



OFFICIAL RULES
HYDROCONTEST
RETROFIT CHALLENGE 2026



Jeune Marine
Revue des Elèves et Officiers de la Marine Marchande



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INTRODUCTION

HydroContest by ENSM is an association supported by ENSM and Jeune Marine with a clear ambition: to bring together students, industry players, and maritime enthusiasts around the major challenges of tomorrow.

Through its international competition and educational initiatives, the association highlights innovation, **decarbonization**, and the **appeal of maritime careers**.

Its goal: to unite a new generation of talents and committed stakeholders to imagine together the ship and the maritime sector of the future.

ENSM

The **École Nationale Supérieure Maritime (ENSM)** is France's historic public institution for training **merchant navy officers**, professionals who are both engineers and seafarers, qualified to hold responsibilities on deck as well as in the engine room. Since 2011, its recognized engineering degree has opened the way to diverse careers at sea and ashore.

With campuses in **Le Havre, Marseille, Nantes, and Saint-Malo**, ENSM offers advanced training in navigation, maritime operations and safety, as well as **maritime engineering**—a program launched in 2016 to support the sector's transition.

Through sea placements, internships, and numerous partnerships in France and abroad, students gain valuable professional experience that underpins the school's reputation for **excellence**.

JEUNE MARINE

Jeune Marine is a leading media outlet for the French-speaking maritime community, created **by and for industry professionals**.

Founded by merchant navy officers, it has been accompanying the evolutions of the maritime world for over 80 years, giving a voice to students, seafarers, engineers, and innovation stakeholders.

Combining in-depth articles, field feedback, technical news, and expert insights, **Jeune Marine** stands as a bridge between generations and a committed observer of the transitions shaping maritime transport.

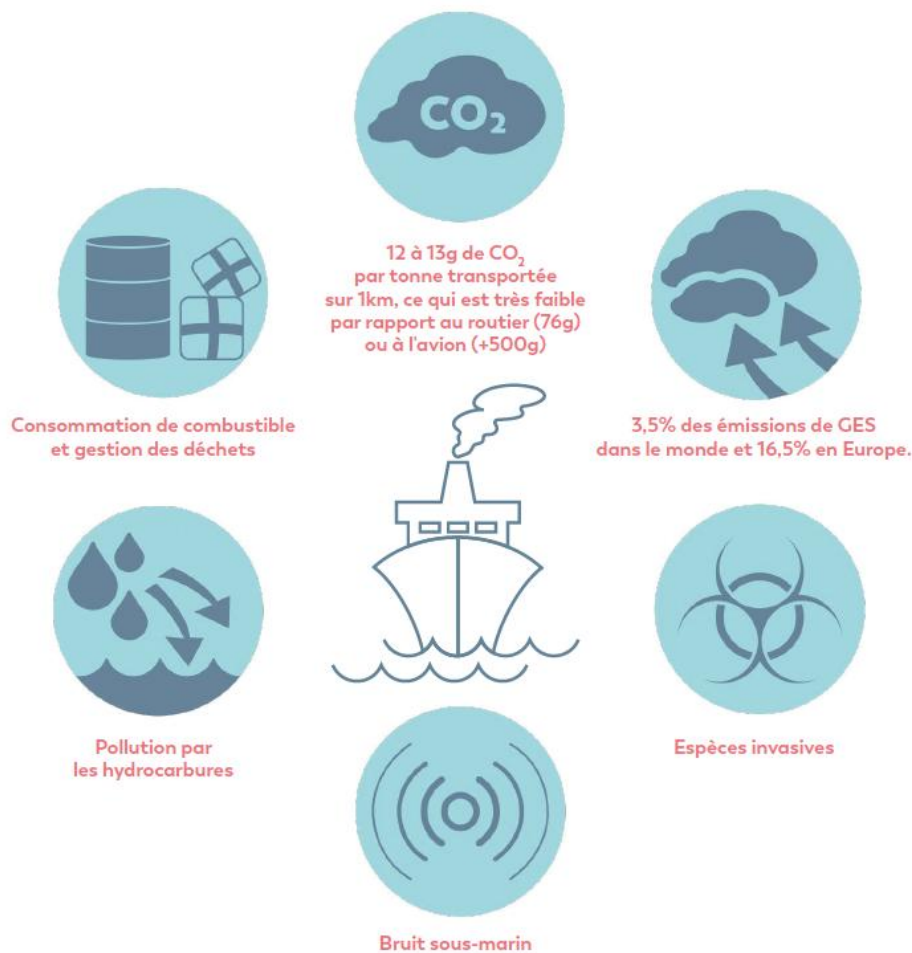
GLOBAL MARITIME TRANSPORT

Maritime transport represents a major environmental challenge.

