

# 2021 Annual Impact Report



# Executive summary

Bringing people together has been a cornerstone of PortXL since the start. 2021 challenged PortXL to its foundations. In true Rotterdam fashion, we rolled up our sleeves and did our best to make it happen. In this impact report we will showcase our efforts of past year with our continuous mission to keep improving the economy while sustaining the ecology.

## **Ingenuity in the face of adversity**

Working together in a hybrid way and organising the PortXL program, made this year a year of many firsts, again. Teams from all over the world planned to visit Rotterdam, but faced challenges with travel boundaries. Travelling regulations varied across the globe, and for those outside of the EU, joining the PortXL program physically provided to be harder than expected. For some, impossible.

Thinking in possibilities is a true characteristic of an entrepreneur and the Australian team of LexX technologies are a good example. Travelling back and forth from Down Under was impossible so they made it happen with

Joerg Liebe from Germany joining live and Mike Harris digitally from Australia. This dedication was rewarded – LexX wrapped up the 2021 PortXL program by signing two collaborations with Van Oord & Shell, showing indeed that where there's a will, there's a way.

Teams i4sea from Brazil, HelioRec (France/Russia), Fregata Space (Spain), and Clewat (Finland) also were true wanderers, travelling from other countries to join live and doing business in the Netherlands with great results.

## **Working together for a sustainable future**

Global ports are strongly connected and share similar challenges when it comes to efficiency, sustainability, and digitalisation. Rotterdam port is the central hub of Europe's largest maritime cluster and it has set ambitious goals to aim for a better and more sustainable future. That is where PortXL comes in. With our worldwide network we bring start- and scale-ups to this buzzing city to accelerate and encourage their innovations within the maritime industry. The cohort of 2021 offers notable solutions to achieve these themes. Working together to achieve the Sustainable Development Goals. Explore more in the coming pages.

**With our worldwide network we bring start- and scale-ups to this buzzing city to accelerate and encourage their innovations within the maritime industry.**

# Team PortXL



**Philip Roos**  
Director Business  
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International



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Administrative Assistant

# Rotterdam

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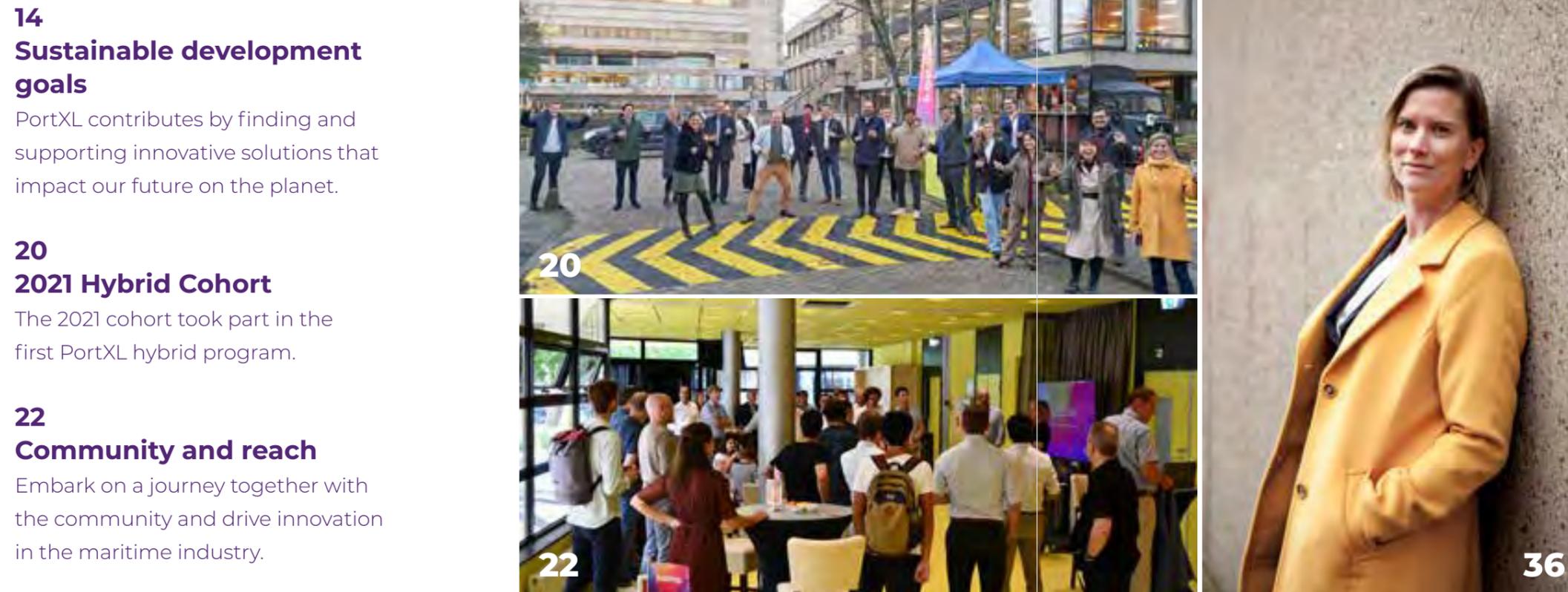


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After 6 years Carolien says goodbye to PortXL.

# PortXL is the world's first port accelerator

PortXL (2015) is dedicated to growing the economy while sustaining the ecology through innovating the port and maritime ecosystems. Founded in Rotterdam, we are the world's first port accelerator.

