

# ESPO AWARD 2023

*NATURE RESTORATION  
PROJECTS IN PORTS  
BENEFITTING THE LOCAL  
COMMUNITY*



**FOREWORD** ..... 3

**ABOUT THE ESPO AWARD** ..... 4

**THE AWARD PAINTING** ..... 5

**THE MUSIC** ..... 6

**THE JURY** ..... 7

## **THE PROJECTS**

North Sea Port, Belgium/Netherlands ..... 8

Guadeloupe Port Caraïbes, France ..... 10

Port Network Authority  
of The Northern Central Tyrrhenian Sea –

Port of Civitavecchia, Italy ..... 12

Klaipėda State Seaport Authority, Lithuania ..... 14

Port of Gdynia Authority, Poland ..... 16

Port Authority of Cartagena, Spain ..... 18

Port Authority of Ceuta, Spain ..... 20

Port Authority of Seville, Spain ..... 22

Port Authority of Vigo, Spain ..... 24

Shoreham Port, United Kingdom ..... 26

## **ESPO CODE OF PRACTICE**

### **ON SOCIETAL INTEGRATION**

**OF PORTS** ..... 29

**OUR SPONSORS** ..... 30

## **THE ESPO AWARD IS**

### **AN INITIATIVE OF**

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# FOREWORD

As unique connections between land and sea, seaports require space at the seashore, and are thus in many cases situated in or near precious natural coastal areas, often surrounded by a unique fauna and flora, and many times hosting a multitude of protected birds and other wildlife.

It is clear that developing, and in many cases, expanding the ports to respond to the needs of the economy and society while safeguarding this precious nature remains a first concern and priority of any port developer and manager in Europe. And, let's make it clear, the space at the seaside is very scarce since it is very much wanted, not only by birds or ports, but also for residential, recreational and touristic purposes.

But, over the years, spurred by the legislative framework around the Birds and Habitats Directives, ports in Europe have gained extensive experience in working with nature and habitat requirements. What started as a difficult exercise in the beginning of the nineties, has nowadays become an integral and established part of any port development process. The ESPO Code of Practice on the Birds and Habitats Directives, developed in 2006, in close cooperation with the European Commission has certainly contributed to making ports familiar with this process.

This year's ESPO Award aims at rewarding a port that has excelled in revitalising the natural surroundings within or around the port, to the direct benefit of the surrounding community and people. We received ten interesting submissions and I would like you to get acquainted with all these nature restoration projects. This theme was chosen for the 15th edition of the ESPO Award since we were eager to capture what ports are already doing in terms of nature restoration against the backdrop of the discussions on the EU nature restoration law.

I would like to extend our heartfelt gratitude to the ESPO Award jury, for taking the time to go through these projects, putting them meticulously side by side and for choosing the winner amongst winners.

Zeno D'Agostino

Chair of ESPO

# ABOUT THE ESPO AWARD

The ESPO Award on Social Integration of Ports entered its fifteenth edition this year. The Award was established in 2009 to promote innovative projects of port authorities to improve the social integration of ports, especially in the city or wider community in which they are located. In this way, the Award wants to stimulate the sustainable development of European ports and their cities. The experience of the first two ESPO Award editions made it clear that 'Social Integration of Ports' is a topic with many layers. After two editions, it was decided to have a more thematic ESPO Award as from its third edition. The overall scope remains 'social integration of ports', but a specific theme is proposed each year. The theme of the fifteenth ESPO Award on Social Integration of Ports is 'Nature restoration projects in ports benefitting the local community'.

The ESPO Award 2023 will go to the port managing body which has developed innovative ways to develop these new roles and combine port development with successfully protecting and restoring nature in and around the port area to the benefit of the citizens and local community. The winning project will be a project which can clearly demonstrate how nature protection and restoration efforts can be successfully combined with port development projects.

The call for proposals resulted in ten project submissions which are summarised in this brochure. The jury shortlisted the projects of the Port of Cartagena, Guadeloupe Port Caraïbes, North Sea Port and Port of Vigo.

## Previous winners

Previous winners of the Award are the Port of Gijón (2009), the Port of Helsinki (2010), the Ports of Stockholm (2011), the Port of Genoa (2012), the Port of Antwerp (2013), the Port of Koper (2014), Port of Dublin (2015), BremenPorts (2016), Guadeloupe Ports Caraïbes (2017), Port of Rotterdam (2018), Port of Dover (2019), Algeciras Port Authority (2020), and Port of Gdańsk Authority (2021), Port of Barcelona (2022).