The volume of goods carried by sea has quadrupled since the 1970s, reaching **13 billion tonnes in 2023**, and it continues to grow.

Although it emits less CO₂ per tonne transported than other modes of transport, it is responsible for **3.5% of global greenhouse gas (GHG) emissions** and about **12 to 13 grams of CO₂ per tonne transported**.

Nevertheless, it remains less impactful than other modes of transport.



Maritime industry stakeholders must therefore prepare for the future by focusing on the energy transition, an urgent necessity for the sector.

The HYDROCONTEST by the Hydros Foundation and EPFL – Lausanne 2014–2019

Created in 2014 by the **Hydros Foundation** and supported by EPFL, the HydroContest was first held in Lausanne and later in Saint-Tropez. The event was a real success, bringing together universities and higher education institutions from around the world around a common goal: **to design more efficient and environmentally friendly maritime transport**.

The HydroContest was suspended due to the global Covid-19 pandemic.

HYDROCONTEST BY ENSM

Marseille, April 28–30, 2026

Marseille Nautical Stadium – Florence Arthaud, 6 promenade Georges Pompidou , 13008 Marseille

For its first edition, HydroContest by ENSM will highlight three key sectors in the evolution of maritime transport towards a decarbonized future.

- **HYDROCONTEST *DESIGN***: The design and conception of eco-friendly vessels of the future, subject to the present regulations
- **HYDROCONTEST *RETROFIT CHALLENGE***: The study of an operational transport vessel to improve its energy efficiency, subject to separate regulations.
- **HYDROCONTEST *TECH DAYS***: The presentation of technological innovations under development to reduce the environmental impact of ships.
- **HYDROCONTEST *SET COURSE FOR MARITIME PATHWAYS***: The presentation of maritime professions and training programs, with networking opportunities.:

Already committed to more eco-responsible maritime transport, **ENSM** integrates into its curricula several modules such as training on the energy transition, ship life cycle, and environmental protection in operations related to oil tankers and chemical or liquefied gas carriers. Its programs take into account the necessary transformations required to achieve the goal of reducing GHG emissions. Through its Foundation, ENSM has set itself the ambition of bringing together maritime transport stakeholders by organizing a challenge to showcase solutions that promote the sector's energy transition.

THE AMBITIONS OF HYDROCONTEST *BY ENSM*

By taking on the organization of HydroContest by ENSM, the association reaffirms its commitment to:

- Accelerating the development of more sustainable maritime transport.
- Bringing together students from around the world.
- Working with them to reflect on improvements in maritime transport practices.
- Showcasing to the public, industry, and opinion leaders the ongoing research worldwide on possible solutions, such as:
 - o Wind-assisted ship propulsion.
 - o Hull designs and propulsion systems with lower environmental impact.
 - o Minimizing energy consumption.
 - o The use of alternative, less impactful fuels.
 - o Etc...
- Fostering exchanges between higher education students, industry representatives, opinion leaders, and the general public during HydroContest by ENSM, in order to accelerate the implementation of technological solutions and new practices.

HYDROCONTEST *RETROFIT CHALLENGE 2026*

Students will be invited to:

- Analyze the energy performance of existing ships in order to identify levers for optimization and reduction of their environmental footprint.
- Design realistic retrofit scenarios (repowering, hybridization, hydrodynamic optimization, weight reduction, etc.), in response to a rigorous set of specifications integrating technical, economic, and environmental criteria.
- Present their retrofit projects in Marseille during an oral defense before a jury composed of maritime transport professionals, teachers, and energy transition experts.
- Exchange and compare their approaches with other student teams, industry representatives, and the public, fostering knowledge sharing and open innovation.
- Commit to reinventing the future of the existing maritime fleet by providing concrete and responsible solutions for the decarbonization of transport.

