PAMEN

#11

Protecting our oceans

Dear reader,

Welcome to the eleventh edition of our Damen Magazine.

It has turned out to be an impressive publication which beautifully captures the diversity of our family business. From our evolution into a leader in the global tug market to the expansion of our Service Hub network. From the application of Industry 4.0 ideas in our repair yards to transforming innovations in artificial intelligence and autonomous sailing into added value for our clients. And from the range of solutions we offer to make cargo ships more sustainable to the versatility of our Fast Crew Supplier design, a class of ship that almost single-handedly embodies our motto Oceans of Possibilities.

Damen Shipyards Group focuses on niche maritime markets; on workboats for towage, dredging, offshore energy, fishing, aquaculture, and other markets. On high speed craft and maritime public transport. On exclusive yachts and on ships for defence & security. In addition, we are also active in the repair and conversion of existing ships and the production of components for the maritime industry. These activities are supported by a worldwide sales and service network.

It hardly needs pointing out that there is a strong focus on defence & security these days, the grey component of the ships we build. The geopolitical situation in the world is such that there are ever more threats, and countries want to get their maritime defences in order. Strong defence is a basic requirement for stability, security and well-being.

We provide support in this area and we engage closely with our clients. For example, we are currently building, or have recently completed, ships for seven NATO navies. We were recently able to provide the navy of Suriname – through a lease arrangement – with its first ship. At our yard in Cape Town, we completed the third patrol vessel for the South African navy, and we are supporting local yards in Colombia and Mexico with the building of complex naval ships using our designs and technical support. This is a boost not only for the capabilities of those navies but also for the national shipbuilding industry in those countries.

I hope you enjoy reading all about these, and other stories, in this magazine.

As always, I wish you happy sailings. Look out for each other and may you have fair winds and following seas.

Arnout Damen
CEO

On the cover
Combat Support Ship (CSS) *Den Helder* is a state-of-the-art supply ship and represents the first phase of the fleet renewal of the Royal Netherlands Navy. The CSS is deployable worldwide and can provide naval vessels at sea with fuel, ammunition, water, food, and spare parts.

Get in touch
If you want to know more about any of the topics, vessels, persons or articles in this magazine, please do not hesitate to contact us through Elly Kortleve at elly.kortleve@damen.com

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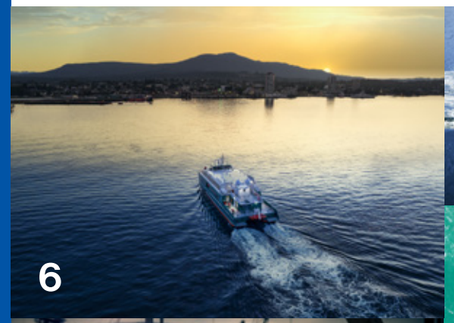
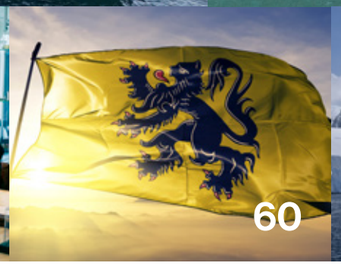
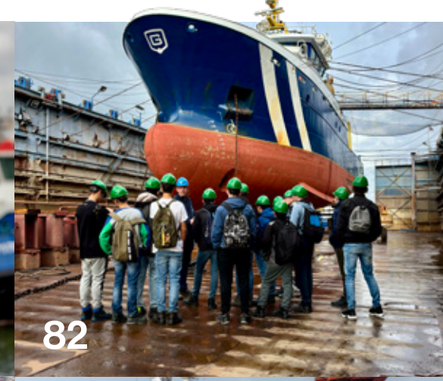
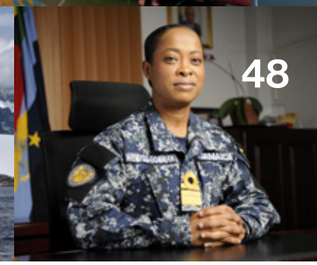








SHARE YOUR THOUGHTS ON DAMEN MAGAZINE

Dear reader, would you please take a moment to share your thoughts on the Damen Magazine through a brief survey? Your valuable feedback will help us improve our publication in future. You can access the survey using the QR code. We greatly appreciate your time and input.

Kind regards,
The editorial team of Damen Magazine

A lifeline for the community

Damen offers a diverse range of ferries for public transport, and cargo carrying vessels, often tailored to the unique needs of its clients around the world. The following are just a handful of examples of how Damen vessels play a vital role in keeping communities connected.

BC Ferries – vital community connections

For the past six years, Damen has been constructing Road Ferry 8117 E3's for Canada's BC Ferries. Currently, the programme is in its third phase, with Damen constructing four fully electric vessels. Upon completion, the vessels will join the BC Ferries fleet, providing vital community connections.

"It's a fairly unique operation," says Ceilidh Marlow, Senior Communications Advisor at BC Ferries. "We operate 25 different routes with 37 ferries out of 47 different terminals. In 2024, we transported over 22 million passengers and 9 million vehicles." The operation she says, is as diverse as the coastline of British Columbia itself.

"If we are looking at people in Northern BC, their needs are very different from the population of Vancouver and Victoria, or the people of Vancouver Island."

The passengers, then, are a mixed crowd, consisting of locals, commuters, and tourists. As a result, the services provided by BC Ferries are frequently of critical importance – something with which Ceilidh has had first-hand experience. "I grew up on Quadra Island and took the ferry to school. If there's no ferry, kids don't get to school and people don't get to work or their important medical appointments. The routes served by the Island Class are really a lifeline to the smaller communities on BC's coast."

Hullo Ferries – a unique customer experience

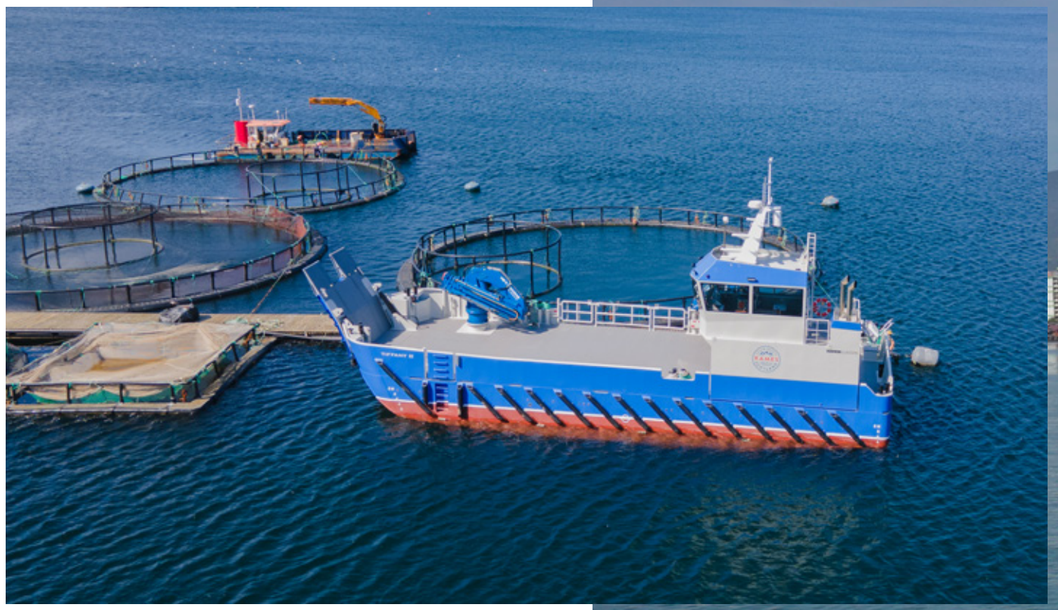
When, in 2023, Hullo Ferries began their service connecting Nanaimo with Vancouver, a key requirement was reliability. To this end, they chose the Damen Fast Ferry 4212.

"We needed a proven vessel, with plenty of redundancy – we operate two vessels, so there is always back-up available," states Sales & Marketing Director Xander France. For its guests, Hullo has a unique, customer focused, and high tech experience in store.

"We spent a lot of time researching the market, endlessly looking into every detail. We wanted to create something different. Something innovative."

Our guests travel in one of three service tiers – Comfort, Premium or Business – in an award winning interior. Through partnering with Damen we were able to customise the interior. There are USB ports and chargers throughout, and high speed Wi-Fi – little extras that really make the difference."

The approach has certainly worked, Xander says. "We've had over 700,000 guests so far, locals and tourists alike. More than anyone, though, we are serving British Columbians. We can see from our data that people are travelling more often to the mainland – we are inducing more travel."



Isles of Scilly Steamship Company – Keeping tourism afloat

Twenty eight miles off the Cornish Coast, the Isles of Scilly lie isolated and unspoiled in the Atlantic Ocean. Of the more than 140 islands, five are inhabited, with a population of 2,200. Today, the islands are largely dependent on tourism. This is where the Isles of Steamship Company comes in. Founded in 1920, the company provides an essential transport lifeline to the community, explains CEO Stuart Reid.

“The tourism sector on Scilly is highly dependent on the transport of visitors and freight which we have provided for the past 105 years.”

Recently, the company has found itself called upon to ship larger items – tractors, minibuses, excavators, as well as larger volumes of materials.
Stuart reached out to Damen who, a few years ago, had asked Coastal Workboats to build a Damen Landing Utility Vessel (LUV) 2208 for stock to ensure a very short timeframe for delivery.

“The LUV has been a brilliant addition to our fleet. The Isles of Scilly is a unique location consisting of beautiful white sandy beaches, rocky coves and tidal restricted quays. The LUV’s design, forward and aft cranes and its bow ramp allows us to deliver direct to these locations. This has really helped us to improve our service.”

“In Malaysia, when you make reference to the State of Penang, you cannot avoid talking about the ferry.”

Penang Ferries – A local institution

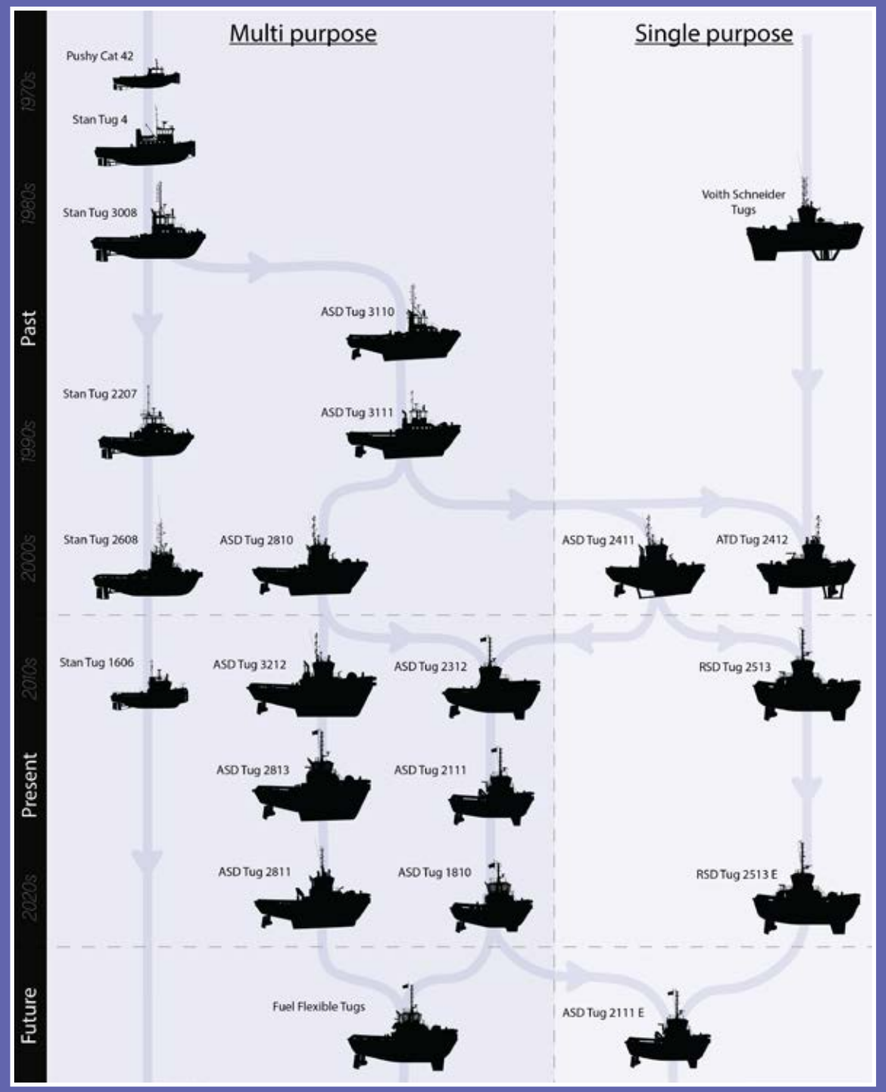
The Penang Ferry, explains CEO Dato’ Sasedharan Vasudevan, it is an institution in Malaysia.

