

PROJECT IDEA
IDÉE DE PROJET

Project Name **Per aspera**

Priority *Atlantic area programme:*

Priority Axis 3: Strengthening the territory's resilience to risks of natural, climate and human origin

Summary description of the project idea

The project aims the improvement of environmental risk prevention methods in maritime and port environments through innovation and technology. These include designing and implementing virtual and augmented reality environments as part of risk prevention.

Port and maritime pollution are sometimes the result of the use of outdated equipment and noncompliant with international regulations materials. They are also and above all the result of operating and human error. Per Aspera wants to cope with emergency situations. The first hours are often vital, events can cross borders and require the help of neighboring countries. The mechanisms of action should be implemented: rapid transmission of information, coordination of teams (different practices per country)

Training and coaching are vectors that fill these gaps, drive change and improve the maritime risk prevention for:

- Maritime staff: merchant navy, fishing, navy, recreational sailing
- Port operators
- Maritime training centers

In recent decades, globalization has generated an exponential development of international trade, although a slight decrease is observed since 2008 due to the economic crisis. Maritime transport plays a major role with the transportation of 90% of the total tonnage traded, 6 billion tons per year. 70% of world maritime traffic is provided by only 14% of ships, container ships.

90% of foreign trade in Europe and nearly 40% of its internal trade is carried by sea.

The **Atlantic Area** remains at the heart of the major intercontinental shipping routes. These activities with a very high potential (blue growth) in a current context more and more complex generate risks. In fact, it's important to raise awareness and train the operational actors in

- Enhancing the efficiency of European maritime and port operators faced with manmade environmental risks.
- Stimulating European cooperation in regional innovation while taking account of local structural constraints

The maritime strategy of Atlantic ocean area highlights three priorities which can meet the project Per Aspera:

- ♦ Protect, secure and enhance the marine coastal environment;
- ♦ Improve accessibility and connectivity;
- ♦ Promote entrepreneurship and innovation;

This project allows the use of innovation and technology (the virtual reality and augmented reality) as lever for meeting in the most efficient manner to the needs of maritime staff and port operators, and in the most appropriate way to a complex and changing maritime environment in:

- Developing methods and crisis prevention process in a stress generator context.
- Improving the elements within the collection, cooperation and communication between stakeholders to maximize the reactions and decisions made
- Bringing the sailors/seafarers to have a common representation of the situation on the water and materialize the consequences of an event or decision.

Per Aspera tip the maritime environmental risks related to the sailing human activities at sea and in port: oil pollution floating or drifting objects... (not natural risks) It does not apply to environmental and maritime traffic monitoring tools.

Actions :

- Awareness raising and capacity building of maritime staff and port operators in the prevention of manmade environmental risks
- Awareness raising of maritime training centers to virtual and augmented reality tools: modeling environments, teams and missions and improving their practices
 - Development of virtual training environment in managing the manmade environmental risks in maritime and port environment at strategic, operational and tactical levels.
 - Creation of teaching tools in virtual reality and augmented reality.
 - Creation of educational scenarios like "serious games"
 - Implementation of a training simulator architecture dynamic, flexible and combined with a flexible educational engineering
- Deployment of virtual and augmented reality tools in the field of maritime environmental risks prevention
- Improvement of environmental risk prevention methods across the Atlantic area.

Duration : 3-4 years : 2017 - 2020

Partners already involved in the project concept

1 – Centre Européen de Formation Continue Maritime – Concarneau (South west of Brittany – France)

With 150 thematic training and 2700 trainees per year, the CEFCM is the first French organization of maritime training. Its skills are organized around three poles:

- Navigation : training of sailors/seafarers and marine officers to all the skills necessary for careers in merchant navy, carriage of freight and passengers, fishing, sailing;
- Marine technologies: mechanic, electricity, electronics, automation, embedded computing, maintenance;
- Safety and security: management and risk prevention, security on board ships and in port, crisis management, rescue and survival at sea, environmental risks, for all marine stakeholders

More than a training operator, the CEFCM is an engineering center, able to create in project mode the training and support systems for the maritime world skills. In 2015, the CEFCM is present, through its partnerships in close to ten countries: Europe and Africa.

Six methods of intervention:

- a training offer corresponding to world standards,
- creation of customized training modules
- on-site trainers trainings
- skills transfer,
- development of local training platform,
- support of training centers

The CEFCM also develops training solutions in blended learning or with simulators.

The team of CEFCM engineering - training engineers, labor psychologists, maritime world expert has led several European projects and bilateral international partnerships whose Marleanet, an Atlantic area project (Maritime Learning Network).

Potential partners sought

- Initial and continuing vocational training institutes working in the maritime and port field, training centers of seafarers and / or port operators
- Organization working in the field of maritime environmental risks prevention,
- Organization working in pedagogical engineering and in screenwriting of training solutions through applied technologies
- Research centers, laboratories or industrial structures involved in the development of simulators and / or design of virtual reality
- Maritime Association working in the maritime environmental risks prevention

- Maritime expertise organization in risk management
- Maritime insurance companies

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