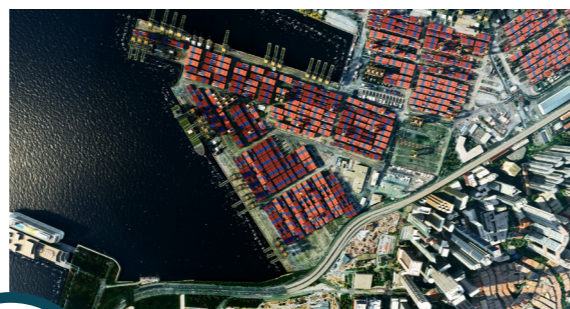


# WPSP AWARDS WINNERS 2021

At the World Ports Conference in June, the winners of this year's World Ports Sustainability Program Awards were announced. P&H showcases the seven winning projects



## Resilient Digital Infrastructure: MPA Singapore – Digital Port Ecosystem

The Maritime and Port Authority of Singapore (MPA) has early on recognized that digitalization is a key driving force that will help transform the industry and secure Singapore's position as a leading international maritime center. Hence, the MPA has implemented initiatives such as the Singapore Maritime Data Hub (SG-MDH), a data-sharing and digital connectivity platform for industry/technology partners to collaborate and integrate their systems to catalyze the development of innovative solutions for the maritime industry to enhance operational efficiency and productivity.

Second, Singapore's maritime single window, the digitalPORT@SGTM, will enable seamless and integrated port services and pave the way for further digitalization of port and marine services.

Lastly, digitalOCEANSTM network standardization, will foster interoperability between digitalPORT@SGTM and other digital platforms through the use of common data standards and application programming interfaces.

Together, they form the core of Singapore's digital port ecosystem, where SG-MDH is the backbone for data infrastructure supporting the services in digital-PORT@SGTM, while digitalPORT@SGTM is the key node for digital connectivity from the Port of Singapore, and digitalOCEANSTM provides data and API standards to foster interoperability with other digital platforms.

The jury found this undertaking "impressive" as it "merges streams for a combined impact." The public appreciated that the digital port ecosystem helped to reduce the administrative burden of shipmasters in port call and reporting formalities, allowing them to focus on their primary responsibility of navigating ships safely. It has also helped to save an estimated 100,000 man-hours per year for the industry. New services such as crew change application and just-in-time services are also being rolled out as MPA continues its efforts to drive the transformation of the maritime industry during the COVID-19 pandemic. ■



## Resilient Physical Infrastructure: Port of Kaohsiung – Master Plan 2017-21

The Port of Kaohsiung is Taiwan's largest international commercial port, with more than 10 million TEU throughput per year. It is also located in the most populous city in southern Taiwan. In addition to Taiwan's 2013 Green Port policy, the Port of Kaohsiung is the first port in Asia to have achieved certification under the EcoPorts Port Environmental Review System.

Since heavy industry and urban development increase conflicts between the port and city, the vision of the comprehensive Master Plan for Future Development and Construction 2017-21 is to install resilient infrastructure and implement environmentally friendly technologies on one hand, and increase the community outreach and port-city dialogue on the other – something that the jury declared a "great strategy of foresight."

The master plan demonstrates how to achieve economic development while encompassing climate and environmental considerations through two major projects: the second phase of the Intercontinental Container Terminal project and the Port Reinvention project. These projects' synergy creates a new way of thinking about the port and city development as a whole and enhances the UN's SDGs.

In the past, port and city were developed to meet different goals. Consequently, their objectives have resulted in a huge gap in spatial planning.

Because of the urgent need for development and the presence of heavy industry close to the city core, the two-phase Intercontinental Container Terminal project reclaimed new land and relocated high-risk industry, such as 300 petrochemical oil tanks from the old port to a new location. It is one of the largest reclamation projects in Taiwan.

On the other hand, the access to the waterfront along the port has been restricted for the public for a long time. Jury and public applaud that the Port Reinvention project brings people back to the waterfront to enjoy the great port city landscape and learn about its history. Safety, health, and an accessible port-city are critical commitments of the port authority. ■



## Climate and Energy: Port of Rotterdam – Zero Emission Services

Zero Emission Services (ZES) has introduced a new energy system for making inland shipping more sustainable. This will be realized with emission-free navigation infrastructure accessible to everyone. The system will be clean, climate-neutral, and ready to compete with fossil fuels. ZES offers a complete range of products and services, based on interchangeable battery containers (ZESpacs) charged with renewable power, charging stations, technical support, and an innovative payment concept for ship owners.

The 2050 ambition of ZES is to power 400 electric ships with 650 ZES packs, on 40 routes via an open-access network of 20 docking stations, thereby reducing emissions in the sector by 400-480 tons of carbon dioxide and about 2.8 tons of nitrogen per year. Additionally, ships sailing with ZES produce no particulate matter or noise.

As ZES taps into the corridor and shuttle approaches and uses innovative software and data to make sailing more efficient, it contributes to reducing port congestion and supports the modal shift from road to water. Additionally, ZES docking stations can function as energy hubs for different modalities and can also be used to stabilize the electricity grid. As ZESpacs are mobile, they can meet temporary local demand for electricity, facilitating clean event or construction sites.

This innovative concept also convinced the jury, highlighting the time-saving potential using charging stations.

ZES was founded by ING Bank, energy and technical service provider ENGIE, maritime technology company Wärtsilä, and the Port of Rotterdam Authority. The Ministry of Infrastructure and Water Management supports this initiative together with the Province of South Holland. ■



**Community Outreach and Port City Dialogue – Social Dimension:**  
**Hamburg Port Authority – homePORT**

The Port of Hamburg faces various challenges ranging from competitiveness and environmental concerns to growing demands for innovative port management practices. To meet these challenges and to promote product innovation in Hamburg, a free space to try out innovative and hardware-heavy products under real conditions is needed. For this, transformative co-design with participation of citizens, ambitious port actors, science, and startups is key. homePORT comes to meet these requirements by designating and providing for test areas, a maker space, and an overarching community in the heart of the port to serve as a maritime real laboratory.