“The Penang Ferry is about Penang itself,” he says. “In Malaysia, when you make reference to the State of Penang, you cannot avoid talking about the ferry.” The state consists of a mainland area, home to 1.1 million people, and an island with a population of around 750,000 people.

“The ferry service has been around since the early 1900s. There was no bridge until 1985, so the ferry has played a very large role in the lives of people here and is a vital mode of transportation linking Penang Island with the mainland. Besides, most people are very proud of their ferries in Penang.”

“Around 95% of ferry users are local people. Mostly they use the boats for commuting, so they really are a lifeline to the community here.”
The ferry service operates four Damen Ferries 3508. Each year, the ferries transport over 2 million pedestrians and 700,000 bicycles and motorbikes.

In developing the ferry, Damen combined the functionality of transporting pedestrians and two wheelers in a single vessel. The result was increased efficiency.
“Because of this we are able to undertake our operations with four, as opposed to five vessels. The Damen ferries also offer us better fuel efficiency and reduced maintenance.”



A process of evolution

From the beginning, Damen tugs have been on a journey of progress that ensures their relevance, today and tomorrow.

It's a story with which we are all familiar. In 1969, Kommer Damen introduced the concept of standardised shipbuilding. With this, Damen was able to offer its clients around the world rapid delivery of proven vessels.

Setting new standards

The first series-built vessel was the iconic launch, the Pushy Cat. Though not a tug, the vessel, with its push-pull capabilities, contained the seeds of the first standard Damen tugs in its DNA.
Just a few years later, in the 1970s, the first Damen Stan Tugs emerged. It was a historical moment, marking the beginning of a process, ongoing today, by which Damen tugs continue to evolve to fulfil the needs of a dynamic market.

Second generation

"By the 1980s, the Stan Tug 3008 had taken on a form that remains familiar to operators today," says Damen's Product Manager Tugs Erik van Schaik.
The distinctive shape of the Damen Stan Tug series results from the installation of a powerful propulsion system with large propellers in nozzles underneath a raised aft ship to allow ample inflow of water. With their conventional propulsion system and rudders, Stan Tugs are designed to sail ahead. They are suitable for pushing and towing operations of vessels at relatively low speeds but, during the 1980s, the world was changing – and with it, so were Damen's tugs.

Globalisation gathers pace

"The development of tugs during this period was driven by a rising global population," Erik explains. "Globalisation was getting underway and the world economy was growing. More ships – both larger and faster than before – were necessary to cater to the growing demand for cheaper consumable goods and energy. As a result, there was a need for tugs with more bollard pull and more manoeuvrability."

Increased manoeuvrability

It was around this time that Damen took its first steps into the azimuth stern drive (ASD) tugs market. This type of tug used the so-called azimuth thruster to offer additional manoeuvrability and efficiency, while maintaining the tugs' capability to undertake a multi-purpose role.
Damen's introduction to the new tug type began in a simple manner, states Erik.

"The first ASD Tug designs like the ASD Tug 3110 were evolutions of a Stan Tug hull with azimuth thrusters. We were already familiar with our Stan Tug hulls and this approach provided us with the opportunity to learn as we went. However, in response to the demands of the market, our designs evolved over time."

> "What we did, was to take features from the existing single purpose vessels in the portfolio, the ASD Tug 2411, and the ATD Tug 2412, combining them to create the RSD Tug 2513."

Damen learned a lot from working together with its clients – something that still holds true today, with Damen continuing to seek and use client feedback in the continual development of its portfolio.

Back then, Damen worked together with Smit to develop the ASD Tug 3111.
"This was our first really good ASD Tug," says Erik, "and the basis of the Damen ASD Tug family you see today."

Into the new Millenium

Around this time, Damen also applied the azimuthing thruster technology to the construction of its first single purpose tugs – those with the express purpose of berthing the larger vessels coming into ports.

"We'd offered a single purpose ship handling tug since the 1980s, with the Voith Schneider Tugs," Erik says. "We delivered a number of these, but they were always project – custom – built vessels."

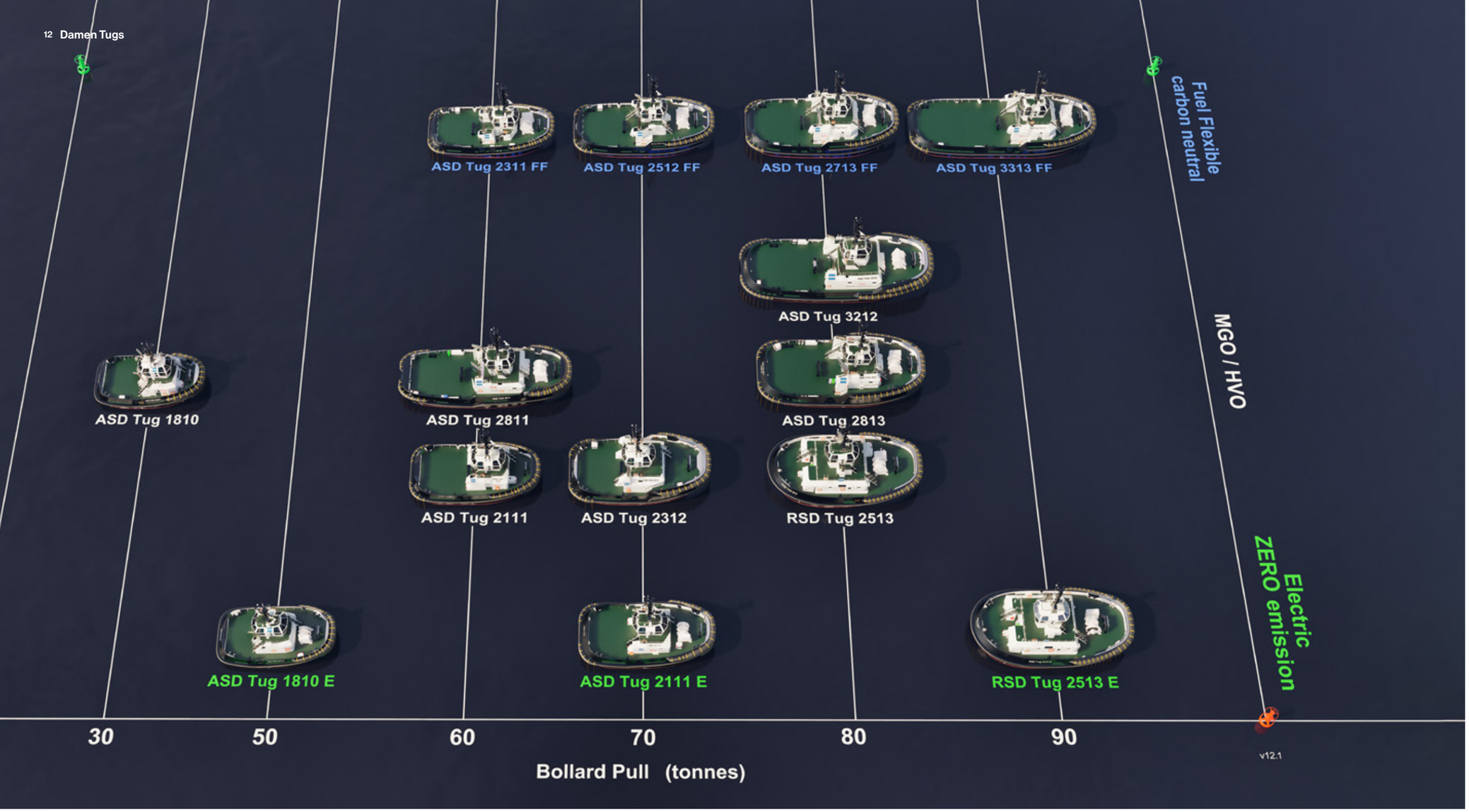
By the turn of the Millenium came around, the company had once again applied Kommer Damen's philosophy of standardised shipbuilding to create a series of proven, single purpose tugs.

The ASD Tug 2411 and ATD 2412 were developed as efficient compact powerful (un)berthing tools for big ports. With the rudder propeller under the bow and the winch on the aft deck, the ATD is the ideal tug to use in front of the vessel to be assisted. With the rudder propellers under the stern and the width on the fore deck the ASD is the ideal tug to use behind the vessel that is to be assisted.

With this, Damen was offering three types of tug simultaneously. For the multi-purpose segment of the market, the Damen Stan Tugs and ASD Tugs continued to develop in parallel. Meanwhile, the smaller ASD Tugs, together with the ATD Tugs, took care of the single purpose arena.

In a tight spot

As the new century entered its second decade, it became apparent that port infrastructure was struggling to keep pace with the growing number of larger, faster ships making calls. Harbours were becoming increasingly restricted spaces, threatening both efficiency and safety. Clearly a solution was needed.



The answer was compact, manoeuvrable tugs, able to safely operate in confined spaces, but without compromising on bollard pull. Damen set to work on the development of the ultimate ship handling tool. It transpired that the ingredients for such a vessel were already to be found in the Damen portfolio.

The ultimate ship handling tool

"What we did, was to take features from the existing single purpose vessels in the portfolio, the ASD Tug 2411, and the ATD Tug 2412, combining them to create the RSD Tug 2513."

At just 24.73 metres long with a beam of 13.13 metres, the RSD Tug 2513 certainly met the requirements for a compact vessel. And, with 80 tonnes of bollard pull, in combination with the Twin Fin skegs at its disposal, the vessel offered sufficient power and manoeuvrability to handle the largest of container vessels.

With the combined features of the two vessel types, the RSD Tug 2513 features two bows and the superstructure in the middle. As such, it always operates bow first – the ideal solution for a ship handling operation.

ASDs gain traction

"At the same time", Erik says, "The ASD market was growing significantly. A lot of operators were turning from Stan Tugs to ASD Tugs for the improved manoeuvrability they offer." Damen then responded with the development of a growing family of ASD Tugs, increasingly compact and powerful to meet the needs of the modern port operation.

"In much the same way we arrived at the RSD Tug 2513, we combined features from the ASD Tug 2411 with the ASD Tug 2810, placing the winch in the middle for added efficiency."The Damen ASD series of today applies a combination of proven solutions and cutting-edge technologies to deliver vessels that are increasingly safe, sustainable, reliable and efficient. Currently, the series is comprised of six different sizes of vessel, spanning from 32 metres to 18 metres in length, offering capabilities for the widest possible range of operations.

The story continues

This is not the end of the story, however. Today, there are new challenges facing vessel owners and operators, chief amongst which is perhaps environmental sustainability. In response, the Damen Tugs portfolio continues to evolve.