# THE AWARD PAINTING

## NEW SERIES OF 8 ESPO AWARDS BY SASJA HAGENS 2023

### COLOURS OF ESPO

*"This year, I am thrilled to present to you my newest series of 8 'THE COLOURS OF ESPO'. A unique set of paintings in which I took the opportunity to show you my port vision. The composition lines I used, reflect my idea of how I see the harbour in many ways. I work with the CNC milling robot which gives me a tremendous amount of creative possibilities. I cut several painted parts first and assemble them further in the process. A working method that gives me the opportunity to add different pieces of materials. Besides acrylic paint, emulsions and sand, I also use wood, metal copper and metal leaf. Although, at a glance every painting has familiar port elements, still you find in each work a unique atmosphere, surprising colour combinations and bold material choices. Every single artwork presents its own distinguished narrative. I hope this series gives you a glimpse of how I see the harbour: bright, playful, and exciting. Do you recognise your future harbour here?"*

*About me:*

*My father, grandfather and great-grand father are all marine educated, sailors, or pilots stationed at the Surinam River Paramaribo. I see myself as a 4th generation sailor. Proud of where I came from and excited to share my colours with you. The port is about adventure, about coming home, about loss, about joy, hope and life energy."*

*Sasja Hagens*

[sasjahagens@gmail.com](mailto:sasjahagens@gmail.com)



Sasja Hagens

# THE MUSIC

Adding a note of prestige, «JOHN DUMON» band is honoured to bring its multilingual charm to the stage at the ESPO Award event 2023. As a dynamic pop-rock-jazz fusion band, John and its band are offering rearranged covers from the 60s to now in various languages. With versatile lineup options, they're set to elevate the event with a musical experience. Get ready to be immersed in the enchanting sounds of «JOHN DUMON», the ideal musical choice for marking the 30th anniversary of ESPO and the winner of the ESPO award 2023.

For info, please contact: [jdumg@yahoo.fr](mailto:jdumg@yahoo.fr)



John Dumon

# THE JURY



**Dimitrios Theologitis, Chairman of the Jury**  
*Senior Expert Waterborne Transport and former Head of Unit of Ports and Inland Navigation, DG MOVE, European Commission*



**Knut Fleckenstein**  
*Executive Partner 'Von Beust & Coll International', former Member of the European Parliament, Transport Committee*



**Théo Fortin**  
*Head of international projects and cooperation, AIVP*



**Marta Moretti**  
*Journalist and Board Member, River-Cities Platform Foundation*



**Eamonn O'Reilly**  
*Former Chief Executive of the Dublin Port Company and former Chair of ESPO*



**Victor Schoenmakers**  
*Former Director Corporate Strategy of the Port of Rotterdam Authority (PoR) and former Chair of ESPO*



**Malte Siegert**  
*Chairman, Federal NABU section Hamburg*



**David Whitehead OBE**  
*Former Director of the British Ports Association and former Chair of ESPO*

# NORTH SEA PORT, BELGIUM/NETHERLANDS

## Connecting nature in Ports and residential areas – Ghent Canal Zone and Moervaart Valley

The 'Interconnected Areas of Ghent Canal Zone and Moervaart Valley' project consists of the development of the areas between the industrial port area and the residential areas in the Flemish part of North Sea Port. A multifunctional approach has been taken, making it much more than just a buffer between the port area and the residential area. It is a unique place where nature development and restoration are at the forefront. Going well beyond the Birds and Habitats Directives, there is space for recreation, small-scale agriculture, fishing, water management, cultural heritage, and archaeology while creating public support for the commercial development of the port.

The interconnected areas consist of 16 sub-areas covering approximately 730 hectares. The Moervaart Valley covers approximately 3,000 hectares.

Implementation of the project began in 2010, and so far, 10 of the 16 planned interconnected areas have been created, despite challenges such as limited space, zoning, funding, combining nature and recreation, and site management. A beautiful, multifunctional buffer of high-quality nature and biodiversity has now been created between the port and the living environment. Concrete examples include:

- The presence of the otter in this area: This proves the quality of the living environment since otters only live in areas with sufficient shelter and good water quality.
- The presence of the kingfisher. In Belgium and the Netherlands, the kingfisher was considered an endangered species for many years. Specially equipped pieces for reed and bank birds, were integrated in the area.
- Walking routes from business parks and residential areas through nature reserves. Actively used by employees and residents, they strengthen the link between port and neighbourhood.
- The cycle paths reduce the distance between residential areas and industry. Employees of North Sea Port and the companies in the port use these paths to commute to work. A cross-border connection to the cycling network in the Netherlands will soon be realised.
- Firewater basins as foraging and resting areas for protected bird species.
- An orchard has been planted, where local residents are allowed to pick fruit.
- Local residents indicate that the areas have a positive impact on the quality of their living environment and their appreciation of the development of the port and its industry.

The project costs a total of €20 million, of which North Sea Port is contributing €2 million and 100% of the construction costs for nature compensation. The Flemish Government's also contributes to the project with a grant. As the participants wanted to encourage the planting of trees in the area, they set up an agricultural fund which was filled with voluntary contributions from companies in the port area, and small landscape elements were planted to promote biodiversity.