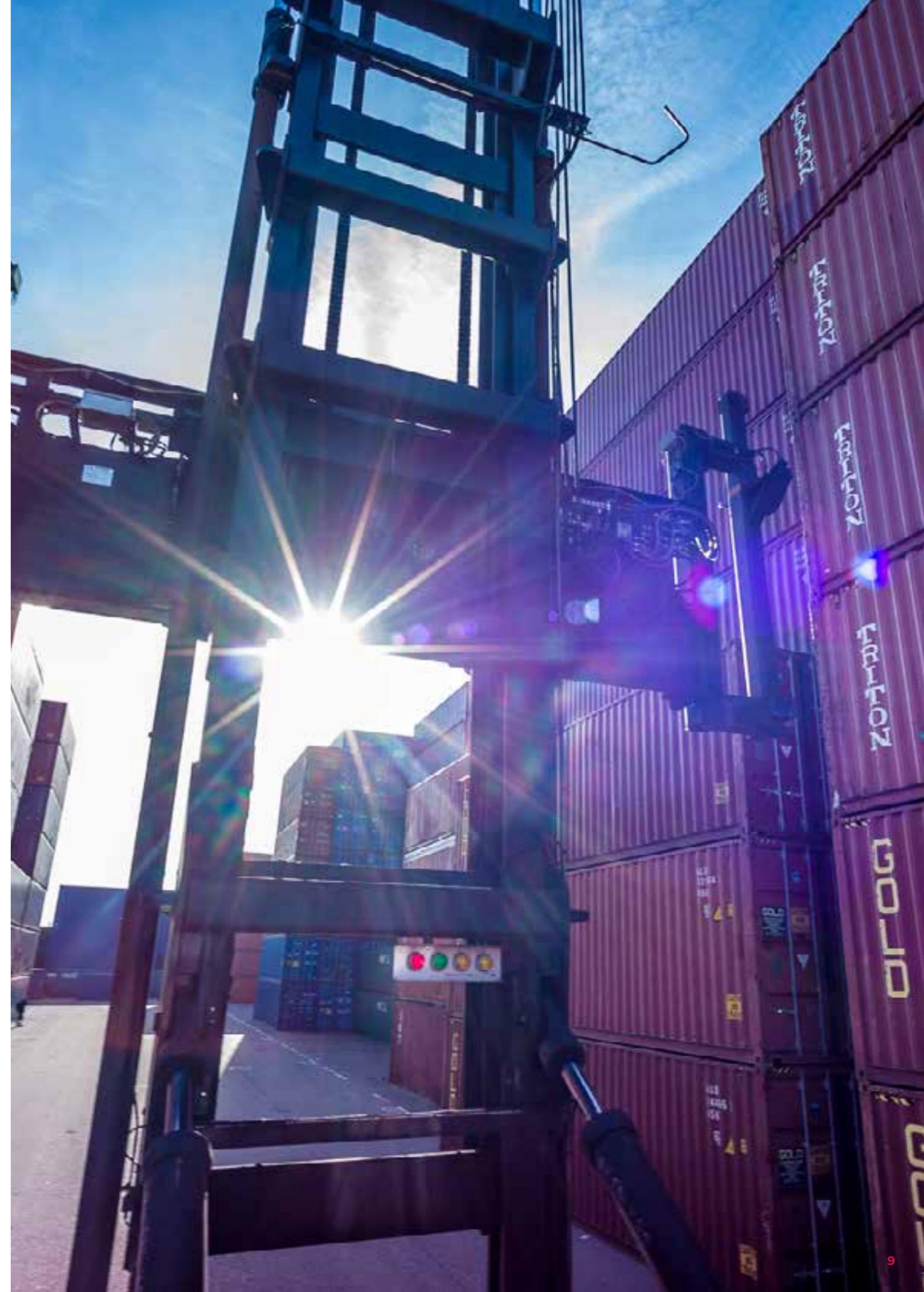
PortXL accelerates motivated start-ups and scale-ups that have the potential to change the world with their solutions and bring them together to our corporate partners that make concrete use of their solution.

It's our mission to create a networking effect by globally connecting every port, and the organisations operating within the port clusters (including start-ups & scale-ups), on the topic of innovation AND have them

actively participate on search, match and accelerate.

Start-ups and scale-ups have a high survival rate >90% and the number of client contracts they sign is growing every year. Furthermore, our corporate partners have been loyal to us.

The objective to increase the impact from innovation on ports have been realised in several activities which are summarized on the next pages.