Already, Damen has produced the RSD-E Tug 2513 – a fully electric version of the RSD Tug 2513 able to deliver a zero emissions operation, while still delivering 70 tonnes bollard pull.

Record breaker

Damen has delivered five such vessels so far, including *Bu Tinah*, the first fully electric tug in the Middle East. The vessel made news when it was awarded a Guinness World Record title for Most Powerful Electric Tugboat. Following the success of the RSD-E Tug 2513, Damen is developing a fully electric ASD Tug 2111.

"This tug has the same functionality as the RSD-E Tug 2513," Erik explains, "and provides vessel operators with the option to operate a smaller tug fully electrically. The RSD-E Tug will also continue to evolve. To meet demands for increasing power, we will be producing a version with increased bollard pull."

Fuel flexibility

But what of the multi-purpose segment? The call for lower emissions maritime performance is not limited to ship berthing operations, after all.

"In all probability there will be a mix of fuels in use in the future, depending on the nature of the operation, its location, and other factors. The challenge for operators is knowing in which way to go, and how to invest in new solutions without compromising their ability to compete.

"Our approach is to offer our clients flexibility," states Erik. "We are developing a family of fuel flexible tugs – the ASD Tugs FF. The tugs will be delivered with the space required to convert to alternative fuels tomorrow, once the picture becomes clear and the required technology reaches maturity."

Preparing for the future

This ASD Tugs FF series aims to provide operators with the means to invest in newer, more efficient tugs now, safe in the knowledge they will maintain their relevance in the years to come. When the moment arrives, the tugs will be converted, rapidly and cost-effectively, to alternative fuel use.

"It's impossible to know what the future holds," Erik concludes, "but we can prepare ourselves. Whatever the challenges of tomorrow, you can be sure that Damen Tugs will continue to adapt and evolve in order to meet them."

AI in the maritime sector

Prof. Dr. Jos van Hillegersberg
Scientific Director at JADS and Professor at the University of Twente, Jos specialises in AI, data science, and IT-driven business transformation. With extensive industry experience, he bridges academia and business, pioneering AI applications across multiple sectors, including maritime.

Aart Rupert
With over 25 years of executive management experience, Aart is a leader in digital and business transformation. As Chief Digital Officer at Damen Shipyards Group, he is responsible for Damen's digital strategy, governance, IT organisation, data management, and cybersecurity, along with other strategic functions. In 2023 he was named CIO of the Year in the Netherlands.

The maritime industry, like many other industries, is riding the wave of a digital revolution, driven by Artificial Intelligence (AI) and big data. Damen envisions a future where AI-enabled, data-driven operations will optimise shipbuilding and enhance efficiency. This will also improve sustainability, making operations more environmentally friendly. Over the next ten to fifteen years, AI will play a key role in predictive maintenance, autonomous vessels, and intelligent ship design.

Damen's Chief Digital Officer (CDO), Aart Rupert, sat down with Prof. Dr. Jos van Hillegersberg, Scientific Director at the Jheronimus Academy of Data Science (JADS), to discuss how to successfully reshape Damen with AI.

Opportunities in the maritime sector

Jos: "The increasing importance of data in the maritime sector is undeniable. With sensors embedded in vessels, improved network capabilities, and cloud computing, data collection has never been more advanced. In the past, data management was expensive and required huge data science teams, but now, the tools are widely available.
The question is, how do we use them to make a real difference?"

Aart: "Exactly. At Damen, we have already begun embracing this shift. Take Damen Triton, for example. We have 15,000 sensors on our ships collecting data. That data is transformed into insights – helping clients understand their vessel performance and anticipate maintenance issues. We have also developed optimal ferry routes to cut fuel consumption, which directly benefits both operational costs and sustainability."

Jos: "And that is just the beginning. AI and machine learning allow us to analyse patterns we never noticed before. We are not just responding to issues anymore, we are predicting them."

AI plays a critical role in predictive analytics, which means it can foresee problems before they arise. This is particularly important in maritime operations, where equipment failure can result in significant financial costs.

With AI, Damen is moving towards a future where vessels will operate more efficiently and with minimal downtime.

The impact on work and the workforce

Aart: "This shift does not just affect technology, it changes the way we work. I have never received so many questions about a new technology. While certain roles will evolve, new opportunities will emerge, creating a future-ready workforce. AI will take over repetitive tasks, freeing up employees for more complex, strategic roles."

Jos: In line with this, we are continuously updating our educational programmes. It is not just about knowing data science and AI technologies, but also about having an entrepreneurial mindset in applying them to business. We should be thinking about the jobs of the day after tomorrow. Companies need a strategic approach to workforce planning – what skills will we need? It is a misconception that we will need an army of data scientists. Instead, AI will be integrated into multiple roles across the business."

Aart: "That's why we are taking a three-phase approach:

1. Empowering employees – Training people to use AI in their daily work, from risk assessments to drafting proposals.
2. Departmental integration – Applying AI to optimise operations like supply chain management and customer interactions.
   A '*Hey Damen*' for our industry!
3. Disruptive AI – Moving towards autonomous systems, where AI handles processes like spare part procurement and predictive maintenance."

> “The key is to see AI as a *co-pilot*, not an *auto-pilot*.”

Aart: “My advice to our employees? Learn, adapt, and use AI to your advantage. The people who embrace AI will be the ones who thrive.”

Jos: “I couldn’t agree more. The biggest mistake is resisting change. AI is not going away. Instead of seeing it as a threat, see it as an opportunity to improve and innovate.”

Aart: “People skills will become even more important. While AI can analyse data, human judgement remains essential, especially in relationship management and creative problem-solving. The key is to see AI as a ‘co-pilot,’ not an ‘auto-pilot.’ It supports decision-making, but employees remain in control.”

An important element of AI integration is the development of language models. A language model is an AI-driven system capable of processing and generating human-like text. These models help businesses automate communication, enhance customer service, and streamline internal processes. By taking advantage of these models, Damen can ensure that employees focus on high-value tasks while AI manages routine communications.

Key conditions for success

Aart and Jos agree that strong data governance is the foundation of this transition. If your data is not well-structured, AI will not work properly. That is why Damen is investing in a comprehensive data management framework to ensure security, precision, and accessibility. But it is not just about technology – it is also about people. Adapting to change is essential. Employees need to understand AI, feel comfortable using it, and see the value it brings. Damen is in the process of training 600 employees to work with AI, ensuring a smooth transition.

Aart: “Ethics also play a big role. We have to decide what level of control we keep and what we let AI handle. At Damen, we are committed to ensuring AI aligns with our company values. Together, we will safeguard Damen’s signature in designs and products.”

Jos: “Collaboration across the industry is another key factor. We are already seeing AI-powered negotiations between businesses, where intelligent systems optimise contracts and logistics. But this requires clear regulatory frameworks to ensure fair and transparent operations.”

Looking ahead: scaling AI for the future

The role of IT has evolved beyond just support; it now holds a strategic position in modern business operations. AI and data policies are essential, particularly when integrating existing internal research with new AI-driven methods. Often, different approaches may seem to compete at first, but the real breakthrough comes when integration succeeds, and AI-driven insights transition into full-scale production – Digital Twins.

Aart: “What steps should a company take to be successful and stay ahead in this transformation?”

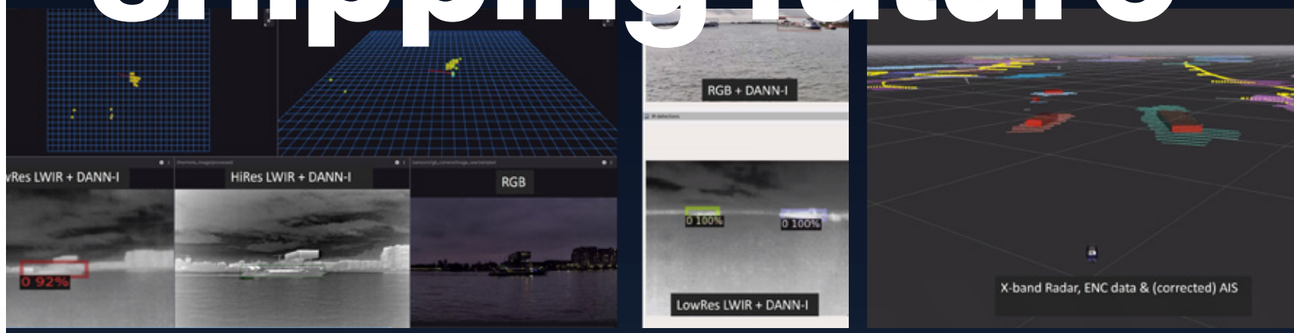
Jos: “The challenge is scaling AI responsibly within the organisation. While there are plenty of exciting demos, the real test lies in implementation. How do you bring everyone along? It requires training programmes, clear business cases, and well-structured, explainable AI architecture, broadly supported across departments.”

Aart: “Exactly. Damen already has an AI Lab, but now the focus is on transforming it into a full AI Factory. We need to consider access management, data quality, and mass data management. If we do not establish a solid structure, errors can multiply, making them harder to control. The key is taking time to ensure that our data is well-organised, accessible for the right purposes, and protected where necessary.”

Jos: “That is a crucial point. The implementation process should not only be technically sound but also widely accepted within the organisation. A proper AI strategy is not just about showing what is possible – it is about rolling it out successfully.”

Damen is fully committed to this journey, ensuring that both technology and people grow together in a digitally enabled future.

Towards an autonomous shipping future



Various factors are driving moves towards maritime autonomy, including fuel efficiency, safety and shortages of skilled crew. Currently, Damen Research, Development & Innovation (RD&I) is considering solutions and challenges on the path to autonomy.

SEE-THINK-ACT

Presently, sensors on board produce a large gap in the field of view (FoV), and a 2D observation of a 3D world, while systems providing isolated functionalities in support of the crew presence is required to compensate the missing functionality of SEE – THINK – ACT.

“To enable automated navigation, a comprehensive FoV is needed. To achieve this, a combination of sensors that exceed the current maritime sensor capabilities is required to provide necessary detection.

After this, the observed data requires context. A vessel coming into proximity of another vessel, for example, needs not only to recognise the fact, but to access the relevance and subsequently plan the safest response. Finally, the path generated for the vessel must be translated to propulsion and steering instructions – the so-called path follower system.

The three elements: SEE – THINK – ACT form a pipeline dependent on the flow of information from both existing systems and new sensors.” says Principal Research Engineer Dimitrios Kotiadis.


Dimitrios Kotiadis

“Simulations provide a repetitive control environment suitable for testing prototypes.”

The challenges ahead
Ensuring that flow is by no means a straightforward task, and many challenges remain.“Take vessel control, for example. The autonomous system will feature multiple control elements – the bridge, a remote control centre (RCC), navigational automation systems– and these will require careful management to dictate who is in control at what moment”, Dimitrios explains. “Plus, the integration of new sensor technology presents many challenges in optimising the function of the technology in the maritime environment.”

Exploring solutions
To meet these challenges, RD&I is intensively conducting studies and investigations on a wide range of technologies available in the market presently – often leaning on those applied in other sectors, such as the automotive industry. Working with industry and academic partners, RD&I has developed AI systems that implement state of the art techniques in achieving the digital SEE – THINK – ACT functionalities.

Part of the work has included the development of appropriate research tools, with Damen together with its industry and academic partners, conveying the requirements for maritime-specific needs “Simulations provide a repetitive control environment suitable for testing prototypes and cases that would be unsafe in the real world,” he states.

RD&I has also developed a model vessel and RCC – the Damen Autonomous model Vessel (DAVe) – a tool for low risk, rapid testing of systems in the entire SEE – THINK – ACT pipeline. Damen’s harbour in Gorinchem offers a controlled environment for operating DAVe, providing a complete pipeline of real world effects.