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SHORT-  
LISTED  
PROJECT

“The interconnected areas around the Kluizendok in Ghent and Evergem were an arduous task, but the result can certainly be seen. They boost the quality of life of the residents of Rieme and Doornzele with beautiful green buffers. But the area is also a real gem for walkers, cyclists, and nature lovers.”

**Zuhal Demir,**  
**Flemish Minister**  
**of Environment**





SHORT-  
LISTED  
PROJECT

# GUADELOUPE PORT CARAÏBES, FRANCE

## The Shared Benefits of Nature-based Solutions

“Guadeloupe Port Caraïbes remains committed to serving the region and its citizens and is recognised as a major player in the economy and ecological transition. Preserving natural resources and adapting to climate change are now key aspects of our concerns and activities.”

**Jean-Pierre Chalus,**  
**Chairman of the**  
**Management Board**  
**of Guadeloupe Port**  
**Caraïbes**

Since acquiring the status of Grand Port Maritime, Guadeloupe Port Caraïbes (GPC) has embraced the responsibility of managing the natural areas under its jurisdiction. This mission is even more important as GPC is in an area that is a global hotspot for biodiversity, sensitive to human activity and particularly vulnerable to climate change.

In 2016, GPC launched the Cáyoli environmental programme, to acquire data to develop and implement concrete and appropriate environmental solutions. This programme includes cross-cutting actions and innovative methods to conserve and restore biodiversity in the port area, to act as an incubator for innovative technologies in this field, to promote the development of sustainable economic activities and to raise public awareness. It is structured around five areas: environmental monitoring, environmental optimisation of infrastructure, enhancement and eco-tourism, awareness raising and nature restoration. The Cáyoli programme includes the MangCo and Life Adapt'Island projects.

The MangCo project seeks to regenerate mangroves in the Industrial and Commercial Zone to protect the marine environment and its coral reefs. The project aims to reduce the telluric pollution emanating from the area and contaminating the marine environment via run-off, drains and watercourses. Several actions have been carried out such as identification of the pollutants, organising awareness-raising days or planting of red mangroves. The project ended in November 2022. The first effects of the project are already visible in the natural recovery of vegetation and recolonisation of sites by mangrove species. The effectiveness of the plantation will be monitored for at least 5 years.

The Adapt'Island project aims to implement a climate change adaptation strategy using Nature-based solutions. Coral reefs, coastal forests, mangroves, and seagrass beds are essential defences against climate change. However, increasing CO<sub>2</sub> emissions, pollution and ocean acidification are already weakening their ability to provide ecosystem services. This project is implementing concrete and innovative actions to rehabilitate, restore and protect coastal and marine ecosystems and their ecological connections, to improve the quality of the goods and services that they can provide and thus the Caribbean Islands resilience to climate change. It aims to develop an innovative adaptation strategy and restore the ecological continuity of coastal ecosystems, raise awareness, involve stakeholders, and disseminate techniques in the Caribbean. The project is being funded to the tune of €4.7 million for a 5-years period by the GPC and the European Life programme. The results are already visible in the targeted ecosystems: 45,000 m<sup>2</sup> of coral reefs have been rehabilitated by planting more than 15,000 corals grown in nurseries on degraded sites. Seagrass beds and mangrove forests have also been restored, improving coastal protection. Other initiatives include scientific communication and collaboration on best practices that can be transferred to other areas.

# PORT NETWORK AUTHORITY OF THE NORTHERN CENTRAL TYRRHENIAN SEA – PORT OF CIVITAVECCHIA, ITALY

## Natural Monument “La Frasca”: sea, history, nature

The pinewood “Pineta della Frasca” is considered the green lung of Civitavecchia and has been declared a Natural Monument by the Lazio Region. Situated 9 kilometres from the port of Civitavecchia, this is one of the richest stretches of the Lazio coast in terms of nature. While nature is the main attraction, this is also a place of historical interest due to the presence of the remains of a port for the landing of ships and of a Roman villa built on a pre-existing prehistoric settlement. It is therefore both a protected natural area and an important archaeological site.

The importance of the archaeological remains and the landscape characteristics of the “Frasca”, have led to a redevelopment plan of the area, with the aim of protecting and enhancing the archaeological sites. This project, along with the restoration of the pine forest, is part of the Port Authority’s environmental compensation measures. As the anthropogenic pressure on coastal areas is very strong, the preservation of the area is also a relief valve for citizens who are looking for a coastal area free from intrusive human presence.

This recovery, protection, and valorisation project provides for the opening and organised use of the sites for educational and recreational purposes, through an equipped naturalistic-archaeological itinerary. The Port Authority will be carrying out a number of works for the benefit of the port, from car parks (outside the natural monument zone) to the “musealisation” of archaeological areas.