# Our impact the past 6 years

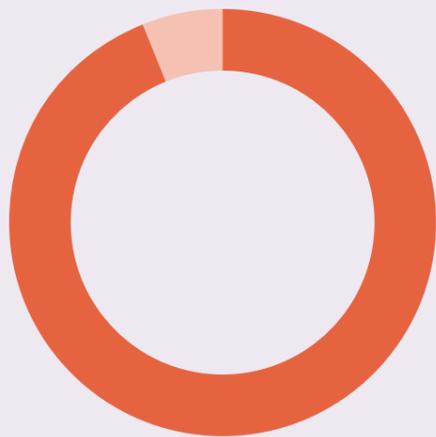
**220+**

pilot contracts signed



**92%**

survival rate of PortXL alumni



**100**

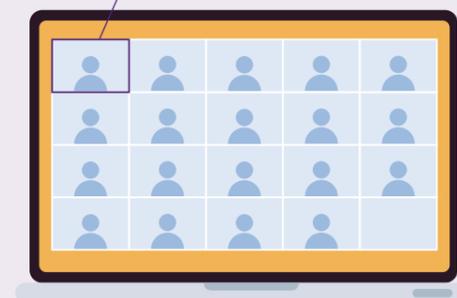
scale- and start-ups accelerated



= 10 SU's



= 100 sessions



**1932**

digital sessions organised



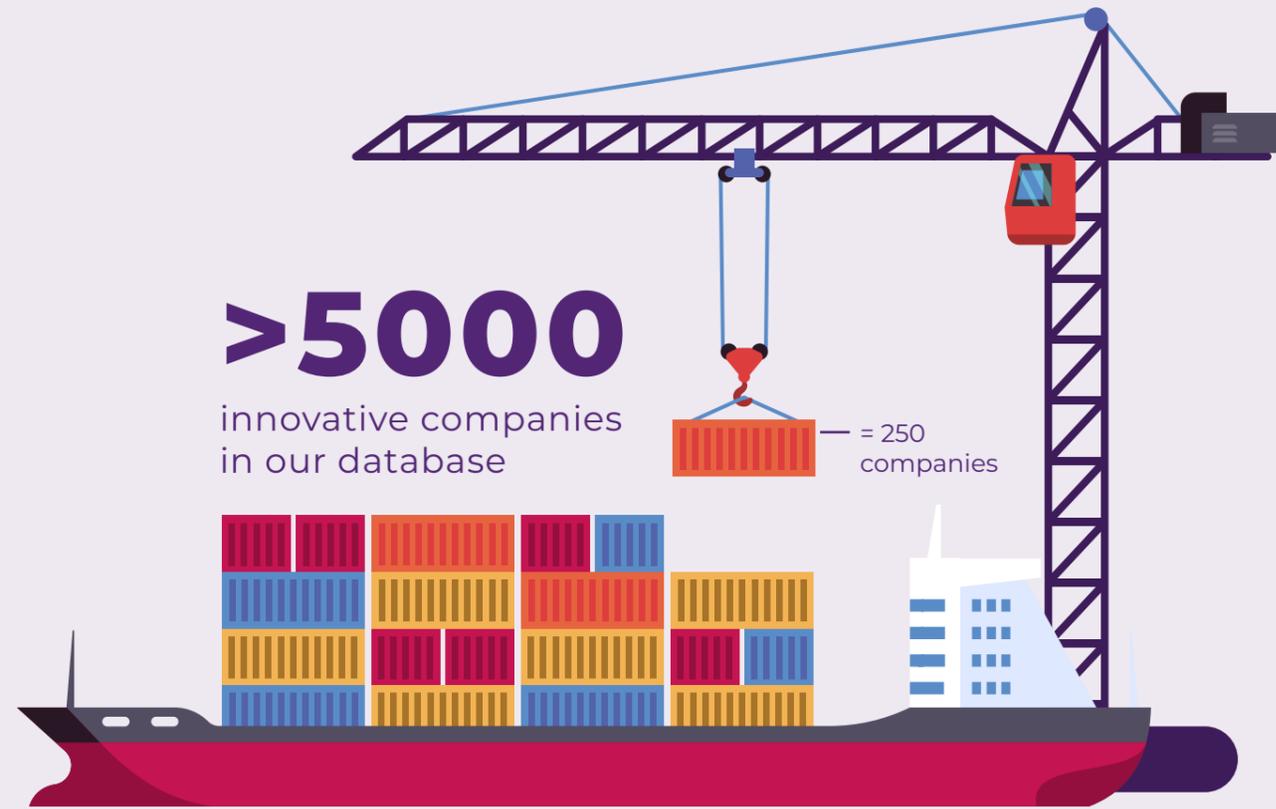
followers on social media

**>5000**

innovative companies in our database

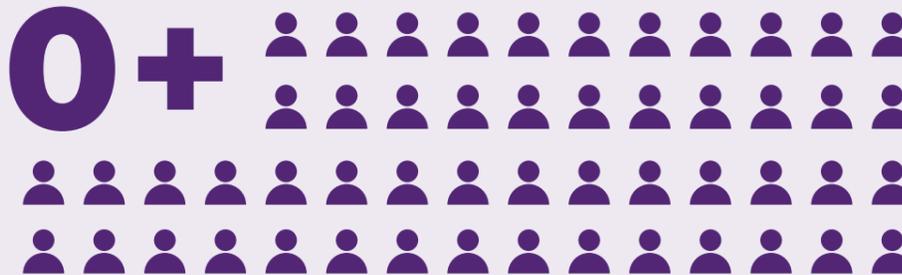


= 250 companies



**5000+**

people visit one or more events from PortXL



# Our Partners, the Innovation Drivers

The industry has major challenges ahead of it, affecting the economy and the ecology. The main two being energy transition and digitalisation. The search for the new maritime fuel is an endeavour that will shape shipping in the next decades. The digitalisation of operations will aid knowledge transfer from one generation to the next, as well as improve the quality of work overall.

PortXL's corporate partners are at the forefront of maritime innovation. Their desire to innovate and collaborate with novel solutions is what fuels our mission.

For 2022 we are delighted to welcome a new partner to the family, Damen Shipyards. The Dutch shipbuilding giant revolutionised the industry with standardisation and serial production in the past century. More than ninety years and 6,000 ships later, those pillars are unchanged. Their importance is only growing with the need for increased sustainability and digitalisation. It is their aim to combine proven standardisation with the innovations of digitalisation to become the world's most sustainable shipbuilder. At PortXL we look forward to work together towards our common mission.

“ Besides knowledge-sharing and business opportunities, PortXL offers us innovative ideas that inspire us to support businesses outside our normal routine. ”



Daan Baljet,  
Manager Research, Development  
and Innovation at Van Oord



# Sustainable Development Goals Alignment

In 2015, all UN Member States adopted 17 Sustainable Development Goals (SDG) as part of the 2030 Agenda for Sustainable Development. They are fundamental for the continuity of our planet, and it is important for us to stay aware of the challenges, in order to find the right solutions.

It is challenging to communicate and implement the solutions from diverse assessments and backgrounds, because humans are separated into different societies, with different economic development goals, social perspectives, and environmental issues.