The research also utilises vessels in the Damen fleet to perform both data acquisition and subsequent testing. As part of this, a sensor stand was developed to easily deploy sensors to vessels and shore to acquire data. “This proved to be an invaluable source of real world data,” says Dimitrios, “and we are expanding the project with a dedicated research vessel.”

An incremental approach
“In exploring these new technologies, it became evident that, while extensively used in other application areas, many are not adjusted for maritime use. Although some technologies can easily be migrated, such as cameras, this is not the case for other new promising sensors such as 4D Radar.

Our research focuses on addressing these aspects and ensuring that, when required, the technologies are available and ready for use.” Dimitrios explains.

“As a ship designer and integrator, we are striving to derisk implementation by creating test environments and understanding the hardware behavior within the maritime environment and the integration into, and development of, the onboard automation architectures. The hardware can be considered – relatively speaking – to be available already. Properly positioning those, making them robust and integrating them on board is what is our focus. The element required to implement new functionalities then is mainly by adding software.

Damen sees this and is moving towards a hardware ready vessel and an incremental software approach. Full autonomy in shipping may still be some way off, though technology is developing fast. Our task is to move forward gradually in a safe manner.” Dimitrios concludes.




GENERATIONS

It runs in the family

Kommer Damen always knew he would work in his father’s business. But that’s not yet a done deal for Fien Damen, despite the appeal the family business has for her. Despite the gap of two generations between grandfather and granddaughter, there are no fundamental differences in how they see the world. “We’re a very close family.”

“Everyone in our family just gets along really well,” says Fien (17). “We all go on holidays together and we also see each other a lot.” And if that all sounds ‘lovey-dovey’, that’s because it is.” Kommer (81) has a broad smile on his face. “A family business is quite a burden at times but it’s mostly just a lot of fun. I have always tried to get the children interested. And I’ve been pretty successful as far as that’s concerned. You sometimes see how things can turn sour in family businesses. Even though there’s plenty of money, the squabbling never ends. It makes nobody happy.”

Definitely a good idea
Talking about the way things are brings the conversation naturally round to how today’s Damen came about. And to how Kommer had revolutionary ideas about the serial production of ships and building from stock, and how that clashed with how people in his father and uncle’s company thought about shipbuilding. The company was split up. Kommer can smile about it now. “I was 24 at the time, I had no money, big debts and I owned an old boatyard with six employees ... but I did have a good idea.”

Eventually, that grew into today’s Damen Shipyards Group: revenue of more than 3 billion euros and more than 12,000 employees working at 35 yards worldwide. Fien says, “I always thought it was an extraordinary story but now, realising you were just 24 at the time, I just go: wow. That you made something so incredibly big from something so small. That’s really impressive. I can’t imagine myself doing that a few years from now.”

Insta and TikTok
Fien is now in her final year at school, and is still unsure about a degree in Business Studies. Maybe she’ll take a gap year after all, following the example of her older brother Stijn. “That will also give me a chance to get to know the company better.” She is interested in the marketing side of things. As a member of Gen Z, she has a tip for her grandfather, who heads the Supervisory Board, and her father, who is the CEO. “We could have a slightly higher profile on Instagram and TikTok, about how wonderful and enjoyable it is to work at Damen, to get my generation more interested before they start looking for work.”

Kommer nods in agreement. For his part, he has no specific ‘wise words’ for Generation Z. “No, they should just be encouraged to come up with their own ideas and initiatives. That’s how I’ve always done it and we have reaped a lot of benefits from that over the course of the years. In our early days, the average age in the company was well below 30. That was a fantastic success. So you should just give young people all the room they want. Who knows, maybe one of them will have a great revolutionary idea.”

Around the world

Close to the client – wherever they may be

Damen believes in the importance of being close to its clients. This belief is key to Damen's provision of support throughout the lifecycle of its products. One way this is achieved is via the international network of Damen Service Hubs. With these, the company helps to keep its clients' assets in optimal condition with services that are fast, friendly and – crucially – local.

Damen Services Canada Victoria

Juriaan Jellema

Beating the clock

Damen has been providing local support in British Columbia, Canada since 2019 explains Service Hub Manager Jurriaan Jellema. Today Damen Services Canada covers the entire eastern and western coastline of Canada.

"It started when we delivered the first Island Class vessels to BC Ferries. There was a requirement to provide local warranty support. Initially, we did this by partnering up with Point Hope Maritime in Victoria."

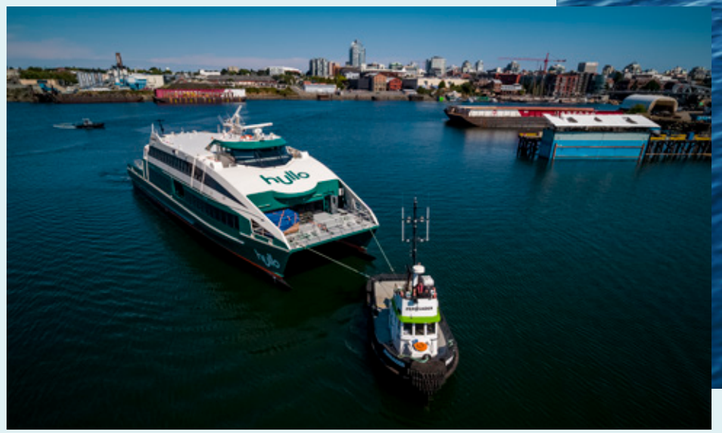
As Damen delivered more vessels to the region, however, the benefits of a permanent local presence became apparent. "Given the nine hour time difference with the Netherlands, the normal warranty procedure just wouldn't work if there was a critical situation," Jurriaan says. "Being here, we see the needs of the client and are able to respond quickly."

Service on a significant scale

Jurriaan arrived in the country in 2021 in order to develop a permanent Service Hub in Canada. In 2024, Damen opened its facilities in Victoria, where it continues to work closely with Point Hope Maritime and other local partners.

The Canadian hub's service provision spans a considerable chunk of the map. While the majority of its work takes place on the west coast, on a North American scale, even this involves vast distances.

"We have clients in Port Rupert. Like us, they're in British Columbia, but they are 20 hours away by road and 24 hours by water." How does the hub manage to take care of its clients over such great distances? "Our secret is our people. I'm very proud of my team. They are flexible and extremely passionate about what they do. We work hard to answer our clients' needs, and they see that."



Hullo Ferries

Xander France

Community care

Xander France from Hullo Ferries, located in British Columbia, demonstrates this, saying: "The local presence and the service perspective is one of the reasons we chose to order our vessels from Damen. To maintain the faith and trust of the local community, it's essential that we provide a reliable service. Damen's footprint in Victoria is hugely significant for this; we know that if we need in-depth support, it's only a short sail away."

It's not only the customers who appreciate Damen's local presence; Jurriaan says that the local community have also expressed their opinion. "One time we had a ferry out of service on the islands. We sent a team out and they quickly solved the problem. Afterwards, they were sailing back with the vessel in their Damen gear when one of the crew pointed to them and said, 'these are the guys who fixed the ship'. All the passengers started cheering and clapping."

"The local presence and the service perspective is one of the reasons we chose to order our vessels from Damen."

- Xander France, Hullo Ferries

Damen Services Hamburg


Ole Rodegro

A physical presence in Germany
Ole Rodegro, Manager of Damen Services Germany, the Service Hub located in Hamburg, also sees that the local presence has helped to cultivate good relationships with clients.

“As a result of being here in Germany, we have very close relationships locally with customers – both the crews and the technical management – and also with the local supplier network.”

Being locally present, he says, is a clear advantage for maritime operators throughout the region. “It’s a lot easier for me, based in Hamburg, to be physically present with our customers in Germany and the Baltic region, than it is for someone in the Netherlands. It means we can respond quicker.”

Fairplay

Philipp Haehnke

Unique warranty support
Philipp Haehnke is Captain of the *Fairplay 95*, a Damen RSD Tug 2513 operating in the Port of Hamburg. He agrees with Ole, saying, “For me, it’s very nice to be able to communicate with the team in German and that we can reach them so quickly and easily.

“We have a very close connection with the Damen team here. They are very proactive in their work, regularly coming onboard to make sure that everything is working optimally and done according to schedule. I’ve never seen warranty support like this before.”

First portal of call
The Damen way of working, he says, is particularly helpful in ensuring efficiency. “Onboard we have access to Damen via the MyDamen portal. With this, we can make contact directly if there is an issue, without having to first call our Superintendent. This really speeds up the reaction – and helps reduce the pressure on the Superintendent too.”

Following its initial successes in providing support to local clients during their warranty periods, Damen Services Germany is looking to expand its reach in the coming years.
“As the warranty contracts come to a close, we have the capacity to provide more support to our clients throughout the region with ongoing maintenance or in the event of a critical situation arising. We’ve certainly got plans for growth,” states Ole.

Damen Shiprepair Harbour & Voyage

Whenever & wherever
In addition to its Service Hubs, Damen has another means of operating close to its clients – Damen Shiprepair Harbour and Voyage (DSHV). With this, Damen provides on-site and on-voyage support, wherever and whenever needed.
DSHV Managing Director Jozeph Quak explains.
“When a client comes to us, typically a critical situation has arisen, and they need a rapid response. We aim to provide that with a global presence, and 24-7 availability.”
The DSHV service has grown continually since its start in 2017. Back then, it was a small riding team taking on repair projects on vessels up to 150 metres in the Port of Rotterdam. Today, DSHV is operating all over the world on vessels of all sizes and types.

Support on the water
Jozeph and his team specialise in being optimally flexible, always ready to respond when the unexpected happens. He offers an example of a recent project that DSHV undertook in Curaçao. “We were overhauling the thrusters of a large drilling ship. Our client wanted to undertake the project without having to drydock.
To do this on the water is a completely different operation, requiring a full team, a barge, a crane and a lot of preparation.”It was at this point, that a twist emerged in the plot. DSHV Sales Manager Ruby Warnaar takes up the story.

“While we were busy with this project, we received a call from another customer. One of their bulk carriers operating in the Caribbean had experienced a fire in the engine room and the vessel was completely out of action.
“Thankfully, having people working in Curaçao already, we were able to respond very quickly. We got a team on board to conduct an inspection and were able to arrange local subcontractors to support us. As soon as the vessel had been towed to Curaçao, we got to work. Within just six weeks we completed the project, and the vessel was back in action.”


Ruby Warnaar and Jozeph Quak

Utmost discretion assured
DSHV is also specialised in working on vessels underway – and is able to do so with utmost discretion when required. “We got a call from a client in the cruise industry asking us to go onboard and replace a crank shaft,” says Jozeph. “At the time there were 3,000 passengers onboard, enjoying their vacation in the Mediterranean.

The project requirements were quite specific; the whole thing had to be completed in a 24-hour window during a port call and the passengers were not to be inconvenienced in any way.
“We managed to get the job done in 22 hours, and no one on board ever knew we were there. The client was very satisfied with the outcome and has since booked another, even larger, project with us.”

Helling 7

a culinary experience shaped in fire and steel

On the rugged, industrial terrain of Damen Shiprepair Amsterdam, set between towering cranes and the steel skeletons of massive ships in repair, lies a restaurant unlike any other.

Helling 7 is more than just a place to dine; it embodies the magic of Amsterdam's maritime heritage, a showcase of circular design, and a haven where fire and craftsmanship take centre stage.

The story behind Helling 7

The inspiration to open a restaurant on the shipyard was not merely a business decision; it was a vision to reconnect the people of Amsterdam with their rich maritime roots. “I have worked at the shipyard for 25 years,” says Tjeerd Schulting, Managing Director of Damen Shiprepair Amsterdam. “Throughout the years, I realised that many Amsterdammers are less familiar with the seaport and the shipbuilding industry. Unlike Rotterdam, where the harbour is deeply embedded in the city’s identity, Amsterdam has somehow drifted away from its port and shipbuilding past.”