Article 1 : THE ORGANIZER

The HydroContest By ENSM 2025 event is organized by the association HydroContest by ENSM

10 Quai Frissard

76600 Le Havre

<https://www.hydrocontest.fr>

Article 2 : CONTACTS > hydrocontest@supmaritime.fr

President

Caroline PONS

Vice President

Jean-Emmanuel SAUVÉE

Vice President

Jean-François SUHAS

Vice President & Treasurer

Aymeric AVISSE

Secretary

Gaëlle HARDY

Communication and Events

Marie GATTO

Technical Committee:

- François ARNAUD d'AVITAYA
- Olivier DANIEL
- Denis HOREAU

Article 3 : DEFINITIONS

It is understood that the terms used in these Rules shall have the following meanings:

“HYDROCONTEST BY ENSM 2026” or “HC 2026” or “HC” or “HC RETROFIT CHALLENGE 2026”: Refers to the 2026 edition of HYDROCONTEST BY ENSM.

“The Organizer”: The ENSM Foundation.

“RETROFIT CHALLENGE”: A Retrofit challenge is an event that fosters innovation, where teams rapidly experiment and prototype to validate their ideas. Initially short and intensive, it now also encompasses broader formats aimed at stimulating ideation and the implementation of solutions on a given theme.

“Energy efficiency”: The transport of goods according to their mass, bulk, and volume while using the least possible energy within a defined timeframe.

“Vessel”: The boats built by students to take part in HYDROCONTEST BY ENSM 2026.

“Team”: A group of students and representatives from their university participating in HydroContest by ENSM.

“Team manager”: The main point of contact with the Organizer.

“Rules”: All documents issued by the Organizer defining the obligations of the teams participating in the HYDROCONTEST RETROFIT CHALLENGE.

“Project file”: The file including the documents listed in Article 3.

“Shipowner”: A shipowner is a person or company that owns or operates vessels for maritime transport. They are responsible for the vessel’s equipment, maintenance, and crew, with possible specializations such as cargo transport, fishing, or cruises.

“Carbon intensity of ships”: An indicator measuring a vessel’s CO₂ emissions in relation to its activity. Established by the IMO, it aims to reduce the carbon footprint of maritime transport by ranking ships and imposing improvements to meet climate targets.

RULES

Article 1- COMPETITION PRINCIPLE

1.3 Principle of the HYDROCONTEST *RETROFIT CHALLENGE 2026*

The competition invites participants to develop and assess proposals aimed at achieving or exceeding a reduction in the carbon intensity of an existing merchant vessel over its operational lifecycle.

Carbon intensity links greenhouse gas emissions to the amount of cargo transported relative to the distance covered. It is measured in (tCO₂eq) / (tonne·mile).

Proposals may consist of:

- Technical modifications to the hull, energy production (primary or auxiliary), propulsion, or other systems installed on board the vessel;
- Operational measures relating to ship management, cargo handling, or the use of onboard equipment.

Proposals must not only reduce carbon intensity but also be realistic, meaning they should rely on solutions that are available or feasibly developable and capable of delivering a return on investment.

Article 2 : CONDITIONS OF PARTICIPATION

2.1 Registration and Participation Requirements

HYDROCONTEST RETROFIT CHALLENGE 2026 is an international competition open to students enrolled in a higher education institution at the date of submission of the project file.

Registration for the competition is open to higher education institutions as well as duly registered student associations.

Participating students may compete individually or as part of a team. However, their participation shall remain under the responsibility of a faculty member representing the higher education institution to which they belong, or, in the case of a student association, under the responsibility of the association's president.

The faculty member or the president of the association shall provide supervision and guidance to the students throughout their project, particularly with regard to logistical aspects.

Several individuals or teams from the same institution may take part in the competition. For this purpose, each team must be registered individually and separately.

2.2 Terms of Registration

Registration for the HYDROCONTEST RETROFIT CHALLENGE 2026 is free of charge.

December 15: Deadline for receipt by the Organizer of the registration forms included in Annex 2 of the presentation file, validated by the management of the participant's institution and accompanied by the required documents.

Registration forms must be submitted electronically to the following address:
hydrocontest@supmaritime.fr

Teams will be informed of their final registration by the Organizer after verification of the submitted documents.

The Organizer reserves the right to refuse the registration of a team if its file is deemed incomplete.

The registration form must include at least:

- A presentation of the team, including the names of its members as well as that of the academic advisor;
- A team photo;
- A declaration from the team confirming that it holds all intellectual property rights related to its participation;
- All communication-related information necessary for the Organizer to promote the team.

By registering, each team agrees to comply with the Rules of the HYDROCONTEST RETROFIT CHALLENGE 2026 and with the decisions of the Organizer. Any breach of the Rules may result in disqualification.

The Organizer reserves the right to refuse the registration of a team if its file is deemed incomplete.