PortXL tries to overcome these differences by bridging between innovators with solutions and current, well-established, companies in the maritime industry. Our company has the aim of transmitting sustainable developments into the right destinations while interconnecting start-ups and scale-ups from all over the world. The companies participating in the PortXL 2021 program offer notable solutions towards achieving SDGs. Discover them on the next pages.

**Main focus from our SU's is bringing solutions on:**



**i4sea**

## Base decisions on highly effective weather forecasts

i4sea forecasts the weather on near-shore. Their aim is to reduce uncertainty so nobody would be surprised by the weather and the ocean anymore. Consequently, the companies will understand the near-shore weather before taking actions and will base their decisions on these highly effective forecasts. Usually, vessels wait for hours to anchor in a port, and it creates lots of inefficiencies and fuel emissions. Most of the time these delays are related to forecasting issues. i4sea solves this issue by offering their service and forecasting the weather on near-shore and ports, leading to safer and more sustainable operations.



**TechBinder**

## Improve human-machine interaction

TechBinder is a company that is all about driving efficiency. Their main goal is to improve human-machine interaction by using new technologies. What inspired them to create their service is the lack of usage of data in maritime operations. Even though the technology has incorporated a lot with workers daily tasks, most of the decisions in the field of maritime are still made through experience and not through data evaluations.

Essentially, TechBinder identifies the best performing worker/vessel and makes it easy for you to identify what you are seeking from your workers and which vessel is the most efficient one. Furthermore, it also pinpoints the worker/vessel that needs to improve the most.

By monitoring and identifying the workers/vessels it is possible to raise efficiency and eventually capture the problems related to work inefficiencies. When such inefficiencies are reduced, sustainability increases due to lower fuel consumption and consequently, lower emissions.



## LexX Technologies

### Revolutionize the way maintenance works

LexX Technologies is a company operating in the maritime and aviation industry. They are a global business aiming to revolutionize the way maintenance works in these industries.

LexX Technologies uses Artificial Intelligence, Machine Learning and Natural Language Processing to deliver intelligent and real-time solutions rapidly to a technician device anywhere. Their company uses digital intelligence to maintain their complex equipment and to offer optimization on equipment's uptime and on-time performances. Furthermore, the device learns from equipment and user behavior over time. Consequently, LexX Technologies guarantees efficiency and optimizations.



## Seaqualize

### Lifting operations in vessels and ports

Energy waste affects sustainability and finding a solution might be quite challenging. Seaqualize and their system is all about lifting operations in vessels and ports. Their balanced heave compensation system reduces heave motions and sets down velocities by 95%. Likewise, it has raised efficiency by reducing the waiting time on bad weather days, increasing the work time into heavy weather conditions and by improving speed and safety of set-down control. This technology leads to a reduction in energy lend, hardware cost and size, operating spend, weight and footprint.

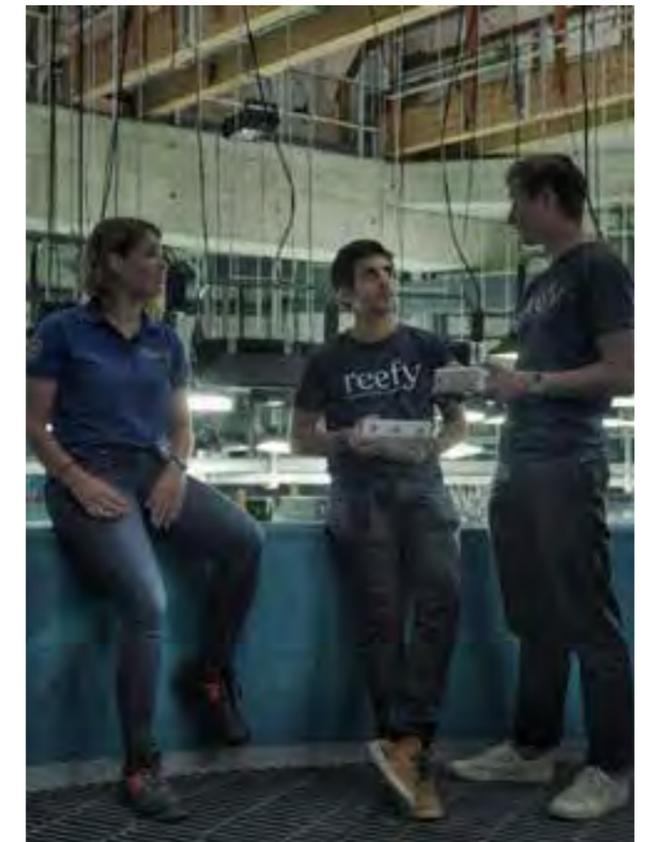


## Clewat

### Make the seas plastic free

Clewat is focused on solving the issue of plastic waste, excess biomass, oil spills and other pollution problems of our oceans, seas, rivers, and lakes. Clewat does so by using its system to pick up material waste, including up to half a millimeter-sized microplastics.

The system that they use is a customized vessel that collects up to 200 cubic meter of rubbish per hour. Their mission is to make the seas plastic-free with a marine cleaning device. The device works in an environmentally friendly way by utilizing the water flow. This innovation is not only a good intention for the future but is also operating and directly contributing to the SDGs.



## Reefy

### Inspired by nature, for nature

Reefy is inspired by nature and their innovation is for nature. Before the co-founders of Reefy Jaime and Leon met each-other, they were both following their passion for oceans and reefs on opposite sides of the world. Throughout their separate experiences, they realized that what they were doing to save the reefs was super effective, but on a small scale. When they met each other, they decided to create a system of artificial reefs to recover marine life and dissipate wave energy to protect the coastline from erosion and flooding. Their product is ecologically friendly and protects the coastline infrastructure from damages.