Determined to change that, the team at Damen sought an innovative way to invite the public into the maritime world. The solution? A restaurant that offers striking views of the shipyard in action, where guests are immersed in the industrial atmosphere. “People often say it feels more like Rotterdam here,” laughs Tjeerd. Even the mayor of Amsterdam, during her visit, echoed the same sentiment.

A name rooted in history

The restaurant’s name is no random selection. Helling 7 (meaning ‘Slipway 7’) refers to one of the seven original slipways at the historic NDSM shipyard, once the largest shipyard in the world. Helling 7 was the smallest of these slipways, located at the edge of the shipyard, and, in its later years, it was used primarily for storage rather than refit and repair activities. The restaurant now occupies the highest part of this former shipbuilding platform, where vessels once splashed into the IJ river. The name reflects both the site’s industrial past and its transformation into a unique dining destination.

Built from the past, for the future

Helling 7 is a remarkable example of circular architecture, built entirely from repurposed materials salvaged from the shipyard activities and beyond. Architect Marijn Droog recalls how the initial structure was inspired by a terrace covering from Rotterdam Airport. “We found this old structure and realised it was a perfect fit for our roof,” he says. From there, the search for discarded yet valuable materials began.

Steel beams from offshore platforms, decks from converted Damen ships, and old dock supports were all repurposed to form the restaurant’s foundation. Even the large glass windows came from leftover industrial projects. “Every single material has a story,” says Tjeerd. “The old steel torches, for example, come from a large offshore project in the Canadian Lakes. They were built in our steel workshop, installed on an offshore rig, travelled across the ocean, served their purpose, returned to our yard for decommissioning and found a second life here.”

The interior mirrors this philosophy. From reclaimed wooden tables to vintage lighting fixtures, every piece adds to the atmosphere of authenticity. The feeling of an old shipyard canteen is embedded in the design, staying true to the site’s heritage. “Many guests assume the building has always been here,” Marijn notes. “That is how seamlessly these old materials have come together.”

The fire that unites

Helling 7 is is an extension of the shipyard itself. Inside, the open kitchen glows with fire, a nod to the constant welding, grinding, cutting, and metalwork happening just outside. “The shipyard is all about sparks, flames, and craftsmanship,” says co-owner and hospitality expert Daan Bonsen. “We aimed to reflect that same energy in our kitchen. That is why we cook exclusively on fire – no gas, no conventional stoves.”

The centrepiece of the restaurant is a custom-built open fire grill, where ingredients are transformed with nothing but flames and smoke. The concept embraces pure, elemental cooking – stripped down yet deeply refined, allowing the fire to enhance natural flavours. “It is not just grilling,” says Daan. “It’s about using fire as a delicate tool to enhance flavour, just like the metalworkers outside use it to shape steel.”

The views are equally breathtaking. By day, guests overlook the bustling activity of the shipyard. By night, as the cranes illuminate the dark sky and the silhouettes of ships stand against the city lights, the scene transforms into something almost cinematic. It’s this mix of industrial grit and refined hospitality that makes Helling 7 unlike any other dining experience in Amsterdam.

Everyone working at the yard has embraced Helling 7 as their own, feeling a deep sense of pride that their workplace now hosts such a unique restaurant. Many bring their families to dine here, eager to share the view of their craft, while the team at Helling 7 has built strong ties with the yard community, making them feel at home in the space.

An unforgettable dining experience

Dining at Helling 7 is not just about the food – it is an experience that begins the moment guests arrive. Entering the shipyard, visitors pass through an unassuming industrial gate, adorned with the Helling 7 logo, leading to a tall, almost mysterious tower. Sounds echo from within, heightening the anticipation as guests ascend. The metal staircase, framed by the shipyard's immense structures, offers glimpses of the cranes in motion and the illuminated ships. There is a sense of disorientation – stepping into an active, industrial world – before reaching the top, where the space opens into a warm, welcoming restaurant.

Once inside, guests are part of the truly unique location, embedded in the heart of Amsterdam. On one side, the full expanse of the working shipyard, and on the other, the familiar cityscape with landmarks like the Westertoren and Central Station. As night falls, the shipyard takes on a new kind of energy. Sparks from the welders cut through the darkness like bursts of fire, while towering cranes continue their slow, deliberate movements under the glow of floodlights. The shimmering reflections of ship lights dance on the IJ, creating a dramatic, ever-changing scene. The contrast between the robust surroundings and the warm, inviting restaurant interior adds to the experience. "We wanted that duality, that contrast," explains Marijn. "You step out of the raw industrial world and into a space that feels both welcoming and special. This isn't just another restaurant – it has become a destination." The open kitchen further enhances this feeling – flames dance, wood crackles, and chefs work with precision, mirroring the craftsmanship happening just outside.

A space for more than dining

While the restaurant itself is a success, Helling 7 has grown into something much larger. The lower level, Lagerwal, serves as a multifunctional event space, hosting everything from corporate gatherings to film screenings and even weddings. "There is something special about seeing a wedding take place in the midst of all this steel and machinery," says Daan.

Lagerwal has also become a sought-after location for brand events, with companies drawn to its industrial authenticity. "Brands want to associate themselves with real craftsmanship," says Daan. "And here, you can witness real work in progress, the energy of an active shipyard all around you."

"Amsterdam has somehow drifted away from its port and shipbuilding past."

- Tjeerd Schulting

Sustainability beyond the walls

The commitment to circularity does not end with the building. Sustainability at Helling 7 goes beyond its architecture. The restaurant reflects the evolving character of Amsterdam Noord, where work and living increasingly blend. "This is the new Noord," says Daan, acknowledging the area's shift into a thriving, multifaceted district.

The menu itself embraces sustainability, sourcing local ingredients and using whole-animal butchery to minimise waste. The philosophy is simple: let the quality of the ingredients shine through fire-driven cooking. "We don't do complicated dishes," says Daan. "We let the ingredients speak for themselves."

An evolving destination

With its foundation firmly set, Helling 7 now looks toward the future. While Helling 7 has already carved out its place in Amsterdam's culinary scene, the journey is far from over. Plans to enhance Lagerwal, optimise the outdoor terrace, and introduce new seasonal events are all in motion. The goal? To solidify Helling 7 as not only a restaurant but a cultural landmark where the past, present, and future of Amsterdam's maritime world converge.

As the flames in the open kitchen continue to burn, so does the passion behind Helling 7 – an ever-evolving story of craftsmanship, fire, and a deep-rooted love for the shipyard that made it all possible.

Shipbuilding

like you've never seen it before

Industry 4.0 and 5.0 in the shipbuilding industry

In the past few decades, not one but two industrial revolutions have been taking place. Industry 4.0 (the first three being the Industrial, Technological and Digital revolutions) began to take shape at the beginning of the 21st century. Advances in processing power and the reach of the internet contributed to rapid progress in data processing and exchange, robotics and automation. These have delivered great advances in efficiency, flexibility and quality.

Timo Kreule

While Industry 4.0 is about technology and productivity, Industry 5.0 is intended to bring a focus on creating a more sustainable, human-centric and resilient manufacturing base. Key elements include Artificial Intelligence, Big Data and the Internet of Things.

"The trigger of Industry 4.0 was a worldwide shortage of skilled workers as workforces aged and fertility levels declined," says Timo Kreule from Damen's RD&I (Research, Development & Innovation) department. "This resulted in wage inflation and with shipbuilding and repairs being highly competitive markets, Damen and its competitors had a clear incentive to increase productivity per head. Automation brought down production costs in many industries, but the irregular structures and confined areas that are inherent to shipbuilding do not lend themselves to the automation that delivers mass production."

"The trigger of Industry 4.0 was a worldwide shortage of skilled workers as workforces aged and fertility levels declined."

- Timo Kreule

However, there are aspects of shipbuilding that have benefited from automation, in particular, welding. Damen acquired its first welding robot six years ago with the aim of not only exploring the potential of automatic welding andassessing its costs and capabilities, but also to determine what processes around it would need to be redesigned for it to fulfil its potential. The trials have gone well with much learned and, since then, Damen has installed systems at its yards in Romania and Sharjah, UAE, which excel at welding flat panels and stiffeners rapidly and to consistently high standards.

"In the future, as the technology evolves, welding robots will become more adaptable and capable of welding curved and irregular surfaces and so meet their full potential," adds Timo. "As an innovative shipbuilder we have a part to play in defining what our requirements are and communicating them to the manufacturers. This approach has been productive. Following years of trials at Damen Shiprepair Dunkerque, they have ordered five autonomous mobile blast and paint robots; programmable systems capable of undertaking complete hull restoration cycles including washing, grit/hydro blasting, painting and final inspections, with no human intervention. This bodes well for the future."

Professor Christian Schlette

CHRISTIAN SCHLETTE

Christian Schlette, Professor at the University of Southern Denmark, heads the new SDU Centre for Large Structure Production (LSP) and is in dialogue with Damen on advancing the machine/operator interface in the shipyard context.

At the forefront of bringing robotisation and digitalisation solutions to various sectors including maritime, he and his team are working on integrating the production and automation technology that will be required by the shipbuilding sector to meet the Industry 5.0 goals.

Autonomous mobile blast and paint robot

Introducing Industry 5.0

Industry 5.0 is bringing a new human and environmental-centric approach to manufacturing. One where personnel will work alongside sophisticated systems and sustainability will be a priority at every level. It has four key elements.

Sustainability: developing environmentally friendly and sustainable manufacturing processes that will minimise waste and energy consumption. This will be achieved by improving energy efficiency, reducing emissions and adhering to ambitious environmental, social and governance (ESG) standards.
A human-centric approach: Unlike Industry 4.0, which focuses on automation and efficiency, Industry 5.0 emphasises the importance of human creativity, skills, and well-being in the production process.
Real time responsiveness: Products will be able to be customised within the production process to meet customers' needs as advanced robots combined with digitalisation bring new flexibility.
Collaboration: Enhanced collaboration between humans and machines will deliver better outcomes.
Resilience: Building more resilient supply chains and production systems will mitigate the effects of disruptions and changes in markets.

"One of our immediate priorities is to develop systems that can allow for variations on the same line," says Christian Schlette, Professor at the University of Southern Denmark. "This requires a digital workflow with digital descriptions of the products which can be fed into a digital production system. This seamless interaction will allow the robots to react rapidly to changes in production plans.

"5.0 also introduces the human element for the first time and the workers will need to be taken on the journey as well. They need to be free to do what they do best, which is to deal with complexity, working alongside the automated systems to bring the necessary flexibility. Each supports the other and the technicians will need to be prepared for their new roles and with robots and personnel working in close proximity, safety will be paramount."

Facing the challenges

Keeping up with the ever-evolving technology will be a major challenge. Many shipyards are currently understandably reluctant to make the sizeable investments required in equipment and training. In the current environment minimising costs is a primary focus. Damen however is exploring the potential that Industry 5.0 offers, beginning with exploring ways of making welding operations more flexible and therefore enabling work on more complex structures.

In time, the ships themselves will need to be redesigned to enable robotics to reach their full potential, but the combination of Industry 4.0 and 5.0 holds out the promise of a shipbuilding sector that will be safe, clean, adaptable and a generator of high quality employment opportunities.

My favourite project

ASD Tugs delivery & handover • Kim Rughbeer

This project is one of my favourites because it represents a significant achievement in modernising South Africa's port operations. The ASD Tugs help make port operations more efficient, allowing ports to handle increasing shipping traffic more smoothly. This improvement supports growing trade and contributes to economic growth in South Africa.