In agreement with the competent authority, a selection was made taking into account the importance of the archaeological findings and the possibility of recovery and access. Excavation campaigns were financed by the Port Authority, and executed in collaboration with the local authority and universities. The planning part was realised by the Port Authority. The rehabilitation of the archaeological sites includes measures for protection, enhancement and cultural promotion through an educational, sporting and recreational route along which archaeological discoveries can be made, equipped with information points, services and educational and accommodation centres. The authorisation phases have been completed. The organisational phases are being finalised in order to proceed with the tendering and contracting of the works, expected to start at the end of 2023. The Port Authority financed approximately €4million.

The project will undoubtedly contribute to the sustainable development of the Frasca Natural Monument. The link between the local community and this stretch of coastline is strong, and for years, citizens have been waiting for a project that would allow them to enjoy this heritage. The Frasca Natural Monument is a treasure of nature and history, and the project benefits not only the inhabitants of Civitavecchia but also the entire territory and the tourists who visit the area.

“We are proud of the project presented that enhances a special historical and cultural heritage inserted in a green oasis usable by the territory and the millions of tourists passing through the port of Civitavecchia”

**Pino Musolino,**  
*President and CEO  
of North Central  
Tyrrhenian Sea Port  
Authority – Ports of  
Rome*





# KLAIPĖDA STATE SEAPORT AUTHORITY, LITHUANIA

## Klaipėda Beach Restoration Initiative

“We are happy to see that our infrastructure projects are not only beneficial in terms of their primary purpose, but they also bring additional value and help protect the environment.”

**Algis Latakas,**  
**Director General,**  
**Klaipėda State Seaport Authority**

The port of Klaipėda is surrounded by the city, nature reserves and recreational areas. Such location makes the port development projects more complex: the port authority must not only work on infrastructure planning and technical solutions but also communicate with the local community about developments, contributing to nature conservation and improving the quality of life of local citizens. Sandy beaches on the Lithuanian coast are a main attraction for tourists and locals. There is a kiteboarding spot and several surf schools next to the port's breakwaters. These beaches are affected by erosion, especially during the storms: the sea floods beaches, erodes sand dunes and sometimes destroys beaches infrastructures. At the beginning of 2022, after severe storms, extraordinary monitoring of shoreline changes was carried out. It showed that erosion reached up to 6.3 metres on two nearby beaches.

The main means of stopping this erosion is to fill in the sand on the coast and beaches. In 2022 the Port Authority was dredging its channels to deepen the fairway. Environmental assessment studies and laboratory tests showed that some of the dredged sand was of high quality and met the requirements of national regulations for replenishment of nearby beaches. The decision was made to use that sand for replenishing one of the beaches. During the dredging project, instead of being dumped, the dredged soil was used to design an underwater sandbank 120 metres away from the shore, at a depth of 2 to 3.5 metres. This sandbank would then gradually be washed away by the waves, replenishing the dunes and beach.

In November 2022, experts carried out additional coastal change monitoring. It showed that the two beaches had recovered over the year and had widened by between 5.2 and 21.5 metres compared to April 2022.

Beach replenishment with sand should be a continuous process to fight erosion. The Port Authority proposed to complement the Coastal strip management Programme 2021–2030 with periodic sand replenishment of the formed underwater sandbank as part of future port dredging projects. The seashore will also be regularly monitored.

The involvement of the local communities from the beginning of the process was crucial since the formation of an underwater sandbank was the first project of this kind so close to the shore. Port Authority's top management face-to-face meetings with district residents and the water sports community helped to respond to the questions and concerns regarding the execution of the project and explain the benefits.



# PORT OF GDYNIA AUTHORITY, POLAND

## Fuel-Energy Transformation

The Port of Gdynia Authority is implementing a major programme called 'Fuel-Energy Transformation in the Port of Gdynia'. The aim is to reduce the carbon footprint of the port, establish a hydrogen hub, work with port companies to establish GreenPort Gdynia, and work with local government, administration and universities to establish GreenRegion.

The program will transform the port into a new generation port in terms of energy transformation. The first priority is to maximise the share of energy from renewable sources in energy mix, and to increase yields from renewable electricity generation facilities. Electrification will be pursued and connections will be made available to power land and water transportation facilities and other equipment. The project also aims to increase the energy efficiency of buildings. The fuel and energy transformation also translates into changes in the fuels used for both intra-port, rail and maritime transportation, with the implementation and spread of low and zero-emission fuels. The project builds a local group of entities, including local governments, interested in implementing green solutions to build economies of scale.

The project includes various stages planned, implemented and completed. Phase one of the project took place between 2017 and 2022 and included the participation in national and international conferences on fuel and energy issues, the creation of a platform to cooperate with local stakeholders on these issues and the implementation of projects on the development of Renewable energy sources in the Port.

