

# URGENSEA

SCIENCE & CONSCIENCE

## PRESENTATION

1ST EDITION

2024

2025





FONDS DE DOTATION PIERRE  
**ANDURAND**

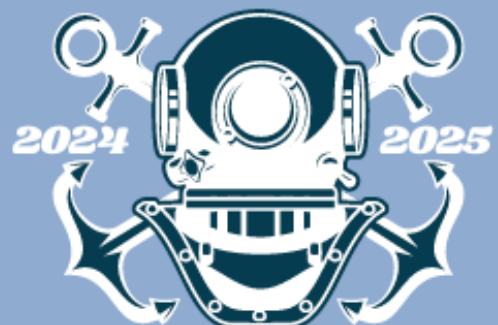
## Introduction

Plastic pollution in our rivers on one side, as well as the unceasing erosion of our coasts on the other, represent monumental and increasing threats both on our health and on our coasts' wealth. Young engineers and environmental enthusiasts have an edifying role to play in identifying, developing, and deploying solutions.

With a prize allocation of € 100,000, URGENSEA is the 1st edition of a responsible engineering competition organised by the Andurand Foundation. Well beyond a traditional challenge, URGENSEA acts as an accelerator, mobilising its knowledge and networks to help the participating teams maximise their input and impact.

The 2-year challenge is open to engineering university students from five European countries, including France, Belgium, Italy, the Netherlands and Switzerland, and focuses on 2 major issues: River Pollution and Coastal Erosion.

**URGENSEA**<sup>®</sup>  
SCIENCE & CONSCIENCE



**THE ANDURAND TROPHY**  
ENGINEERING THE WAVES OF CHANGE



# The URGENSEA Challenge

The aim of the initiative led by the Andurand Foundation is to encourage bright minds to collaborate, in teams and between teams, across several countries, to accelerate the identification and development of practical solutions to the problems of plastic pollution, as well as solutions to protect our coastlines and coastal communities from the never ending threats of sea level rise and intensifying erosion.

By creating the URGENSEA Challenge the FDD Andurand aims to generate structured and well thought responses to two major issues:

- ◆ Plastic pollution which infests the air we breathe, the water we drink, the food we eat, and represents an escalating threat to public health.
- ◆ The inexorable rise in water levels threatens coastal communities, ecosystems, as well as private and public property with coastal erosion increasing and constantly eating away the shoreline.

URGENSEA aims to raise awareness among higher education players and mobilise engineering to the rescue of the sea. By inviting engineering schools and universities keen to integrate socio-ecological issues in the pursuit of a positive impact, URGENSEA aims to widen and accelerate the dynamics of identification and structuring of sustainable and rigorous responses.



# Vision, Mission, Objectives

## **Our Vision:**

To develop a platform for exchange and creation that encourages the younger generation to become aware of and address the rising climate threat by devising sustainable development solutions;

## **Our Mission:**

To mobilise engineering schools and their students, as well as young scientists who are sensitive to the climate emergency, to co-opt the problems of plastic pollution and coastal erosion, to call on science to the bedside of our conscience and to mobilise engineering to the rescue of the sea;

## **Our Objectives:**

- ◆ Optimise the process of identifying solutions by connecting the academic world with established entrepreneurs in the fight against climate change;
- ◆ Promote the exchange of knowledge and experience between participating countries because the environment has no borders;
- ◆ Accelerate the identification of viable and sustainable solutions for cleaning up rivers and identifying solutions to slowdown coastal erosion;
- ◆ Raise awareness among young people while involving them directly in the fight against the climate crisis.