In 2022, I joined Damen Shipyards Cape Town and in my role as ILS Manager, I have had the privilege of playing a part in delivering seven advanced ASD Tugs to Transnet National Ports Authority (TNPA).

The delivery of the seven tugs is part of TNPA's fleet renewal programme, a 1 billion rand investment designed to increase port capacity. The ASD Tug 3010 features 60 tonnes bollard pull, considerably outperforming the 32 and 40 tonnes of vessels previously used by the authority. These highly manoeuvrable and versatile tugs are the first of their kind for TNPA, and their performance has already made headlines. A recent accomplishment involved assisting the world's largest car carrier, Höegh Aurora, on her maiden voyage to the Port of Durban, demonstrating TNPA's operational efficiency.

The project was not without challenges. Coordinating handovers and drydocking across multiple remote ports presented logistical challenges. Limited local resources and support meant that careful planning, strong teamwork, and a flexible approach were essential to ensure timely completion.

Despite these hurdles, our team succeeded in delivering all seven tugs, which are now fully operational across South African ports, particularly in Durban and East London.

Damen Shipyards Cape Town continues to set itself apart as a leader in newbuild vessels, and I am proud to have been part of such an impactful project that will benefit our national ports for years to come.

“The vessels are loved by the crews. If they know it’s a Damen tug, it doesn’t matter which model, they know what they are getting and that they will be comfortable. If you have nice vessels, it helps attract talent to work with you.”

KENYA SHIPYARDS LIMITED

Building the Kisumu shipyard

Marcel Karsijns

Kenya Shipyards Limited (KSL), in partnership with Damen, has transformed Kenya’s shipbuilding industry with the completion of two shipyard facilities in Mombasa and Kisumu.

These shipyards represent an important step in establishing Kenya as a regional leader in shipbuilding. While the Mombasa yard supports coastal operations, the Kisumu shipyard focuses on Lake Victoria, playing a crucial part in enhancing trade and development within the region. The Kisumu Shipyard is already making a measurable impact through its accomplishments and its support of the local workforce.

From marshlands to progress: building the Kisumu Shipyard

The Kisumu yard is a testament to determination and strategic planning. Once marshland, the site has been transformed into a fully operating facility supporting Kenya’s shipbuilding capabilities in the Lake Victoria area. The extensive project included constructing a quay wall, undertaking land reclamation, creating stormwater drainage systems, repairing a strategical important linkspan, and building a large workshop. Damen Shipyards and KSL collaborated closely to establish a fully functional newbuild and repair facility. The Kisumu Shipyard is equipped with modern infrastructure, including a jetty and specialised equipment for both shipbuilding and repairs.

This transformation of the site was about more than just physical infrastructure – it was about laying the groundwork for Kenya’s future in the marine sector. Now operational, the shipyard has completed its first significant project, the construction of the wagon ferry MV *Uhuru II*.

Built entirely in Kenya, this vessel marks a milestone for the country and demonstrates the potential of the Kisumu facility to drive progress in the region.

The significance of MV *Uhuru II*

The launch of MV *Uhuru II* is a defining moment in Kenya’s maritime position. This 100-metre-long wagon ferry, capable of carrying 22 wagons or 1,800 tonnes of cargo, enhances trade efficiency on Lake Victoria. Its construction was a joint effort by Damen and KSL, with local workers playing an integral role under the supervision of Damen’s experts.

The MV *Uhuru II* symbolises Kenya’s growing expertise in shipbuilding. By improving the transportation of goods across Lake Victoria, the ferry has revitalised dormant trade routes and boosted regional integration. This development has had a direct and positive impact on the local economy, supporting growth and creating new opportunities.

“During the construction and operationalisation of the yard, over 200 Kenyan workers received specialised training in welding, boiler-making, ship-joining, plant operation, rigging, fitting and logistics.”

“The key to success was the synergy between our experienced supervisors and the local workforce. By providing hands-on training and fostering a spirit of teamwork, we were able to achieve something truly remarkable.”

Empowering the local workforce

Another remarkable aspect of the Kisumu Shipyard project is its investment in the local workforce. During the construction and operationalisation of the yard, over 200 Kenyan workers received specialised training in welding, boiler-making, ship-joining, plant operation, rigging, fitting and logistics.

This emphasis on skills development has created a pool of professionals capable of contributing to Kenya’s shipbuilding industry. The workforce continues to support the Kisumu Shipyard’s operations, demonstrating the long-term benefits of this initiative. The collaborative training approach between KSL and Damen has strengthened the Kisumu facility’s capabilities, establishing it as a regional leader in maritime projects.

Collaboration and knowledge sharing

The successful development of the Kisumu Shipyard highlights the strength of the partnership between KSL and Damen. By combining Damen’s technical expertise with KSL’s local insights, the project overcame the challenges of simultaneously building a shipyard and constructing a 100-metre ferry. This partnership ensured that both the shipyard and the vessel were successfully completed on schedule and met all international standards.

The partnership also extended to logistical and operational aspects. Damen supplied all the necessary heavy-duty equipment and materials, while KSL provided invaluable local insights and support. As Marcel Karsijns, Director of Civil & Modular Constructions at Damen, noted: “The key to success was the synergy between our experienced supervisors and the local workforce. By providing hands-on training and fostering a spirit of teamwork, we were able to achieve something truly remarkable.”

A presidential seal of approval

The significance of the Kisumu Shipyard and MV *Uhuru II* has not gone unnoticed. The project attracted the attention of Kenya’s President, who visited the yard during key milestones, including the keel-laying ceremony. In a symbolic gesture, the President welded a Kenyan shilling onto the keel of the ferry, highlighting the government’s commitment to supporting the maritime industry.

These visits boosted morale among workers and reinforced the significance of the Kisumu facility as a driver of economic and social development. The President’s involvement reflects the shipyard’s role in positioning Kenya as a maritime leader in the region.

Looking ahead: a promising future

The Kisumu Shipyard is positioned to become a cornerstone of Kenya’s maritime industry. With its modern infrastructure and highly skilled workforce, the yard is well-equipped to handle a diverse range of projects, from building new vessels to repairing and maintaining existing ones.
The successful launch of MV *Uhuru II* has already drawn attention from both regional and international stakeholders, positioning the shipyard for future collaborations and new orders.

Air defence and command frigate *HNLMS Evertsen* (F805), the fourth ship in the Seven Provinces-class.

A MAJOR MILESTONE FOR DAMEN NAVAL

150 years of naval excellence

Damen Naval is celebrating a double anniversary in 2025: 150 years since the founding of the Royal Schelde shipyard (Koninklijke Maatschappij De Schelde) and 25 years as Damen Naval, the dedicated naval division of Damen Shipyards Group.

The company's origins can be traced back to 1875 when the shipyard was founded in Vlissingen. Within four months of opening its doors, the Schelde received its royal designation. Strategically located with direct access to the North Sea via the Scheldt River, the Royal Schelde established itself as a cornerstone of craftsmanship and naval shipbuilding in the Netherlands.

Royal Schelde became part of Damen Shipyards Group, transitioning to Damen Naval, a company specialising in complex, unique and innovative naval vessels. This merger combined the shipyard's heritage with Damen's global expertise. In just a few years, Damen Naval introduced the innovative modular and customisable SIGMA range of frigates.

Today, as one of the oldest companies still engaged in its original activity, naval shipbuilding, this distinction remains a symbol of its enduring contribution to industry in the Netherlands and its trusted partnership with the Royal Netherlands Navy.

1875

1875
Pen drawing of the Admiralty Wharf in Vlissingen from 1779. In 1875, the Royal Schelde used the old facilities to launch the new shipyard.

1921
The machine- and boiler building flourished from the start, and from 1921 onwards, the Royal Schelde was licensed to build Sulzer engines.

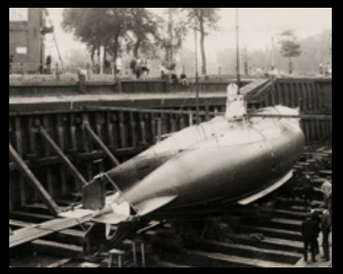
1933
The infamous gunboat HNLMS *Johan Maurits van Nassau* under the 150-tonne dock crane.

1939
The commissioning of the *Orzeł* to the Polish Navy on the 2nd of February 1939.

1942
Light cruiser HNLMS *Java* en route to the Dutch Indies in 1942.

1875

1875



1906
The Royal Schelde built the Royal Netherlands Navy's first ever submarine, the HNLMS *O.1.*

1900
Model of the ironclad warship HNLMS *Noord-Brabant*, shown at the 1900 World Exposition in Paris.

1938
Launch of passenger ship *Willem Ruys*.

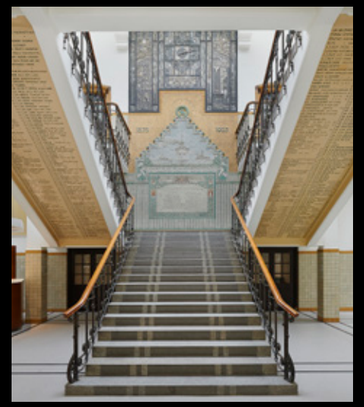
1940
The start of the Second World War ensured that production of the S20 aircraft never got off the ground.

1940-1945
The *Willem Ruys* would spend the entire Second World War lying on the slipway in the centre of Vlissingen.

1976
Guided missile frigates HNLMS *De Ruyter* (F806) and HNLMS *Tromp* (F810) with their instantly recognisable radar domes.

1953
In 1953 the Royal Schelde built the beautiful passenger vessel MS *Kungsholm* for the Swedish American Line.

1955
Anti-submarine destoyer HNLMS *Noord-Brabant* (D810) lying beside her sister vessel HNLMS *Zeeland* (D809) and passenger/cargo vessel *Tampomas* in 1955.



2014
Since the opening of the Schelde head office in Vlissingen, the yard numbers and names of the ship have been written on the ornamental staircase. In 2014, the stairs were full, so the tradition continues on a special placard next to the staircase.

2015
HNLMS *Tromp* (F803) and HNLMS *Karel Doorman* (A833) sailing side by side, during a replenishment at sea.

1953
The MS *Kungsholm* under construction, showing how the modular shipbuilding of today is a far cry from the manual labour of the mid-20th century.

1977
Five S-frigates from the Kortenaer-class under construction at the wharf in Vlissingen.

1950s
In the late 1950s, the Royal Schelde shipyard grew to become one of the largest employers in the province of Zeeland.

2020
ARM *Benito Juárez* (POLA-101) is a modular SIGMA-frigate built for, and in, Mexico.

2017
KRI *Raden Eddy Martadinata* (331), a SIGMA-frigate built for the Indonesian Navy.

2025
Four Anti Submarine Warfare Frigates to be built for the Dutch and Belgian Navies.

2020
The German Navy signed a contract for four F126 frigates. In 2024, the order expanded to six frigates.

2025

2023
Landing Platform Dock ship HNLMS *Johan de Witt* is heading into drydock for her midlife upgrade.

2025
Combat Support Ship (CSS) *Den Helder* (A834) is the new supply ship for the Royal Netherlands Navy.

Engineering the Future

As we mark our 150th anniversary, the world is changing rapidly, with growing security challenges facing Europe and the Netherlands. In 2025, there is a renewed awareness of the necessity to modernise and strengthen our armed forces and naval fleet.

As a strategic partner to our launching customer – the Ministry of Defence – we are working on the renewal and replacement of the Royal Netherlands Navy fleet, strengthening the Netherlands' capabilities while also contributing to the much-needed European defence cooperation.

The fleet replacement includes the Combat Support Ship Den Helder and the new Anti-Submarine Warfare (ASW) frigates. Beyond national projects, Damen Naval leads several naval construction programs for NATO and EU partners, including the ASW frigates for the Belgian Navy and the F126 frigates for the German Navy.

