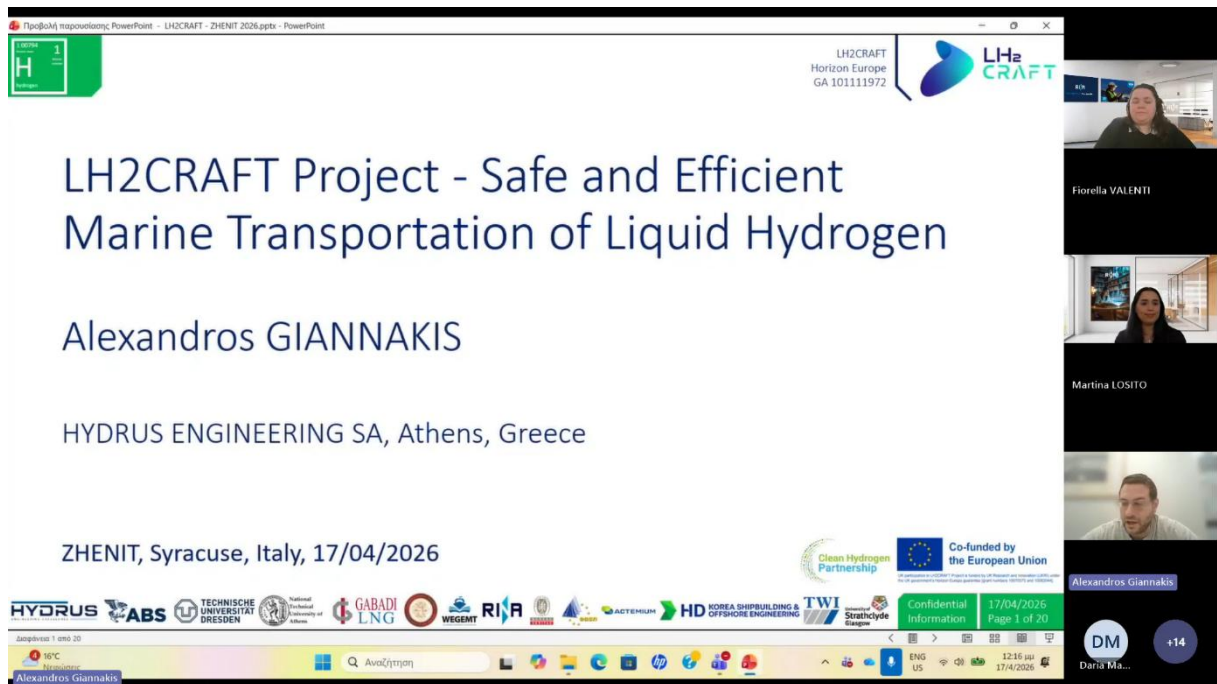


Figure 6 - LH2CRAFT project presentation

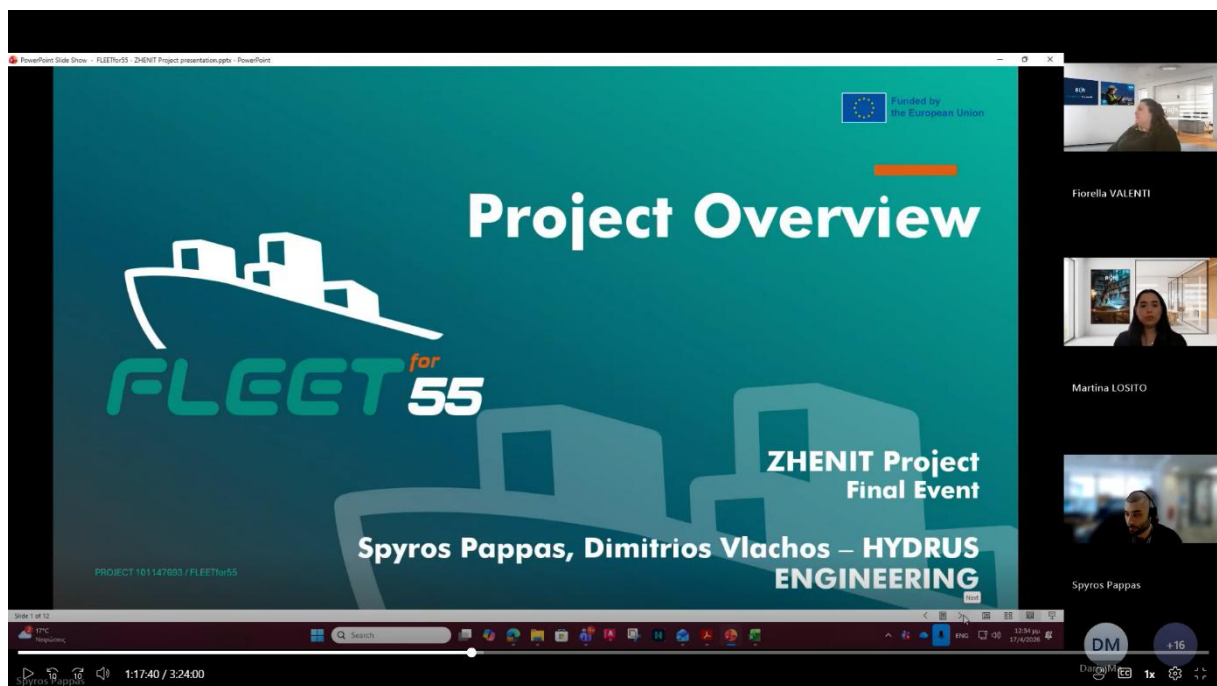


Figure 7 - FLEETfor55 project presentation



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Figure 8 - SAFeCRAFT project presentation



Figure 9 - ENGIMMONIA project presentation



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## 5 Stakeholder engagement: ZHENIT E-learning programme

In order to strengthen the engagement of industrial stakeholders and enhance the dissemination and exploitation of project results, the ZHENIT project implemented, starting from **October 2024**, the **ZHENIT E-learning Programme**. This initiative consisted of a structured series of webinars delivered by technical partners of the consortium, with the objective of providing in-depth technical knowledge on project activities, supporting capacity building, and facilitating the transfer of results towards industrial stakeholders, research organisations, and the wider maritime community.

The E-learning Programme comprised **six webinars**, each addressing specific technical and methodological aspects of the ZHENIT project.

The **first webinar**, titled *“Navigating Towards Zero-Emission Shipping: The IMO Decarbonization Goals and ZHENIT Project”*, was organised with the support of partners **RINA-C, RINA-S, and ECONTECH BV**. The session provided an introductory overview of the maritime decarbonisation framework, with specific reference to the International Maritime Organization (IMO) targets. It also presented the overall ZHENIT approach and its contribution to zero-emission shipping pathways. The webinar served as an entry point to the project, illustrating its objectives, vision, and expected impact on sustainable shipping.