## Sealution

### Communication is key

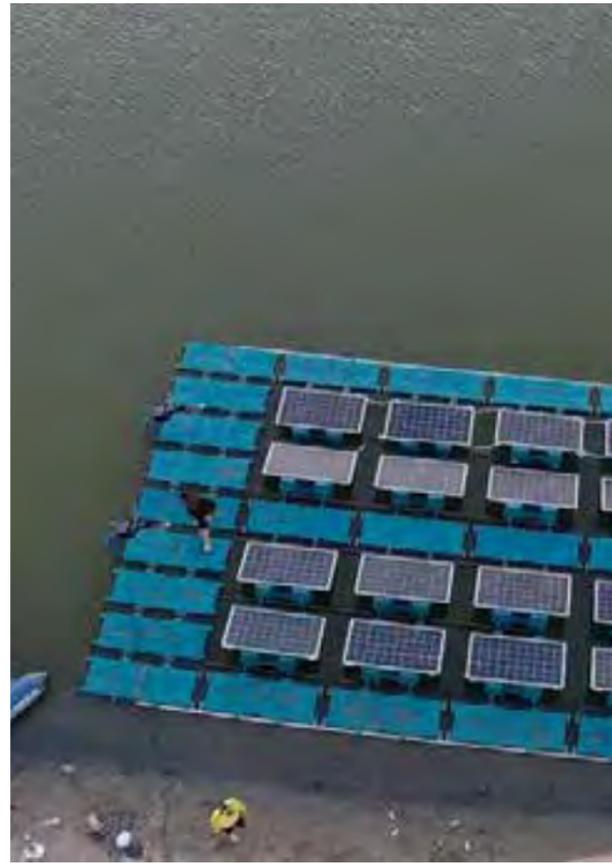
Communication is key to understanding problems. That is what Sealution is all about. Their first patent is the Crew Safety System (CSS), an onboard safety solution for crew members. This system can alert the bridge in case of emergency or of a crewmember accident and can provide a live overview of the location. Based on their experience onboard, they have created a program that would significantly reduce the estimated time from accident to assistance from an average of 8 hours to 15 minutes.



**Fregata Space**  
**Observe and analyze the world**

Fregata Space is a company that is serving a great role in sustainability and is seeking to be the next generation of Machine Learning as a Service architecture, in the new Space sector.

They are prioritizing optimization, big data, and Machine Learning algorithms to transform satellite images into high-resolution information of predictive value to discover relevant patterns and solve real-world problems. Fregata Space captures observations of the abundance, spatiotemporal variation, and composition of plastics in aquatic ecosystems. Their role in decision making and plastic reduction in the maritime industry has a large potential impact on efficiency and sustainability.



**HelioRec**  
**Floating solar technology**

HelioRec is a company that is focused on using solar energy by their floating solar panel mechanisms to provide clean energy. Their contribution to operate and help the sustainability is amazingly eco-efficient.

HelioRec's goal is to turn unused water into clean energy. They have created a system named Hydro-lock which main service is to keep water inside the floater. Combining air energy and water they produce clean energy that can be used in the maritime industry. The contribution this company does to sustainability is remarkable and it is all inspired by founder Polina's passion for innovation and green energy.



**Water Insight**  
**Provide information regarding water quality**

Water Insight's mission is to provide information regarding water quality. They do so by incorporating optical on-site sensors and satellite data.

Their service can provide water quality data from a variety of satellites. Their operations seek to fill the gap between satellite monitoring and on-site sampling. Offering qualitative data regarding the water in ports and the maritime industry makes it easier to analyze, create a sample and reduce inefficiencies in the decision making. What Water Insight offers to the maritime industry is highly important and has the potential to reduce sustainability problems on a large scale.



**SDGs represented by our 2021 cohort**

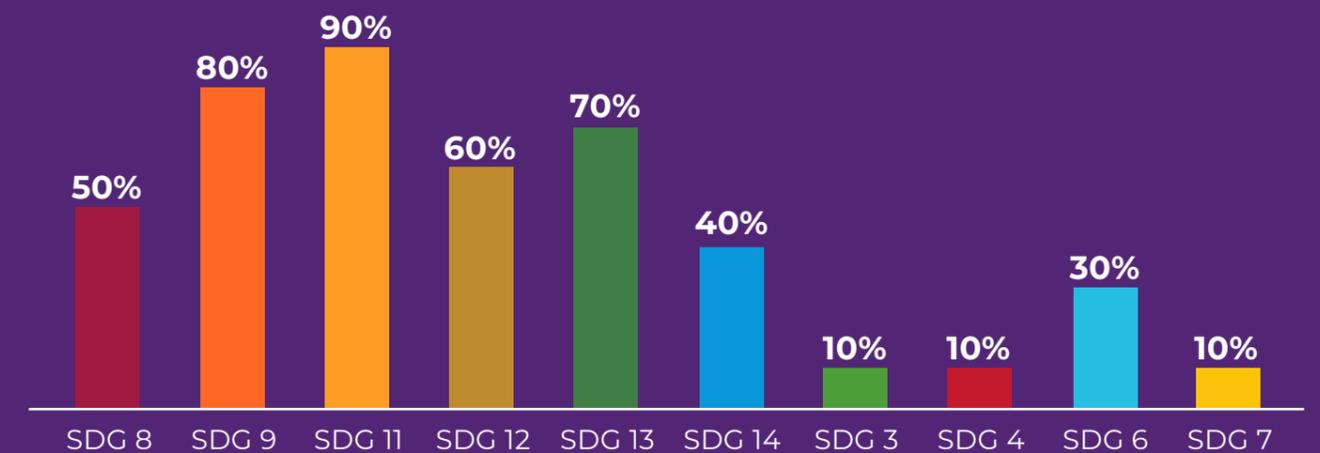


Chart 1: 2021 Cohort distribution by SDG



# 2021 Hybrid Cohort

The 2021 cohort took part in the first PortXL hybrid program. With Covid restrictions in mind, the program was planned to have an alternating schedule of live weeks and digital weeks, to accommodate the international part of the cohort.