From our origins 150 years ago to our position today as the Netherlands' sole naval OEM, Damen Naval continues to shape the future of naval engineering. The heritage of the Royal Schelde lives on in every vessel launched and every mission supported.

My favourite project

***Bad Company Support 175* • Asanda Matintela**

Among the many projects I have worked on as a Project Manager here at Damen Shipyards Cape Town, *Bad Company Support 175* stands out as my favourite. Being part of such a significant initiative has been an invaluable experience, allowing me to contribute to a high-profile and nationally important project.

This 53-metre Yacht Support (175 ft), built by Damen Yachting, is specifically designed for long-range sport fishing and marine conservation, as part of the client's Bad Company fleet.

My role involved managing warranty claims and ensuring the smooth execution of the project. I coordinated preparation plans, verified parts availability, and handled administrative tasks. I also kept the service engineers and the client updated on progress, providing key information on services, repair timelines, and cost estimates. Over the two-month period, I ensured that all necessary work was completed efficiently and to the client's satisfaction, in line with Damen Yachting's project scope and standards.

This vessel is a game-changer in her category, featuring a wave-piercing bow that enhances efficiency and stability. She is powered by two MTU 12V4000 main engines, reaching a top speed of 20.5 knots and a range of approximately 5,000 nautical miles at an economical 12 knots.

Her construction highlights include a 15-tonne deck crane capable of launching and retrieving a 15-metre game boat, as well as a climate-controlled hangar for a Bell 505 helicopter.

Additionally, *Bad Company Support 175* provides storage for a RIB tender, jet skis, and stainless steel tanks for helicopter fuel storage. Accommodating up to eight guests and an eleven-member crew, she offers luxurious amenities such as a lounge-cinema, a sky lounge with a hot tub, and a swim platform.

As the first in Damen Yachting's YS 53 series, *Bad Company Support 175* sets a new benchmark in support vessels. This project has been a rewarding journey, blending technical expertise, collaboration, and personal growth in an unforgettable way.

Damen Maaskant

Fishing

for something out of the ordinary

For decades, Damen Maaskant has been renowned as the builder of fishing trawlers in the Netherlands, crafting over 200 vessels since 1948 and building a legacy in newbuilds and repairs. While staying committed to supporting fishing industry, Damen Maaskant has also embraced innovative ways to diversify its operations.

"It began about ten years ago. Rising fuel costs, tighter environmental regulations, Brexit reduced quotas for Dutch fishing trawlers and decommissioning of the cutter fleet. The fishing industry in the Netherlands shrank by about 60%. It was time for us to diversify," says Eric Moerkerk, Managing Director of Damen Maaskant. By combining decades of expertise with new technologies, this balanced approach ensures fishing remains central to the yard even as it expands its impact across the maritime industry.

Diversifying with a difference

About five years ago, Damen Maaskant expanded its reach beyond the North Sea, serving countries without a strong shipbuilding presence. In addition to its fishing work, the yard had already ventured into repairing and maintaining workboats for commercial and government clients. Recently, it entered the yacht refit and conversion market. Despite this, the yard remains committed to its fishing roots while working with clients seeking something different.

More than fishing – building dreams

"We're a niche within a niche," explains Eric. "We're not entering the superyacht business but instead focussing on high-end explorer and expedition yachts.

Currently, about 50% of the yard's work involves repairing and refitting and converting fishing vessels and yachts, with the other 50% focused on building fishing and aquaculture vessels, workboats, and tugs. Damen Maaskant delivers top-quality work in both areas.

The yard is also known for turning dreams into reality. "If an owner wants to transform a commercial vessel or convert an existing yacht, we are the preferred yard to go to – we can make it happen."

What's next for Damen Maaskant?

"We have over 140 people working here now, so it's time to invest in floating drydocks, expand our warehouse, and build a new office and keep working on projects out of the ordinary," says Eric.

The yard is also exploring new cost-efficient fishing trawlers designed and built in-house. These smaller vessels, ideal for shrimp fishing, could be highly valuable in African and South American markets. "Building 'on stock' is typical for Damen, but it's a new approach for us. Let's see how it goes - we're expecting to sell this type of vessel soon."

Vega, a yacht with history

Damen Maaskant is about to embark on an exciting project: the refit of the yacht *Vega*, which will be transformed into a luxury expedition vessel. Originally built in 1964 as an ice-breaking lighthouse supply ship, Vega has a storied past. Now, under Damen Maaskant's expertise, the vessel will receive a complete overhaul.

While the hull will remain intact, everything else – engine, machinery, piping, electrics, and the interior—will be replaced. The refit will include a brand-new luxury interior designed to accommodate ten guests and twelve crew members in comfort and style.

Pieter Hummelen, the local Owners' Representative, praised Damen Maaskant's adaptability and responsiveness to client feedback.

Although the project scope is still being finalised, Pieter expressed optimism, saying, "With a few adjustments, I see a bright future for the yard in yacht refit projects."

"Damen was chosen because it's a Dutch shipyard with experience, availability, and the ability to offer the right price," Pieter added. Once completed in late 2026, *Vega* will sail as a leisure expedition vessel, charting a course around Greenland's rugged and icy landscapes.

"Stick to your standards, they are exceptionally high, and for good reason."

- Elliot Kendrick

A gamechanger down under

"Fishing remains integral to Damen Maaskant's work, with one groundbreaking fishing vessel nearing completion." In 2022, Damen Maaskant and New Zealand's Sanford Limited partnered to design and build a cutting-edge scampi vessel. This close collaboration resulted in a purpose-built vessel tailored for operations in the Southern Ocean.

Based on the Damen Sea Fisher 3210, the vessel, named *San Koura Rangi*, features state-of-the-art sustainability measures, a diesel-electric system, and a modern freezer. Its design prioritises crew comfort and safety. Delivery took place in the spring of 2025.

Sanford's Project Manager, Elliot Kendrick, praised Damen's proactive support. "Arranging to get this vessel to New Zealand was proving difficult, but the Damen team stepped in with a solution via Damen Services." Elliot emphasised the vessel's uniqueness, stating, "We wanted a partner who could design, build, and deliver a game-changing vessel. Damen's high standards are why clients trust them. We won't forget Maaskant anytime soon, their logo is discreetly imprinted in a few places on the boat, a reminder of the expertise behind this project."

Talking about Damen's unique selling points, he remarked, "Stick to your standards, they are exceptionally high, and for good reason. Be proud of what you're delivering on behalf of Damen."

Vice Admiral Wemyss-Gorman CD, Chief of Defence Staff at the Jamaice Defence Force

Collaboration and commonality in the Caribbean

The defence forces and coast guards of the Caribbean share many threats and challenges. They also share similar approaches to tackling them. For many regional players, this includes the use of Damen vessels.

Damen Stan Patrol and Fast Crew Supplier vessels are to be found in operation throughout the Caribbean with the Barbados Defence Force, Dutch Caribbean Coast Guard, Jamaica Defence Force, Montserrat Police Force, Saint Vincent and the Grenadines Coast Guard, Suriname Navy, and Trinidad and Tobago Defence Force.

Damen's debut in the Caribbean

The first of the regional coast guards to take delivery of a Damen Patrol Vessel was, however, the Jamaica Defence Force (JDF), back in 2004 "As a young officer, undertaking my Junior Command and Staff Course, I decided to write my research paper on identifying a suitable vessel for the JDF Coast Guard," explains Chief of Defence Staff of the JDF Vice Admiral Antonette Wemyss Gorman, CD.

It needed to be a vessel capable of carrying out a broad range of missions. The JDF's duties include search and rescue, maritime law enforcement, fishery protection, EEZ protection, environmental protection, illegal migration, customs enforcement, and defence duties.

"My research led me to the Damen Fast Crew Supplier 5009 Patrol. I saw that you could put an interceptor on board for law enforcement, it also has a smaller vessel for boarding operations and a crane that would allow us to put various capabilities on the deck. The vessel ranked very highly in my research."

Fleet renewal

A short while later, when the Vice Admiral (then Lieutenant Senior grade) had returned to her operational duties, the JDF was looking to re-fleet. She was able to share with her Commanding Officer the findings of her research. This led to the JDF's initial contact with Damen and, following a competitive tender process, the JDF purchased three Damen 4207 Stan Patrol Vessels.

When the vessels were delivered, the Vice Admiral, then a Ship Captain, received the third vessel, HMJS Surrey, collecting it from Damen HQ in Gorinchem and sailing it back to Jamaica – but not before making a few adjustments.

"I had the benefit of seeing the first two vessels, so I was able to work with Damen to make some ergonomic upgrades. It became very clear to me that Damen was a very customer-centric company. They treated us with the highest regard and gave consideration to every enquiry or request that we had."

It was the beginning of a long-term relationship. The JDF has recently received its third batch of Damen vessels; two Stan Patrol Vessels 4207, and two FCS 5009 Patrol vessels – the model that had first sparked the Vice Admiral's interest in Damen.

A Stan Patrol being serviced at Suriname Drydock and Shipbuilding Company

Comprehensive service support

As is its aim wherever in the world it is operating, Damen seeks to support its Caribbean clients with more than just the delivery of a vessel. "We have a dedicated Damen Field Service Engineer, explained Vice Admiral Wemyss Gorman. This is particularly useful. They provide much needed support to our personnel, including training, and ensure that maintenance always takes place according to schedule."The integrated logistics support is also very helpful. We find Damen very responsive even amid the time difference between Jamaica and the Netherlands.

Keeping in touch

Damen also keeps in contact with its clients in the Caribbean via the Damen Stan Patrol User Group. The group brings together Damen vessel operators from around the region to share their experiences. It also provides a vehicle to give feedback to Damen.

"I remember a meeting in Mexico. At that time, we, and other regional operators, were having some issues with overheating. Mexico was experiencing the same problem, but only with vessels operating on its Caribbean coastline, not on the Pacific side. It turned out the issue was the higher water temperature in the Caribbean Sea.

Damen was able to fix the problem simply by making the inlet pipes bigger so more cooling water could reach the engines. This is now standard on the vessels – a good example of Damen quickly reacting to its clients' needs." Another example of Damen's ongoing customer care, can be experienced in Jamaica's School of Maritime Studies, established by Vice Admiral Wemyss Gorman.

"Jamaicia developed its capacity to train officers in navigation, bridge management proficiency and engineering. For this, we needed a bridge simulator. Damen was gracious enough to share their ship modelling data with us. {As a result, the simulator features all the Damen vessels active in the region and we can offer training to all the coastguards in the Caribbean on the vessels they are going to operate in real life."}

A look beyond the horizon

Regional collaboration is a strong characteristic of coast guard operations in the Caribbean. A prime example is the JDF-coordinated Exercise Event Horizon 2025, taking place at the time of writing (January 13-24, 2025). During this two-week long series of activities, thirteen coast guards from Central America and the Caribbean cooperate in maritime security, aeronautical & maritime search & rescue and humanitarian assistance and disaster relief operations (HADR).

Exercise Event Horizon 2025 began with a HADR operation. During this, the JDF's latest FCS 5009 Patrol vessel, Marcus Garvey was deployed to the Cayman Islands, participating in a simulated disaster scenario, whereby an island had been struck by a 7.2 magnitude earthquake. Such exercises provide multi-national and multi-agency collaboration, giving a significant boost to disaster readiness in the region.

> **"This is why we train together, so we can function cohesively and respond to each others' challenges."**
>
> **- Vice Admiral Wemyss Gorman**

Valuable synergy

In this, the common use of Damen vessels in the region offers valuable synergy to the Caribbean coast guards.

"When Dominica was hit by two category five hurricanes in quick succession, we deployed there, as did Barbados Defence Force Coast Guard. Our vessels were moored alongside each other.