The jury especially sees the potential regulatory testing aspect of this “fantastic project” as an advantage.

With this incubator space, the port of the future can be discussed, designed, and developed together with port stakeholders, startups, and research institutions. This way, answers to questions about the end of the container age can be found; alternative utilization concepts considered; acceptance issues with regard to autonomous systems on land, water, and air evaluated; and approaches for a circular economy in the sense of a zero-emission approach simulated to develop sustainable concepts including ecological goals.

The platform, including the community with networking opportunities for the exchange of knowledge and workshops as well as areas for testing under real conditions, has been up and running in the port since mid-December 2020. In addition, the plans for establishing a container innovation campus have been completed and will be implemented in the coming months. In cooperation with the Helmut Schmidt University, mechanical engineering expertise will be provided to ensure that the maker space will be operational later in 2021. ■



**Community Outreach and Port City Dialogue – Environmental Dimension:**  
**Port of Açú – Protecting Sea Turtles**

For over 100 million years, turtles have covered vast distances across the world’s oceans, filling a vital role in the balance of marine habitats. Human activities have tipped the scales against the survival of these ancient mariners. Slaughtered for their eggs, meat, and shells, sea turtles suffer from poaching to over-exploitation, as well as habitat destruction and accidental capture in fishing gear. Climate change has also an impact on nesting sites; it alters sand temperatures, which then affect the sex of hatchlings. Nearly all species of sea turtle are now classified as endangered.

Located in southeast Brazil, the Port of Açú is situated in a priority turtle nesting area and is hence committed to the protection of these species, working to ensure a safe and sustainable port environment. Since 2008, the port administration coordinates the Sea Turtle Conservation Program, which aims to protect, monitor, and research sea turtles that use the region for feeding and nesting. The program is divided into three lines of action: sustainable port operations, monitoring and protection of coastal environments, and community outreach and scientific research.

The detailed information shared for this “wonderful project” impressed the jury.

In 2021, the program reached the important milestone of 1 million sea turtle hatchlings released to the sea, a relevant contribution to species management and conservation. During this period, over 65 releasing and educational activities reached more than 7,500 people as part of local community engagement.

Additionally in 2021, the program launched a protocol for dredging projects, consolidating best international practices and balancing operational needs and sea turtle protection, an important tool for new developments and benchmark with other ports.

The program aims to leave a legacy for the world, showing that it is possible to develop port operations in a sustainable manner providing educational outreach and positive impacts on the environment – something that again impressed the jury and the public. ■



**Health, Safety, and Security:**  
**Port of Açú – Together in the fight against COVID-19**

The COVID-19 pandemic brought unprecedented challenges to the world and to the port and maritime industry. Essential to maintaining global trade, ports play an important role in keeping supply chains open and allowing maritime trade to flow, especially since the beginning of the pandemic. Aware of its role in the local community, the Port of Açú set up a crisis management team at the top management level to direct actions to raise awareness and fight COVID-19 and to maintain the safety and continuity of its operations and the whole port community.

With the port community working in an integrated manner, different fronts of action were set up to ensure proper allocation of efforts and results: support to vulnerable population, social engagement, support to healthcare and essential service workers, investments on technology and testing, safety of their people, and operational continuity. On national and international levels, Port of Açú collaborated with port sector to promote knowledge and best practices exchange.

Their efforts, in line with the port’s values and environmental, social, and governance strategy, showed the importance of port administration as an integration agent, promoting collaboration between different players in the region. The results will leave a legacy for the port and region. The structures and trust-based relationships created will support the continuity of the port’s operations together with community protection and local development during the next phases of the pandemic and beyond. The “new normal” will be even more integrated, collaborative, ethical, and responsible.

The committees continue to work in 2021. The Port of Açú is monitoring and following the evolution of scientific knowledge and seeking innovative solutions to address the pandemic. ■



**Governance and Ethics:**  
**DP World – Global Education Program**

DP World aims to be essential to the future of global trade and believes that working in a sustainable and responsible way is essential to building a strong business for its customers, people, and society. Therefore, DP World has produced a stimulating Global Education Programme for its own employees to deliver in schools. The initiative boosts the confidence and aspirations of students, while building employees’ skills and enhancing job satisfaction and commitment to the business.

The program, dubbed “impressive” by the jury, provides a rewarding way for employees to use their volunteering leave for educating students on the logistics and maritime sectors, safeguarding the future of a key industry, and ensuring that future leaders understand the importance of working sustainably. The aims are to address global education needs, ensure a sustainable pipeline of industry talent, and build soft skills.

It targets students within the age range of 8-14 years and is being implemented in 25 countries around the world. The global reach of the project presented challenges, which were successfully overcome by translating the content of 10 different modules comprising lesson plans, presentations, work sheets, and feedback forms, into 14 different languages. The volunteering tutors receive all necessary educational material and guidance to deliver an engaging session.

The feedback received by the 28,182 students and 786 teachers in the targeted schools, and the 865 volunteering employees from DP World business units in 25 countries globally, is summarized below and highlights the success of the Global Education Program.

Within the targeted communities and schools globally, 96.6% of pupils said they learned something new, 85.4% said they learned about global trade, 97.3% of teachers said it provided pupils with something new their school could not, and 95.4% said they would recommend DP World as an employer to pupils. Within DP World employees globally, 96% had improved commitment to DP World, 97.5% agreed the experience improved their communication skills, and 94.4% agreed their job satisfaction was improved. ■