This flexibility meant that we even had people from Australia tuning in and participating, making them feel part of the community. The 2021 cohort went on to sign nine collaborations during the contract signing, with two more being confirmed in the following two months. Certain discussions are still ongoing and it is our hope that the above number will be inaccurate soon, even if it means a reprint of the impact report.

**10** SU's (4 Start-ups, 6 scale-ups)

**9** Collaborations

**8** Different countries



Scan to watch the **aftermovie**



 **Reefy**

▶ [Watch my video](#)



 **Fregata Space**

▶ [Watch my video](#)



 **Sealution**

▶ [Watch my video](#)



 **Clewat**

▶ [Watch my video](#)



 **HelioRec**

▶ [Watch my video](#)



 **Seaqualize**

▶ [Watch my video](#)



 **i4Sea**

▶ [Watch my video](#)



 **LexX Technologies**

▶ [Watch my video](#)



 **TechBinder**

▶ [Watch my video](#)



 **Water Insight**

▶ [Watch my video](#)

# Community and reach

The PortXL Mentor community makes up one of the core components of our programs. Embark on a journey together with our community and drive innovation in the maritime industry. The community is made up of maritime professionals with deep domain experience in the industry, across sectors and functions.

**+10k**

followers across four  
platforms on the web

**1932**

sessions over the  
year via NetworkTables



During the acceleration program, two mentors are matched with each start-up to provide guidance, technical expertise, network connections and other support. Additionally, all start-ups and scale-ups are provided access to all of our mentors during events. Created specifically for mentors and start-up introductions and collaborations. While PortXL is based in Rotterdam and so are a majority of the mentors, due to the international nature of the port, they come from a variety of countries. On top of that, PortXL has a dedicated group of international-based mentors that can bring their wide range of perspectives to the start-ups' benefit.

Given the digital nature of the year, we conducted the final chapter of our selection process and part of our program via the platform NetworkTables, with a total of 1932 sessions over the year. The total community using NetworkTables number 516 people among start-ups, scale-ups, mentors, partners and PortXL team members.



# Alumni Spotlight

## ECONcrete

In September ECONcrete secured \$5 million+ in Series A funding. The Israeli PortXL 2018 alumni's latest investment round was led by Impact investor Bridges Israel, with new investors including Barclays and a North American family office with an interest in ocean health.

The company plans to use the funding to support its expansion into new markets as well as scaling operations into large scale projects.

ECONcrete's solutions can be applied to any concrete marine infrastructure, such as breakwaters, ports and off-shore structures, to increase strength and durability whilst transforming it into the base for a thriving marine ecosystem and active carbon sink.

## T-mining

In 2020, Hapag-Lloyd joined a pilot in the Port of Rotterdam, facilitated by T-Mining's participation in the PortXL acceleration program, to validate Secure Container Release

(SCR) with a limited number of forwarders and transport companies. In November 2021 Hapag-Lloyd started the rollout of SCR in a phased approach.

This new way of working will be introduced for the container import release process. Providing a more secure and safe solution to all employees and clients involved by abandoning the traditional PIN codes used to release containers in the past.

Jorge Gutiérrez Martínez on field visit in the Netherlands



Team of Flower Turbines

Hapag-Lloyd AG is committed to improving its operations' overall safety and security. The roll-out of SCR fits its long-term vision to foster innovation and drive value through digitization. Leveraging blockchain technology, SCR provides a more secure and digital alternative to the traditional PIN codes used today to release and pick up containers arriving in our ports. By doing so Hapag-Lloyd takes advantage of new technologies to create a more secure and safe port community and takes responsibility for protecting its staff and clients from malicious interventions in the container release process.

## Flower Turbines

Flower Turbines Reg A+ crowdfunding surges past \$8 million. The 2019 PortXL alumni, maker of innovative wind turbines and e-bike charging products, raised \$8 million since January 2021,

with over \$1 million coming in December. This allows immediate steps to grow the company faster. Current goals are North American manufacturing, expansion of EU manufacturing, development of custom electronics, and expansion of the US team.

## FUELSAVE

German cleantech provider FUEL-SAVE – part of PortXL's 2020 cohort – has secured in October a sum of €3.4M in fresh funding to expand its team and scale up the production of its advanced combustion conditioning technology FS MARINE+. Led by Dreamcraft Ventures and supported by legal advisors Poellath+Partners, the new funding will enable FUEL-SAVE to meet the growing demand for its high impact retrofit solution, which is capable of immediately reducing emissions from shipping.

FUELSAVE's FS MARINE+ optimises combustion through the dynamic injection of hydrogen, oxygen, water and methanol through the air intake. This technology, referred to as advanced combustion conditioning, makes combustion leaner, cleaner and more efficient, thereby reducing fuel consumption and reducing greenhouse gas (GHG) emissions such as NOX by 30 to 80%. Furthermore, the system can be easily, safely and quickly retrofitted, as it does not require any modifications to the parts or working principles of the engine.

Demand for this technology has grown exponentially, as shipowners look for solutions to decarbonise their operations, following the adoption of tighter regulations by the International Maritime Organization and other regulators.

### Samotics

Samotics, a leading provider of real-time actionable insights to eliminate industrial energy waste and unplanned downtime, has completed a EUR 14.5 million Series A funding round. The round was led by 83North, a global venture capital firm with a proven track record in building category leaders across multiple domains including Internet of Things (IoT) and Artificial Intelligence (AI) technologies.