2.3 Schedule

- **Official Launch:** September 15, 2025
- **Student Registration:** from September 15 to December 15, 2025*
- **Final Presentation and Trials in Marseille:** April 28–30, 2026

* The sooner teams submit their complete and signed documents, the more time they will have to work on their project... and therefore the greater their chances of success!

Registration shall take place according to the following schedule:

- **From September**
Contact between the Organizer and the teams, and distribution of a registration form.
- **Upon receipt of the registration form** duly signed by the institution's management, the Organizer shall provide the registered teams with the Rules of the HC RETROFIT CHALLENGE 2026, as well as the confidentiality agreement relating to the company subject to the case study. This agreement must be completed and signed by the institution's management and by each member of the team.
- **Upon receipt of the signed confidentiality agreement**, the dataset and the subject of the RETROFIT CHALLENGE 2026 shall be sent to the teams.
- **December 15:** Deadline for receipt by the Organizer of the registration forms.

2026

- **March 2:** Deadline for submission of project files.
- **March 6:** Deadline for review of project files by the Organizer and for teams whose files are deemed non-compliant.
- **March 8:** Deadline for submission of additional elements requested by the Organizer.
- **March 9–30:** Analysis and pre-ranking of project files by the jury, and selection of the teams invited to pitch before the jury.
- **March 30 – April 3:** Transmission of the ranking to the finalist teams.
- **April 30:** Finalists' pitches before the jury.
- **April 30:** Awards ceremony (top 3 teams).

2.4 Contact, Information and Queries

The Organizer may be contacted by email at the following address: hydrocontest@supmaritime.fr

Article 3 : CONTENT OF THE PROJECT FILE AND ITS SUBMISSION TO THE ORGANIZER – Digital documents only

3.1 Required Documents.

- A summary document presenting the key points of the project, in particular the chosen approach to improving the vessel's environmental performance.
- A comprehensive list of the proposed modifications to the vessel and its systems.
- A detailed list of the planned operational measures.
- A calculation note justifying the potential fuel savings as well as the reductions in carbon intensity, with the objective of improving the CII rating from D to C.
- A budget, even approximate, of the total implementation cost, including the acquisition of equipment or services, their delivery, installation on board, and any necessary crew training. The project must remain economically viable, with a total investment not exceeding the amount specified in the subject.
- A simplified carbon assessment taking into account the overall impact of the proposals.
- An evaluation of technical feasibility, considering the constraint that the vessel may not be immobilized for longer than the duration specified in the subject to carry out the required modifications.

3.2 Optional Documents

- Any documents supporting the savings claimed in the calculation note.
- A detailed description, with illustrations if applicable, of the proposed modifications.
- Examples of vessels that have adopted one or more of the proposed modifications and/or operational measures.
- Any documents validating the budget estimates and the carbon assessment.

3.3 Further Details

Only documents written in English or French will be considered by the jury.

The reference currency is the Euro.

Teams shall use the standard units of measurement commonly employed in the maritime industry and, failing that, the units of the International System of Units (SI).

All documents must include, in the header or footer, and on each page, a reference identifying the corresponding team. All documents must be paginated on each page and be fully legible.

When a team proposes to use a patented technology, product, or service, it must clearly indicate the references, the supplier, and the rights holder, where applicable.

If the team uses illustrations or visuals in its application file for which it does not hold the rights, the source of such illustrations must be indicated.

3.4 Terms of Submission

All documents making up the project file must be scanned in PDF format and compressed so that the total file size does not exceed 8 MB.

If such compression is not possible or if it excessively reduces the quality of the file, teams shall divide their submission into several transmissions, *or send a link via [France Transfert](#)* to the following address : hydrocontest@supmaritime.fr

(<https://francetransfert.numerique.gouv.fr/upload>)

The files must be submitted electronically no later than March 2, 2026, to the following address : hydrocontest@supmaritime.fr.

An acknowledgment of receipt or non-receipt shall be sent by the Organizer to the team representative no later than March 3, 2026. The Organizer reserves the right to invalidate any file submitted after the deadline, incomplete, or containing crossed-out, illegible, or manifestly erroneous information. The Organizer accepts no responsibility for the non-receipt of application emails.

The work submitted as part of the competition will not be returned.

Article 4 : EVALUATION OF PROJECTS

4.1 Minimum Mandatory Criteria

In order to be ranked, a project file must, at a minimum, comply with the following criteria:

- Achievement of the carbon intensity reduction target for the vessel, as specified in the subject.
 - o The total investment must not exceed the maximum amount stipulated in the subject.
 - o The proposed modifications to the vessel and its onboard systems must be based on solutions already available on the market, or that can be made available within a period of less than two years. This latter point, where applicable, must be duly justified.
 - o The proposed operational measures must be capable of being implemented by the ship's crew without requiring specialized skills beyond basic training.