The **second webinar**, titled *“Optimized Waste Heat Recovery and Latent Heat Thermal Energy Storage for Maritime Applications”* (28 February 2025), was delivered by **Adriano Sciacovelli and Lorenzo Ciappi (UoB)**. The session focused on advanced waste heat recovery (WHR) systems and thermal energy storage technologies for maritime applications. A system-level integration approach was presented, highlighting the combination of pillow plate thermal energy storage modules with WHR systems. The webinar discussed potential benefits in terms of fuel efficiency improvement, emission reduction, and operational optimisation onboard vessels. Technical aspects such as modelling approaches, system design considerations, and feasibility assessments were also addressed, providing detailed insights for engineers and researchers.

The **third webinar**, titled *“The Future of WHR Technologies: Insights from the ZHENIT Project”* (12 May 2025), was presented by **Andrea Frazzica, Joseba Urkiri, and Konstantinos Braimakis**. This session provided an in-depth overview of the latest advancements in waste heat recovery technologies, including solutions developed within the ZHENIT project. The speakers presented modelling approaches, system design strategies, and performance evaluation methodologies. The webinar also

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discussed practical applications of WHR systems onboard vessels and their role in improving overall energy efficiency and reducing greenhouse gas emissions in the maritime sector.

The **fourth webinar**, titled “*Laboratory Validation Campaign of ZHENIT Technologies*” (10 February 2026), was delivered by **Ane Bereziartua Odriozola (TECNALIA Research & Innovation)** and **Vittorio Oliveri (RELATECH)**. The session focused on the experimental validation activities carried out within the project, with particular emphasis on laboratory-scale testing of integrated prototypes developed in ZHENIT. The speakers presented the preparation of experimental setups, validation methodologies, and testing procedures conducted in TECNALIA laboratories. The webinar provided detailed insights into how experimental campaigns support technology development, de-risking, and future implementation in maritime environments.