The 2019 PortXL alumni's Software-as-a-Service (SaaS) platform uses AI to analyze the current and voltage signals of electric-driven motor

systems – known as electrical signature analysis (ESA) – to prevent asset failure, optimize performance and improve energy efficiency. This offers unique benefits in harsh industrial environments (e.g. submerged pumps, hot strip mills) and is already being implemented at scale across the wastewater and water, steel, and chemical sectors. With a fast-growing base of high-profile customers and thousands of assets monitored, Samotics is scaling a solution that has the potential to cut global electricity consumption by at least 10%.

The company has undergone significant growth over the past 12 months, increasing its revenue by 150% and adding 30 new customers to its roster across Europe and the US, including Thames Water and NLMK Steel. It has also signed several strategic partnerships, including Schneider Electric.

Monitoring with Samotics sensors



Team from Indian scale-up Sagar Defence Engineering

### Sagar Defence Engineering

Sagar Defence Engineering (SDE) is a top-of-the-line robotics and autonomous shipping scale-up from India. In 2017 they took part in the PortXL Rotterdam acceleration program.

Their technology is "Boat in a box", an AI-based command and control sharing system which helps to transform any existing vessel out of platform into three operations: remote, semi-autonomous and fully autonomous. All these levels of scalable autonomy are available for maritime, underwater and aviation platforms.

End of March they closed a contract worth nearly 2 million USD with the Indian Navy, who for the first time ever is taking up drones which can take off from warships and land back on them in different weather conditions. This contract could extend into a 40 million USD contract. In parallel they are also working on three vessels, 3-11 meters in length.

All three are autonomous surface vehicles (ASVs) used for intelligence, reconnaissance and surveillance operations. Lastly, they were selected as one of the top start-ups in India by the ministry of defence to develop a swarm of autonomous unmanned underwater vehicles. It is a 20-month project where they need to develop 20 AUVs and if successful, this turns into a 60-64 million USD contract.

SDE has come a long way – initially an 18-member team, now 34 with the look to expand to 60 team members soon. They entered the 2021 financial year with 3.5 million USD worth of outstanding orders. All of this without taking any grants, running fully on their own money. They have exported 7 systems internationally, to Singapore and African nations and in 2022 they are looking towards scaling operations to Europe and Canada, with contacts already in place. Boat in a box, coming soon to shore near you!



Overview of the skyline of Quebec

# PortXL's International efforts

Global ports are strongly connected and share similar challenges when it comes to efficiency, sustainability and digitalisation. PortXL's mission to innovate ports for sustainable growth is not merely a local ambition; we want to extend our reach to international ports and help them reach their innovation plans. Furthermore, it is exciting to work on maritime innovation abroad and learn and experience how Rotterdam is valued.

## Quebec

Helping build innovation in Canada. We conducted a successful feasibility study with the Port of Quebec about establishing a port ecosystem in Quebec City, using our experience with innovation and community-building in Rotterdam. We presented a report with an implementation roadmap after a few insightful workshops with the ecosystem. The Port of Quebec is now considering next steps and we are optimistic about continuing our support with their innovation journey in the future.

## Auckland

As in Canada, we conducted a successful feasibility study in New Zealand with the Port of Auckland. The collaboration was certainly challenging, with the time zone difference playing a substantial part, but we persevered and delivered the report after engaging workshops with the Auckland port community.

## Faros

Faros lights the way for blue economy innovation in Italy. Faros is aiming to accelerate 8 pre-seed & seed phase start-ups each year, helping them grow and validate their business models. The best teams will have access to further investments.

The program will last for 4 months, during which the start-ups will participate in open innovation activities, develop a pilot project with corporate partners and receive a pre-seed

**“The open innovation management process is different from procurement processes and is new to most companies. In order to establish more mature open innovation management processes, it will be beneficial to set up a community in the ports and maritime industry that enables innovation in a collaborative way.”**



Mario Girard, CEO Quebec Port Authority

investment in equity up to €65k. Faros has been set up by CDP Venture Capital with a|cube and with the support of Port of Taranto, among other partners. A total of €4 million has been invested into the accelerator.

PortXL's previous cooperation with the Port of Taranto and our combined efforts to create an innovation hub in the southern Italian city have played a significant part in the start of Faros. PortXL's role is that of a strategical partner and we will support operations with our expertise.

## SPEED

SPEED is a European Interreg project aiming to build an ecosystem for smart port app development in Belgium, France, the Netherlands and the UK, bridging the gap between the worlds of European ports and the nascent data science – IoT market.

PortXL is a proud partner of SPEED and we have been participating in workshops and events organised so far, as well as hosted sessions during the 2021 program with the participation of experts. SPEED's contribution and support throughout the program was greatly appreciated.

## AspBAN

The Atlantic Smart Ports Blue Acceleration Network (AspBAN) is a project that has been awarded funding by the European Union. Focused on developing a dynamic acceleration platform, AspBAN helps EU Atlantic ports work as blue economy hubs.

By becoming the main playground for the development of new blue businesses, EU Atlantic Ports have the opportunity to diversify their revenue sources and work towards a sustainable ocean economy.

Ports are one of the primary interfaces with the ocean, which means they will play a strategic role as launchpads for a new generation of blue companies.

PortXL is proud to be one of the founding partners of AspBAN and we look forward to share our experiences and work towards stronger maritime innovation in the EU.