In 2023, the port created a project with partners in a competition called Amber Hydrogen Valley Project. The project is to create a Hydrogen economy with the whole value chain with the usage in the Port. The goal is to integrate the local community with businesses and to reduce the negative impacts on climate. It will be implemented between 2024 and 2028. The scope of the project at the Port of Gdynia is focused on implementing zero-emission fuel programs under GreenPort, GreenCity and GreenRegion initiatives. The project also focuses on developing electromobility solutions which will make it possible to reduce the use of fossil fuels, as well as make transportation more sustainable.

For several years, the Port of Gdynia has been actively participating in the development of the unmanned craft sector in Poland and Europe. The Port is implementing numerous projects exploring the possibility of using unmanned units in seaports. One of them is a project titled Marine Port Surveillance and Observation System using mobile unmanned research units (MPSS), which received funding from the National Centre of Research and Development in 2021.

The transformation program integrates all port entities operating within the port of Gdynia. Also cooperating with the Port Authority in the nearby port region are local government units, universities, high schools, ministries, region's residents and port employees. Manufacturers of low-carbon fuels and energy, transportation and equipment powered by low-carbon fuels, logistics companies, etc., cooperate within the framework of the large program.

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SHORT-  
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PROJECT

## PORT AUTHORITY OF CARTAGENA, SPAIN

### Underwater forest of the port of Cartagena: the blue lung of the Mediterranean

“For the Port of Cartagena, it’s satisfactory to have recuperated the Posidonia meadows. We are working to achieve a regenerative and carbon neutral Port and we will continue to protect Posidonia oceanica.”

**José María Gómez Fuster, CEO, Port Authority of Cartagena, Spain**

This project aims at the recovery of *Posidonia oceanica* populations in port waters. *Posidonia oceanica* is an endemic plant of the Mediterranean Sea. One of the outstanding characteristics of this plant is that it is fixed to the substrate through rhizomes capable of extending several kilometres, producing millions of plants from the same clone. Due to its low tolerance to changes around it, *Posidonia* acts as a bio-indicator of water quality. In a context of climate change and coastal regression, favouring the recovery of *Posidonia* meadows is of great interest to both the local population and visitors. Like terrestrial forests, *Posidonia* meadows can sequester CO<sub>2</sub>. They also generate oxygen, which favours the quality and transparency of the waters. It is the lung of the Mediterranean. In a region with recreational diving, this is a benefit for the economy. The dead *Posidonia* on the beaches offers protection in autumn storms and helps to avoid the regression of the coastline and dune systems. Moreover, grasslands play a key role in stabilising the seabed and buffering the impact of marine dynamics and waves on the bottom. At last, the *Posidonia* meadows are fundamental base of marine ecosystem.

The project is an assisted regeneration project that enhances the natural regeneration processes. The first step was to determine the viability of potential areas for the growth of *Posidonia* meadows included in the port waters. This task was carried out through a bionomic cartography that provided information on the substrate, the profiles of the bottom and the communities present. This is the first time such a project has been carried out in an industrial port with the characteristics of the port of Cartagena. The other stages involve collecting *Posidonia* fragments, which are naturally uprooted by storms. The marine dynamics generate natural areas of accumulation of fragments where the specimens are collected. The fragments are kept in the inner harbour waters, requiring optimum water quality. They are then kept fixed to the anchoring system, waiting to be planted. Planting is done by hand directly in the substrate with a support that serves as an anchor.

After a year, the figures are very positive and encouraging: the overall survival rate is 76.92%. The technique used and the state of the substrate have been favourable. The tasks of monitoring the status of the repopulated plants continue, but the survival rate is very positive and favours subsequent replanting in other areas of the Port. This success raises the hope of such recovery projects for a habitat of this importance. The methodology developed in this case has proven to have more applications in environmental restoration projects in degraded areas.

# PORT AUTHORITY OF CEUTA, SPAIN

## Biodiversity in the Port: Preserving Endangered Species through Artificial Micro Marine Reserves

The Port Authority of Ceuta (APC) recognised long time ago that becoming a “Green Port,” a “Blue Port,” and a port that is accessible to citizens was essential to be more sustainable but also more competitive. Thanks to its unique configuration, the Port has an excellent water with high renewal capacity, a great ecological potential and biodiversity. The project focuses on *Patella ferruginea*, a marine gastropod mollusc endemic to the western Mediterranean and one of the most endangered invertebrates in this region.

This project is important for the conservation of the species on a global scale but also for the port activity. The presence of this species has influenced the development of the port’s infrastructures, and APC has developed strategies to reconcile port activity development with marine conservation, focusing on water quality and its monitoring. A large amount of *Patella ferruginea* population in Ceuta inhabits port infrastructures, including the most important breeding populations. They serve as source communities, crucial for the maintenance of the contingent, and essential to ensure the coexistence of other species. Data published in 2021 confirmed that the population of *Patella ferruginea* within the Port area has increased. This has led the scientific community to propose a new designation for protection — the “Artificial Marine Micro-Reserve” (AMRM). The APC, the city and the scientific community are in the process of a collaborative study of this proposal.