All proposed measures must comply with the applicable maritime regulations. Safety must not be compromised by the proposals.

4.2 Ranking

All project files meeting the mandatory minimum criteria will then be ranked based on the following elements, in the order listed below:

- Reduction in the vessel's carbon intensity.
- Budget.
- Impacts on the vessel's economic profitability.
- Carbon footprint of the proposals

4.3 Admissibility

All projects will first be reviewed by a Technical Committee with the purpose of verifying that the submitted files comply with Article 3 – Project File Content and Submission to the Organizer, and that they meet the mandatory minimum criteria set out above.

If compliant, the projects will be declared admissible.

If not, the Technical Committee may request the concerned teams to complete or amend their project no later than March 6, 2026, at 12:00 (French time). Any project remaining non-compliant beyond this date will be disqualified.

4.4 Examination by the Jury

All admissible projects will be submitted to a jury composed of professionals and educators from the maritime sector. The jury shall rank the projects on the basis of the elements set out above.

The jury is not authorized to communicate with the participating teams. It is bound by a duty of impartiality and confidentiality.

The jury shall transmit its conclusions to the Organizer, who will then establish the results and award the prizes to the winners of the competition according to the schedule indicated in Article 2 – Terms of Participation.

As the jury's decisions are final, the ranking of the projects may not be challenged in any way.

Article 5 : AWARDS AND PROMOTION OF PROJECTS

5.1 Awards

The competition offers a total of €5,000 in prizes, distributed among the participating institutions according to the ranking established by the jury, as follows:

- €2,500 for the institution or student association ranked first
- €1,000 for the institution ranked second
- €500 for the institution ranked third

5.2 Promotion

The winning projects will be promoted within the framework of the challenge. They may be published on the Organizer's website and will be showcased during events associated with the HydroContest by ENSM competition.

Article 6 : PERSONAL DATA

The personal data of participants collected by the Organizer through the registration form are mandatory, and their processing is necessary for the operation of the competition.

By registering for the competition, participants authorize the Organizers to retain their personal data for the time required for the organization and conduct of the competition for which they were collected, and for a period of one (1) year from the date of the awards ceremony. The data shall be used exclusively for the management of the competition.

The Organizers undertake to comply with all obligations set forth in French Law No. 78-17 of January 6, 1978 on Information Technology, Files, and Civil Liberties, as amended, as well as Regulation (EU) 2016/679 of April 27, 2016 (GDPR), and Law No. 2018-493 of June 20, 2018 on the Protection of Personal Data.

Each participant has the right to access, rectify, restrict processing, delete, and transfer their data. These rights may be exercised by sending a letter to the HYDROCONTEST BY ENSM ASSOCIATION, at the following address of the organizing team:

ENSM – 39 avenue de Corail – 13008 Marseille – France.

Participants who refuse the collection, recording, and use of their personal data, strictly necessary for the purposes of the competition, shall be disqualified.

Article 7 : AMENDMENT OR CANCELLATION OF THE COMPETITION

The Organizers reserve the right to shorten, extend, postpone, amend, or cancel the competition for any reason. They undertake to inform the participants, but shall not be held liable in this respect. In particular, no compensation may be claimed by participants on these grounds.

Article 8 : AGREEMENT TO THE RULES

Participation in this competition implies full and unconditional acceptance of these Rules. Failure by any participant to comply with these Rules may result in the disqualification of their team and the inadmissibility of their project.

The interpretation of these Rules falls exclusively within the competence of the Organizer. Any claim regarding the interpretation or application of these Rules must first be submitted to the Organizers by registered mail with acknowledgment of receipt, sent to the HYDROCONTEST BY ENSM ASSOCIATION, at the following address of the organizing team:

ENSM – 39 avenue de Corail – 13008 Marseille – France.

These Rules are governed by French law. Any dispute shall fall within the jurisdiction of the French courts.

Annexe 1

You can follow us on the following social media channels:

Site internet	https://www.hydrocontest.fr	
LinkedIn	https://www.linkedin.com/company/challenge-hydrocontest-by-ensm/	
Facebook	https://www.facebook.com/profile.php?id=61565913214847&locale=fr_FR	
Instagram	https://www.instagram.com/hydrocontestbyensm/	