“  
**The main idea is to build – metaphorically – a blue Silicon Valley that uses the port as a network base for building a European & Trans-atlantic connection, using the port as acceleration platforms, innovation hubs for blue economy business.**  
”



**Ruben Eiras, Secretary-General of Fórum Oceano, the Portugal Blue Economy Cluster.**



# An update on MATCH by PortXL

In November 2020 an idea was moulded into a plan: to keep innovative entrepreneurs on the agenda during times of crisis and at the same time help the industry with their challenges of the future.

All port-operating companies are always able to hand in their challenges to PortXL. Said companies receive a report back within 2 weeks, containing 5-10 start-ups that provide an interesting solution to their challenge. After problem discussions with potential solvers, the company may pick their preferred solution and is assisted in the process of working together with a start-up by PortXL with a digital structured approach.



*These activities made possible with support from the Province of Zuid-Holland.*

Our targets at the start were:

400

Innovation Challenges on the platform

200

corporates/organisations contributing challenges

2000

start-ups MATCHED with challenges

Nine months later we achieved:

417

106

2846

“

**MATCH takes the true and tested PortXL formula and lowers the entry barrier to participate, while still bringing significant value. It accelerates the process for companies that may not yet have the resources to fully commit to our 3-month program but want to start innovating within their organisation. With MATCH, this can be done with minimal commitment and great upside.**

”



Philip Roos,  
PortXL Director Business Development

# Introducing the Maritime Masterplan

The Maritime Masterplan is the Dutch vision to make 50 vessels of all types emission free by 2030. PortXL is assisting the Masterplan consortia with finding the right innovators that can support this noble project.



The world is facing a huge sustainability challenge. The maritime sector is no exception to the necessary energy transition to a climate-neutral society. Whilst a globally growing economy leads to greater demand for the transport of goods. The goals from the Paris Climate Agreement and the subsequent agreement of the International Maritime Organisation (IMO) requires a 50% reduction of CO<sub>2</sub>-emissions from maritime transport by 2050 compared to the level of 2008.

## Shipping segments solutions

Several stakeholders (including policy makers, engine manufacturers, ship building companies and research institutes) are working on the development of new alternative fuels and energy carriers for shipping, such as methanol, hydrogen, various biofuels, and battery-electric systems.

There remains significant uncertainty as to which are the best options for the short as well as the longer term, and what the best options are for different ship segments (e.g., short sea or intercontinental freight transport, naval vessels or passenger ships). Solutions for shipping segments for the short term should contribute to a significant reduction in CO<sub>2</sub>-emissions, but also should be compliant with regulations on air pollutants such as the 2020 Global Sulphur Cap and NO<sub>x</sub> Emission regulations.

On November 29th, the Dutch government awarded a total of €150 million among eight consortia to work on innovations that make our transport cleaner and smarter. Three of those projects are maritime-related and two of them involve PortXL's support.

## LNG-ZERO

LNG-ZERO is an ambitious research project aiming to develop the technologies and strategies needed to drastically reduce emissions from LNG-powered ships and thus contribute to sustainable shipping. This is achieved through a three-pronged strategy: reducing methane (CH<sub>4</sub>) slip, capturing carbon dioxide (CO<sub>2</sub>) and using bio-LNG to eliminate all remaining emissions, making the entire chain free of greenhouse gas emissions. This is a complex technology with many challenges, and a complete partnership will make it happen.

## MENENS (Methanol as Energy Step towards Zero Emission Shipping)

Achieving zero-emission shipping is not a given. The vast majority of ships are still powered by fossil fuels. Although there are various routes to achieving CO<sub>2</sub> emission reductions in the maritime sector, there are only a few possible alternatives to marine diesel that can be deployed in the short to medium term. Methanol is now an alternative with strong support in the international maritime sector, and the most feasible for large-scale introduction in the short to medium term. The 22 partners in this project represent the Dutch maritime sector across the board, from ship owner to designer and from ship builder to (specialist) supplier. Together, the partners want to speed up the route towards truly emission-free shipping by developing adaptive system solutions, based on methanol.

**We look forward to contribute to these projects by finding the right innovators to support the acceleration of the maritime energy transition. Let's make maritime emission-free together!**

**“Creating magic  
by bringing  
people together  
and allowing  
innovations  
to flourish”**



With this motivation I started with PortXL 6 years ago with the objective to contribute to the sustainable growth of the port and maritime industry. I am extremely grateful and proud that I, together with you and many others, have put innovation further on the map in the port of Rotterdam and far beyond. After 6 years it is time for me to focus on new challenges.

Looking back on a period in which many great results were achieved. In the first place, the many contacts we have established between start-ups and the existing market have led to hundreds of projects. You have introduced me to so many cool technologies. For me, the conversations, brainstorming, and progress meetings with you - innovators - were one of the coolest parts of my job. I was allowed to think along about cleaning ships, explaining the benefits of blockchain, who is responsible for water quality, how deformation measurements are taken and so on. We also had personal conversations about how to deal with conflicts in your team, how long should you continue without earning money or how do I get my colleagues enthusiastic about innovation. I think it's very special that so many people have opened up. I want to thank you for that.

I will also remember the events, especially selection days and shakedown. The excitement of pitching and the relief of the handshakes.

But also, the stress behind the scenes at the PortXL team. It was always a challenge to set up a large, surprising event within the framework of limited budget or (corona) regulations. When I look back at the photos, I see a lot of smiling faces and I can only conclude that we have done this well in our own way. The team of PortXL will stay connected with you and are available for you.

I am genuinely proud that I have been able to work for 6 years on a more innovative, cleaner, safer, more efficient maritime cluster in Rotterdam and that I have also been able to land some of these Rotterdam sparks in foreign ports. I'm going to use the coming months to explore some of my ideas and hope to see you again in the near or slightly more distant future.

With great appreciation for our cooperation, I say goodbye,

**Regards,  
Carolien**