An AMRM is a coastal construction that requires special protection due to its environmental value in hosting specific species or ecosystems. Implementing an AMRM would lead to an increase in biodiversity and act as a safeguard against invasive species. The species residing within the reserve would serve as bio-indicators, signalling the presence of clean and healthy waters. In terms of research, the AMRM would contribute to the progress of methodologies for species translocation, facilitating their reintroduction in other areas within their distribution range and offer solutions to harmonise conservation with sustainable development.

This project is an important complement to other ongoing initiatives, such as the monitoring of port water quality. By identifying key impacts, the APC can take effective measures to address them. The APC also has a collaboration with the Museum of the Sea Foundation. These efforts aim to raise awareness among the port community as well as the general public. These initiatives culminate in the ongoing construction of the new Port Centre “Ceuta Sea Museum”, a dynamic space for the port community, citizens, businesses, and the scientific community to come together, exchange ideas, and promote new strategies. The aim is to continue encouraging port exploitation in harmony with the preservation of ecosystems. The APC has demonstrated that this is possible and that port activity not only does not pose a threat but that the Port is a crucial refuge for the survival of this endangered species.

“Natural restoration is part of our daily life at the Port of Ceuta. Through water quality monitoring and our knowledge of marine species, we ensure the conservation and growth of biodiversity in our environment. Enriching our community and surroundings – it’s in our nature.”

**Adolfo Orozco Pérez,**  
*the Director of the Port Authority of Ceuta*





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# PORT AUTHORITY OF SEVILLE, SPAIN

## Optimisation of the navigation in the Eurovía E.60.02 Guadalquivir

“The enhancement of the Guadalquivir estuary and the search for environmental excellence are fundamental objectives in the sustainability strategy of the Port Authority of Seville. A clear example of this is this Navigation Optimization Project on Eurovia E.60.02, based on an innovative “Working with nature” approach, which represents a mutual benefit for both the project and the natural values of the environment.”

**Rafael Carmona,**  
**CEO of the Port**  
**Authority of Seville**

The Guadalquivir River runs in Andalusia and flows into the Atlantic Ocean. Its estuary extends for more than 110 km from its mouth to the head, beyond Seville. Its southwest end borders the Doñana National Park, a protected natural area, and its banks are covered by extensive rice crops. The estuary also supports a rich community of fish acting as a fishing nursery. The Port of Seville can only be accessed through a navigation channel in the estuary, and to maintain navigability, periodic dredging works are needed.

The Navigation Optimization Project on Eurovía E.60.02 Guadalquivir aims to improve operability and manoeuvrability in the port. To reduce the dredging operations, the Port Authority of Seville has studied the hydrodynamic conditions of the estuary. Based on this knowledge, it has designed the project within the framework of the “Working with Nature” concept, which has brought benefits not only to navigation and port activity but also to the natural and social dimensions, to Doñana, to farmers, to the fishing sector and other administrations.

The project differs from a typical maintenance dredging project in that all lines of action are proposed for the use of the material extracted from the river and for the management of terrestrial dumps during maintenance dredging. In this sense, terrestrial dumps are filled with mudflow extracted from the river, but the water is retained for as long as possible to encourage birds to feed and breed in these enclosures. The wetlands are home to a large number of birds and the initiative has even won a regional government award. Another option for the use of fine sediment, mud, is the creation of an ecological tile and brick local fabric, very integrated in the environment and ecological installation.

The sand extracted downstream is used to regenerate beaches in the mouth of the river, in cooperation with the Town Hall of the municipality and the Coastal Demarcation. Due to the high environmental value of the Guadalquivir River ecosystem and the Doñana National Park, Seville Port Authority, in accordance with the “Working with Nature” philosophy of the project, has regenerated two sections of eroded borders of the National Park with the material and operation of the maintenance dredging works, making it possible to protect the borders and all the uses behind.

The project seeks to benefit all sectors and respects the environment, providing many stakeholders with benefits from a usual practice, maintenance dredging operations. In the case of the Port of Seville, navigation through the Guadalquivir estuary and the proximity to the Doñana park entails the implementation of innovative guidelines that guarantee port development within a framework of sustainability. For this reason, the Port Authority of Seville is working on the Working with Nature model to address the challenges and improve nature to achieve mutual benefit between the Port and the Guadalquivir environment.

# PORT AUTHORITY OF VIGO, SPAIN

## LIVING PORTS Project

The Port of Vigo has pioneered the implementation of the Blue Growth strategy in Europe. The Blue Growth objectives are grouped into four priorities: innovative, connected, inclusive and green port. The “green” objective is an integral programme that includes environmental actions and considers social inclusion. It is focused on improving the quality life of citizens who live in a city with a Port, as the case of Vigo.