The **fifth webinar**, titled “*Environmental and Economic Analyses of ZHENIT Solutions*” (March 2026), was delivered by **Maria Chiara Caruso and Lucrezia Lodi (RINA)**. This session focused on the methodologies adopted for the assessment of environmental and economic performance of ZHENIT technologies. Life-cycle considerations, sustainability indicators, and cost-effectiveness evaluation approaches were presented. The webinar provided a comprehensive overview of the main results achieved in terms of environmental benefits and economic viability of the proposed solutions, supporting the understanding of their potential for future market uptake.

The **sixth and final webinar**, held in **April 2026**, was titled “*Exploitation Strategies and Replication Pathways*”. This session concluded the E-learning Programme and addressed the potential exploitation routes of ZHENIT results. It provided strategic guidance on scale-up opportunities, replication scenarios in different maritime contexts, and pathways for future uptake of the developed technologies. The webinar consolidated the knowledge generated throughout the project and translated it into practical exploitation perspectives, supporting stakeholders in understanding how ZHENIT outcomes can be implemented beyond the project lifetime.

Overall, the ZHENIT E-learning Programme constituted a structured capacity-building and dissemination instrument, enabling continuous interaction with stakeholders and ensuring wide accessibility of technical knowledge. All webinar materials, including presentations and supporting documentation, have been made available on the **ZHENIT project website**, ensuring long-term accessibility of results. In addition, all recorded sessions have been published on the **official ZHENIT YouTube channel**, further enhancing dissemination reach and enabling open access to project knowledge beyond the consortium.

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These activities complemented traditional dissemination actions and significantly contributed to strengthening stakeholder engagement, supporting knowledge transfer, and bridging the gap between research outcomes and industrial application. Furthermore, the E-learning Programme provided a structured framework to support the transition from dissemination to exploitation by illustrating technical performance, application potential, and replication pathways of ZHENIT technologies.

Through the implementation of the six webinars, the programme successfully reached a total of approximately **50 stakeholders**, including representatives from industry, research organisations, and other relevant maritime sector actors.

## 6 Conclusions

The communication and dissemination activities carried out within the ZHENIT project have been successfully implemented throughout the entire project duration, in line with the strategy defined in D6.7 and continuously updated based on project developments and stakeholder feedback. These activities have ensured a consistent and structured approach to raising awareness, engaging stakeholders, and maximising the visibility and impact of the project results.

Over the course of the project, a broad set of communication tools and channels has been effectively deployed, including the project website, social media platforms, newsletters, technical publications, events, and dedicated outreach materials. These instruments have allowed the consortium to address different target audiences, ranging from the scientific and industrial communities to policymakers and the general public, ensuring an effective dissemination of both technical and non-technical content.

The monitoring of Key Performance Indicators confirms that the communication and dissemination strategy has achieved its expected objectives, with satisfactory results in terms of website traffic, engagement, dissemination of promotional material, scientific publications, and participation in international conferences and events. In particular, the project has succeeded in ensuring a solid level of visibility within the maritime and energy research communities, as well as in fostering dialogue with relevant industrial stakeholders.

A strong emphasis has also been placed on collaboration with sister projects and participation in international initiatives, which has enabled valuable exchanges of knowledge, identification of synergies, and alignment with broader European research efforts in maritime decarbonisation. The final project event represented a key milestone in this regard, providing a consolidated platform for presenting results and strengthening cross-project cooperation.

Furthermore, the implementation of the ZHENIT E-learning Programme significantly enhanced stakeholder engagement and knowledge transfer, offering structured technical insights into project results and supporting their potential future exploitation. The availability of recorded webinars and dissemination materials through open-access channels ensures the long-term accessibility and sustainability of the knowledge generated by the project.

Overall, the communication and dissemination activities have contributed effectively to the visibility, understanding, and uptake potential of the ZHENIT project outcomes. The established communication channels, developed materials, and created networks will continue to support the dissemination of

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project results beyond its formal completion, ensuring a lasting impact within the maritime sector and contributing to the broader objectives of decarbonisation and energy efficiency in shipping.



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