# The Challenge Themes

For your ease of reference, the 2 themes have been divided in 10 sub-categories:

## RIVER POLLUTION:

### Upstream Solutions :

- A. Systemic Solutions
- B. Tanks & Filters

### Downstream Solutions:

- C. Barriers and Nets
- D. Boats and Robots

### E. New and innovative solutions

that are not included in those already listed on our platform

## COASTAL EROSION:

### Mechanical Solutions:

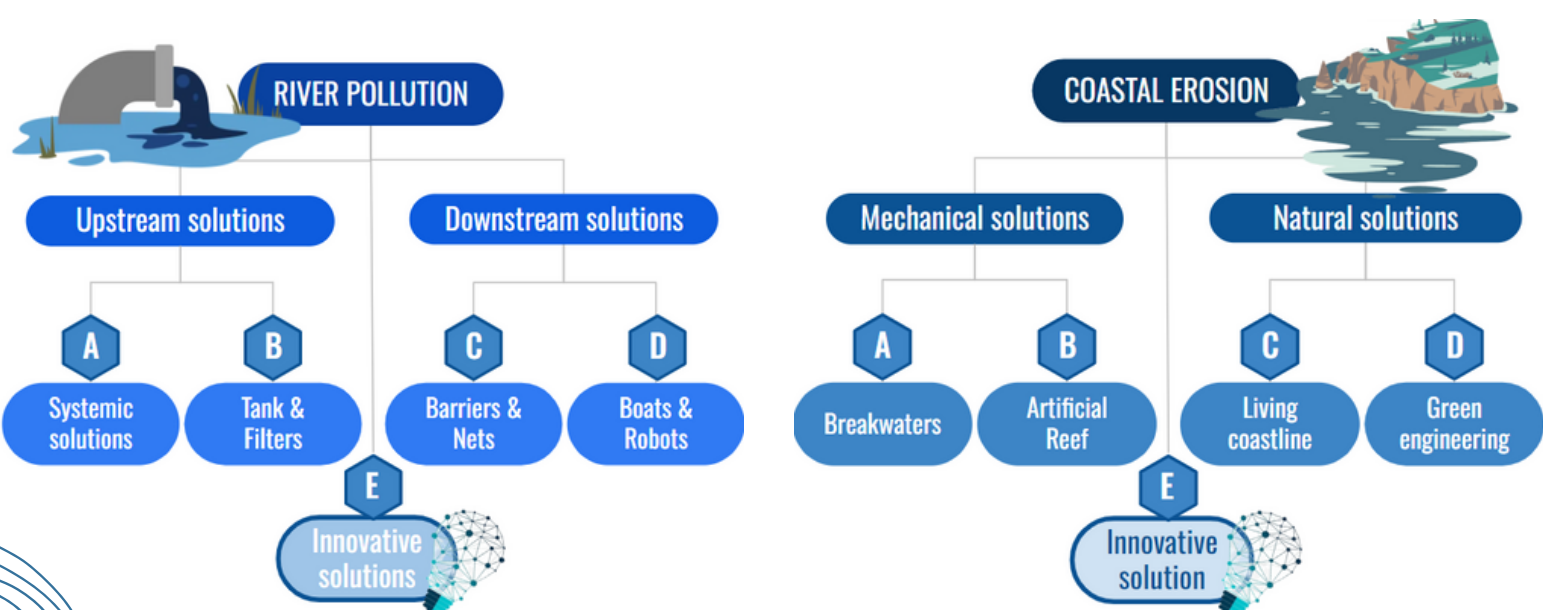
- A. Breakwaters
- B. Artificial Reefs

### Natural Solutions:

- C. Living Coastline
- D. Green Engineering

### E. New and innovative solutions

that are not included in those already listed on our platform





## Participation Terms and Conditions

### How to take part in the URGENSEA 2024 - 2025 Challenge ?

- ◆ Teams of between 5 and 10 students, from 1st year undergraduate to doctoral students included.
- ◆ Any participating team may include at least one academic advisor (Professor), whose mentoring role is important, but who does not count as a member of the team
- ◆ Each team must designate one student as Team Leader (or two co-Team Leaders).
- ◆ A team may be made up of students from the same institution or of students from different institutions, but also of students from several countries.
- ◆ Each participating team can either carry the name of the academic institution it represents or could indicate any name under which it wishes to compete.