Living Ports is a series of innovative measures to improve environmental and social sustainability. The project aims to protect and enhance biodiversity in the port’s waters while creating a CO2 sequestration system. Its objective is to transform ‘grey’ infrastructure in the port environment into ‘green’ infrastructure that replicates natural processes in artificial environments. The project’s approach combines the conservation and restoration of ecosystems (ecology) with the planning and design of port infrastructure (engineering).

Specific structures for port walls and barriers have been designed to modify local concrete structures, making them environmentally friendly and facilitating the colonisation of fauna and flora. This innovative concrete solution, the ECONcrete® technology, reduces the ecological and carbon footprint. It is designed to promote the development of marine life as an integral part of coastal and marine infrastructure such as breakwaters and urban waterfronts. It relies on bio-enhancing concrete compositions, complex surface textures, and science-based designs. The deployment of this technology within the Port will enhance the quality and spectrum of ecosystem services, restore aquatic habitats, improve water quality, reduce the dominance of invasive species, and increase local fish populations. Additionally, the growth of marine life will reduce noise pollution and act as a carbon sink. The green infrastructure improves the strength and durability of concrete while synergistically reducing its environmental footprint. This represents a decisive step towards a fundamental change in the current operation of the coastal and marine infrastructure industry, moving a major port away from outdated ‘grey’ structures towards innovative technologies that promote environmental, structural and socio-economic value.

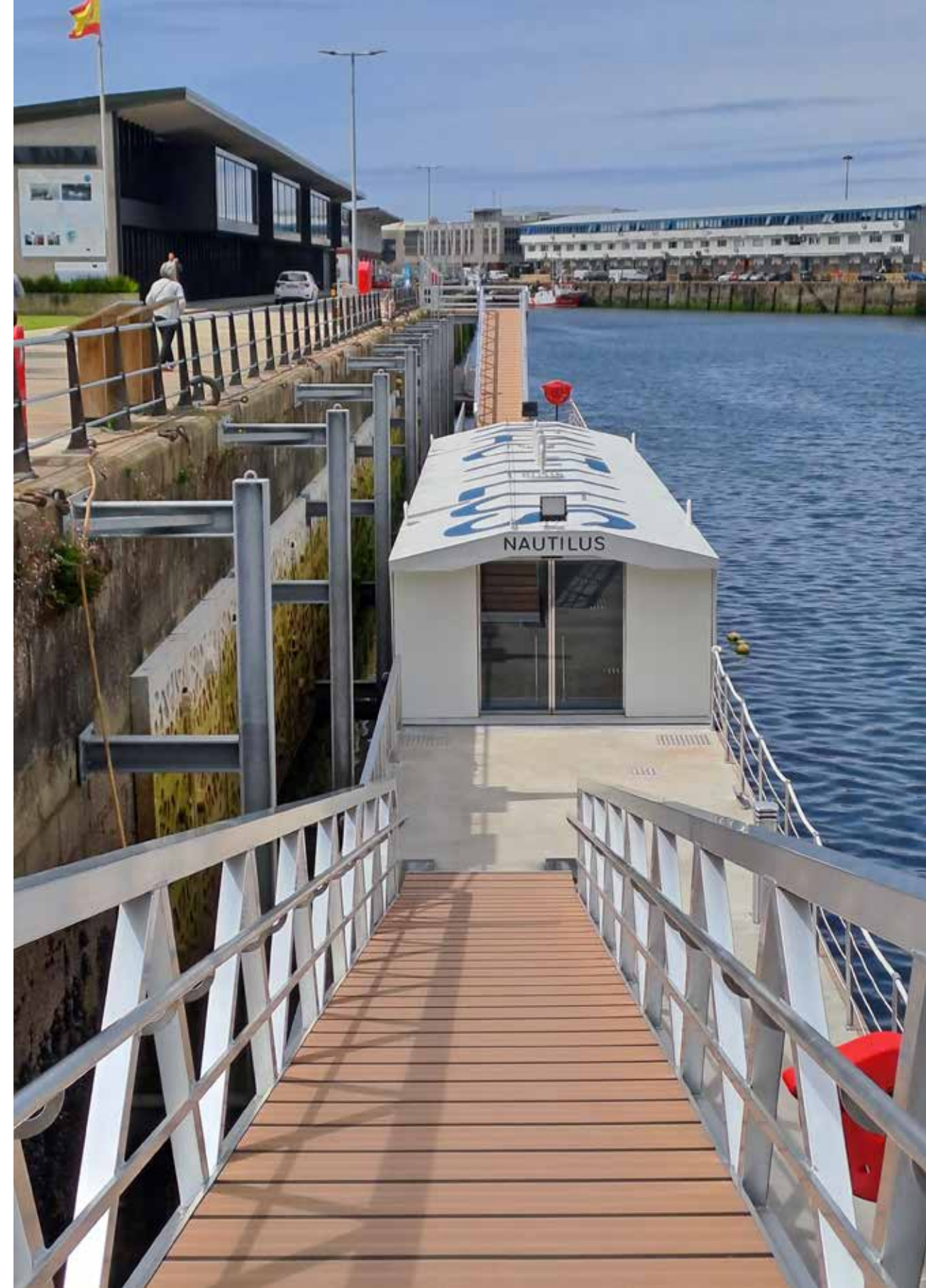
As part of the project, an underwater observatory has been installed in the port. It is a tool for observation and monitoring with recreational, educational, informative and public awareness objectives. The installation site includes 330 square metres of ECONcrete® panels placed on the quay walls to replicate natural habitats. The facility is also equipped with underwater cameras for biological monitoring of the panels. This floating pathway allows the public to observe the biodiversity that will colonise the structures. Visits are organised for educational centres, the scientific community and the general public, complemented by workshops and educational activities. Inaugurated in March 2023, the observatory has already welcomed more than 19,000 visitors.

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SHORT-  
LISTED  
PROJECT

“Living Ports project means Innovation in hand with oceans restoration and social welfare together. The restoration of aquatic habitats and the creation of an underwater observatory for the citizenship is the reflection of the spirit of the blue economy.”

**Carlos Botana,**  
*President of Port of Vigo*





# SHOREHAM PORT, UNITED KINGDOM

## Bio-diversity Corridors

“We are delighted to be part of the collaboration between the Port, community, and local councils to deliver this project. The result will protect the area against sea rise for centuries whilst also engaging our communities in all aspects of the Port.”

**Tom Willis,**  
*Chief Executive of  
Shoreham Port*

The objectives of this project are to protect the coastline from erosion and flooding, to ensure that the development works are combined with nature protection and restoration efforts and to engage and educate local communities through improved access to locations at Shoreham Port, enhancing Port/City relations.

Due to climate change and rising sea levels, beaches and coastal properties are at risk of flooding and erosion. The first phase of the project involved constructing a protective layer of rock on Portslade Beach that will absorb energy from the waves, minimising flooding during storm events and prevent long term erosion. Upon completion of the revetment, a footpath and vegetation will be reinstated and enhanced transforming community access to the area. The wider coastal protection scheme is approaching the final stages of detailed design. The community engagement activity is underway.

The site for beaches and coastal properties defence includes vulnerable coastal vegetated shingle, some of which will be lost as part of the scheme. In order to achieve a net biodiversity gain, the lost vegetated shingle will be compensated for by the creation of a new area to the west of the harbour. A biodiversity wall will also be created on an existing concrete sea wall. This will be enhanced to provide habitats for a range of species.

To meet the challenge of community engagement, the Port Authority has created an 'Anchor Point Trail' that guides the public through various points of interest in the port, identified by a display board sponsored by one of the project's partners. This Trail is accessed through booking guided tours with a Port colleague. The tours are very popular and the demand is far exceeding the port's capacity to deliver them. The port therefore created a colouring sheet map, available for free.

The Port Authority anticipates the coastal defence project will have a lasting impact on mitigating erosion and enhancing flood defences. The project's focus on bio-diversity net gain will deliver improvements for vulnerable species. The engagement approach allows to build collaboration across local schools and the community, making the Port an informative place to visit.

This project is being delivered through a collaborative partnership. The central element of the funding is being drawn from the Department for Environment, Food & Rural Affairs (DEFRA). More localised funding is being contributed by Shoreham Port, and their neighbouring Councils. The project operates on a non-commercial basis. The 'Anchor Point Trail' is funded through sponsorship of the boards from partner organisations, making the entire initiative cost neutral. The 'Anchor Point' trail works are being carried out in partnership with a Marine Conservation Charity, a local school and the Lancing Sea Scouts.

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# ESPO CODE OF PRACTICE ON SOCIAL INTEGRATION OF PORTS

In May 2010, ESPO published a Code of Practice on Social Integration of Ports. This Code builds on the experience of the first edition of the ESPO Award and results from the project "People Around Ports" initiated by the Port of Rotterdam (The Netherlands). The Code brings together a series of practical recommendations that can guide port authorities in improving their general public image, attract young people to work in the port and make people living in and around the port area their ambassadors.

**The Code is available in English and in Spanish at [www.espo.be/publications](http://www.espo.be/publications).**

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MTBS Core Business has designed its services around one objective: to ensure that its clients realize the quality profits they seek. MTBS understands that these quality profits can have different meanings for different clients, depending on the nature of each organization. Quality profits can only be achieved when investment opportunities are aligned with the organization's strategy. MTBS' portfolio of services takes this into account, as illustrated by the basic four quadrant advisory model: “strategy”, “valuation”, “transaction” and “financing” phases of the development cycle.





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