# Timetable & Deliverables

The URGENSEA 2024 - 2025 Prize entry timetable :

**December 6, 2024: Final application form to be completed on [www.urgensea.com](http://www.urgensea.com).**

- ◆ Full set of required information from all the team's participants (two are enough to validate the registration, the other profiles can be filled in afterwards)
- ◆ Selection of the sub-category in which to compete (editable once registered)

**January 24, 2024: Optional submission of a project summary from the team.**

**March 28, 2025: Deadline for submission of projects from participating teams, containing:**

- ◆ A technical presentation of the project
- ◆ A feasibility study

**April 25, 2025: 1st session of the Jury and selection of the semi-finalist teams**

**June 27, 2025: Deadline for final submissions from the semi-finalist teams.**

The semi-finalists will submit a more in-depth application, including:

- ◆ A model or prototype of the project
- ◆ A business plan

**September 26, 2025: 2nd session of the jury and selection of the finalists.**

**October 2025: Exhibition of the finalists and 3rd Jury Session  
Announcement of the 6 winning teams**



# Resources and Database

In order to provide the best possible support for the participating teams, increase their chances of success, and avoid wasting precious time reinventing the wheel, the FDDA has cleared and marked out the ground for the themes concerned.

The URGENSEA team provides participating teams with a database containing a large number of existing, tested and deployed solutions relating to the Challenge's themes: River Pollution and Coastal Erosion, as well as proposed sub-categories.

## **The real added value of the URGENSEA database:**

This wealth of information saves students a considerable amount of time and offers them both precious knowledge as well a source of inspiration for creating their own solutions or potentially enriching or perfecting existing ones.

URGENSEA online platform can also help establishing contacts with the entrepreneurs behind these solutions. It will be possible to contact these companies for more information as well as to exchange views with the various players involved.

**By maintaining this platform, URGENSEA goes well beyond a traditional challenge by acting as an accelerator, mobilising its knowledge and networks to maximise the participating teams input and effective impact.**

We invite the participating teams to think about, design, create, develop, complete, improve or refine innovations and solutions related to the two themes of the Challenge.





# Mentoring Platform & Expert Panel

In addition to the resources made available, the URGENSEA Challenge offers participating teams two forms of interactive support: a Mentoring platform and a panel of Experts.

## **What contribution will the Mentors make?**

Participating teams will have access to invaluable experience and expertise through the support of the Mentor they have selected on our platform.

URGENSEA Mentors are recognised for their practical experience of both technical and operational solutions relevant to our topics. They can be called on from the initial concept development phase right through to deployment, thereby considerably improving the chances of project deployment.

The Mentors can be reached once or twice a month, depending on the needs of the team and the progress of the project. Each Mentor has the opportunity to share their know-how and expertise with one or, if they so choose, a maximum of two participating teams.

## **Extra help: the Experts**

If they wish, each team can call on experts selected by the FDDA team. Recognised for their in-depth expertise on issues such as river pollution, threats to the ocean and coastal erosion, they can act as advisers on specific technical subjects.

They can be called upon at any time during the Challenge, on any subject, whether technical, financial or institutional.... , but their solicitation must remain on ad hoc basis.



# The Scaphandres

For its first edition in 2024-2025, the URGENSEA Challenge is endowed with 100,000 euros, with a total of 80,000 euros in prizes for the 6 winning teams in the 2 categories.

In the River Pollution solutions category:

- ◆ Platinum Scaphandre: 18,000 euros
- ◆ Golden Scaphandre: 14,000 euros
- ◆ Bronze Scaphandre: 8,000 euros

In the Coastal Erosion solutions category:

- ◆ Platinum Scaphandre: 18,000 euros
- ◆ Golden Scaphandre: 14,000 euros
- ◆ Bronze Scaphandre: 8,000 euros

The Jury is made up of 12 members representing specialists and experts identified in France, Belgium, Switzerland, the Netherlands and Italy. The deliberations will take place in 3 sessions.