If a Barbados vessel was on the outside, my crew were able to go onboard and move it. It was seamless because we all had the same vessels, and the same standard of training. In a disaster situation to have that level of cooperation at your disposal is magic."

SURINAME DRYDOCK AND SHIPBUILDING COMPANY

Ensuring regional client care

To provide its clients in the Caribbean with a local service point, Damen works in collaboration with the Suriname Drydock and Shipbuilding Company (SDSM). In a relationship stretching back almost 30 years, SDSM provides repair and maintenance support to Damen vessels operating throughout the region.

This includes taking care of vessels for some of the coast guards in the area, explains Finance/Marketing Manager Ronald V. Soerdjoesing. "We have taken care of vessels for the Barbados coast guard, for Jamaica, Saint Vincent and the Grenadines and, most recently for the Trinidad and Tobago Defence Force." SDSM is a busy yard, he says.

Providing a service for Damen vessel operators, and other regionally-based customers, the dock space is almost completely filled a year ahead. Working so frequently on behalf of Damen clients in the area, the yard has developed a detailed understanding of the working of the vessel designs and is able to perform maintenance work with extreme efficiency.

"We've been doing this for several years now, so our personnel know the Damen vessels inside out. With their experience they know exactly what they are doing and how to do it quickly. We also have a Damen Superintendent on hand to provide support to the projects. It's a very good relationship and one that is of benefit to everybody.

RSD-E Tug 2513

LOOKING AHEAD – THE ADVANCE OF ELECTRIC SHIP SOLUTIONS

Vessel electrification

The challenges and celebrations on the road to sustainability

With its sustainability ambitions, it is unsurprising that Damen is at the forefront of vessel electrification. The company is amongst the first to deliver electric tugs and ferries – vessels suited to electric operation by virtue of the relatively short, and predictable, routes they sail.

However, the transition to electric propulsion, is not without challenges. Piet Faasse, Electrical and Automation Director at Damen, compares the situation with the electrification of the automotive sector.

"When a bus breaks down, you just park it and wait for it to be towed to the garage. It's not comparable to a vessel filled with passengers, or handling a large container ship."
This, he says, means many operators are still looking to incorporate diesel generator sets as back-up. And this, of course, has a negative impact on price. Damen has, however, arrived at a solution.

"To increase availability, we design an independent electrical system for port- and starboard side. That way, in the – unlikely – event one of the systems stops working, the other can continue."

Creating confidence in new technology is not the only hurdle facing the electrification of vessels. Another challenge is the relatively low number of vessels being produced. "We build a lot of ships, but when it comes to electrification, we are in a very small market. If you compare the number of electric vessels built to the number of electric cars and buses, a totally different picture emerges."
Because of this it is not easy to create standard solutions, for example, for charging systems – making vessel electrification costly."Another factor," he continues, "is the amount of power we need for an electric vessel."
As electrification grows in other sectors, however, there is potential to overcome these issues.

"Looking to the future, we will see a growing number of trucks become electrified. The business case is certainly there; the truck driver has to take regular rests – that's a charging opportunity. We are looking to see if the technology associated with trucks will be compatible, or easily adaptable, for a maritime application. This would provide us with the chance to standardise."
Despite the obstacles, Piet is convinced there is a bright future, pointing to the many benefits associated with electric vessels.

"Many people who drive an electric car would not choose to switch back to a conventional combustion engine. I expect it will be the same in the maritime industry. It's more efficient; an electric vessel loses far less energy to heat loss."
Plus, he says, the technology is advancing all the time.

"You only have to look back five years to see the progress. Already batteries are available that are good for 30,000 cycles. If you take three charging moments a day, that's 30 years – the lifetime of a tug, still having 80% of the original battery capacity available, which means a 2nd life for the battery system as e.g. stationary solutions.

"Plus, we are getting more and more energy from renewable sources, which makes electrification of vessels increasingly viable, especially when you factor in the emerging availability of offshore charging. This creates an interesting case to operate an electric vessel in an offshore wind farm. I think, in the coming five years, we will see significant developments in vessel electrification."

Aqualiner
The pros and cons of an electric operation

Someone familiar with the challenges of an electric vessel operation is Aqualiner CEO Peter Waterman. His company operates nine Damen hybrid and electric ferries and waterbuses.

“Of course, with new technology such as we are talking about here, there is always going to be a steep learning curve and things don’t always go smoothly to begin with. Damen has been very supportive in helping us deal with any issues that have arisen with the vessels and infrastructure.”

But, he says, there is only so much that Damen, and Aqualiner, can control. “Even when the vessels, and the charging infrastructure are operating perfectly, we currently face the problem of grid congestion in the Netherlands. As more and more businesses demand increasing electricity there will not be sufficient energy available, or the infrastructure to supply it. I think this is going to take some time to fix.

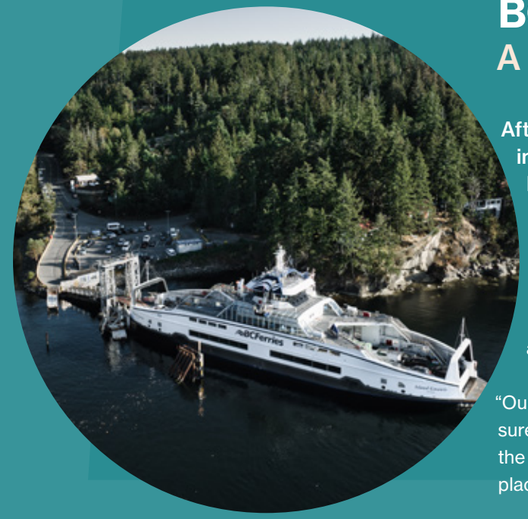
His colleague, Operational Manager Ibrahim Tosun, adds, “On the positive side, however, the clients are very happy; we have received the highest public transport satisfaction rating in the country. Passengers are used to diesel engines and now they can sail on an electric vessel that is smooth and silent.”

“In the end, the benefits will ensure a promising future for electric vessels,” concludes Peter. “Prices will go down because we won’t have the fuel consumption, and there will most likely be less maintenance. Besides, with no local emissions produced, the vessels will not be subject to emissions trading schemes.”

Charging Energy Hub – Trading energy

To help address the challenges of network congestion, Damen is taking part in the Charging Energy Hub project explains Design and Proposal Engineer Ferries, Jan van Ooijen.
The project is an industry collaboration, featuring 30 stakeholders, part subsidised by the Nationaal Groeifonds (national growth funds). “The idea is to build a complete picture of the energy demand and then to create a battery buffer to ensure supply even with limited grid power and enable trading on the energy market.”

To this end, Damen is currently building a demonstration case, scheduled for delivery in 2027. “You can imagine a scenario in the future, where such a solution is installed in a port, serving as a hub for multiple users, a bit like a bunkering station, but with electricity. There exists the possibility to deliver power back to the grid when demand is high – for example, when everyone is coming home in the evening and preparing food. This energy trading will provide some way to offset the costs of investment.”



BC Ferries
A foundation for electrification

After successful participation in a tender procedure, Canada’s BC Ferries in 2018 awarded Damen a contract to build first two, then a further four, Island Class Ferries of type Road Ferry 8117 E3. At the time, BC Ferries was looking for ways to reduce the emissions of its operations.

“As part of their proposal, Damen provided a hybrid option that would allow us to develop the platform ready to go full electric in the future,” states David Tolman, Program Manager BC Ferries.”He explains that it was necessary to take a steady approach, rather than going straight into a full electric construction.

“Our ferries are a lifeline to local communities – many of them remote – we had to be sure that this was going to work, and we could continue to offer a reliable service.” With the first six Island Class ferries then, the foundations for electrification were put in place, with additional cooling units installed, and space reserved for future outfitting.

Fast forward a few years, and the success of this approach is plain to see. Damen is currently building four fully electric ferries for BC Ferries – based closely on the earlier vessels. “With the electric vessels, Damen has provided us with as much commonality as possible. Everything is in the same place, so we don’t need any extra crew training, or familiarisation. Damen made that commitment.

They have also provided the same Project Manager, and consistency in the Project Team. This has helped to create a really good collaboration between our two companies. We are really working together to make sure everyone benefits.”

Noatum Maritime
Try before you buy

In 2024, Damen delivered an RSD-E Tug 2513 to Noatum Maritime – the first fully electric tug in the Middle East. The vessel, named *Bu Tinah* quickly went on to make a name for itself, securing a Guinness World Record Title for Most Powerful Electric Tugboat.

Having built the vessel on speculation, Damen was able to provide it to the company on a lease basis. Ferlin Brown, Noatum Maritime’s Commercial & Business Development Director says this provided the company with a means to assess the vessel’s suitability for the company’s operational requirements.

“As part of our commitment to delivering more sustainable marine services, the opportunity to trial an electric tug allowed us to evaluate its performance within our operations before making a longer term investment and supported a more informed transition.”

The switch to an electric tug, he says, has been a straightforward one. “The vessel integrates seamlessly with our existing operations, making it easy for our crew to adapt. She saves fuel, and, from a crew welfare point of view, the reduction of noise and vibration is significant.”Recently, Damen has delivered a second RSD-E Tug 2513, named *Bu Tinah 2* to Noatum Maritime.

The backbone of Dutch naval shipbuilding

The naming ceremony for the Combat Support Ship Den Helder (pictured above) was not just a highlight for Damen Naval, it also marked the start of a new era for Dutch naval shipbuilding. As an original equipment manufacturer (OEM), Damen Naval plays a unique role in this respect. It is not only a supplier of steel and engineering, but also a partner in a strategic ecosystem that facilitates the operational readiness of the Royal Netherlands Navy.

"From our base in Vlissingen, the beating heart of Dutch naval shipbuilding, we work with dozens of companies, research institutes and the Ministry of Defence," explains Richard Keulen, Director of Strategy and Innovation at Damen Naval. "It is only through this close collaboration that we can meet the ever stricter demands of our times make on our fleet.

"Our agreements with the Ministry of Defence signify a structural change of course: no more separate projects but a long-term strategy focused on innovation and acceleration," continues Richard. "The world is changing and the navy must change in response.

Damen Naval is freeing up capacity, innovating and collaborating, both nationally and internationally. For example, we are building identical frigates for Belgium and the Netherlands, and working with German partners on the F126 Niedersachsen class."

Larger series

"In addition, it is time for Europe to work closer together. By building larger series jointly, our navies will become stronger and more efficient. Damen Naval is ready to lead that alliance as an OEM – with knowledge, innovation and 150 years of experience in building the best ships."

"So, in the next fifteen years, Vlissingen will be wall-to-wall with ships. With the completion of CSS Den Helder, we kicked off a future in which Damen Naval, with its partners, will make history once again. Because when it comes to protecting what we hold dear, we as an OEM are the backbone of Dutch naval shipbuilding, now and in the future."

For Europe too

Uniting Europe

As well as being a proud purveyor to the Royal Netherlands Navy, Damen is currently building, or has recently completed, ships for seven NATO navies, including those for Germany and Belgium mentioned before. Additionally, Damen is supplying tugs to the navies of Lithuania and Sweden, while the Swedish Coast Guard, Kustbevakningen, has signed a contract for the construction of seven Fast Patrol Vessels (FPV).

Damen has completed a modified Fast Crew Supplier 4008 for the UK Royal Navy's NavyX innovation team in Portsmouth. The 42-metre, high-speed vessel – which was named XV *Patrick Blackett* after a distinguished naval officer and scientist – will be used as a trials ship, supporting innovation and experimentation with novel technologies.

World's first drone-research carrier

Finally, the Portuguese Navy has contracted Damen for the design, construction and outfitting of a state-of-the-art Multi-Purpose Support Ship (MPSS). She will be the world's first vessel to combine oceanic research with drone deployment capabilities. Damen has developed this 107-metre-long vessel in line with the specific requirements of the Portuguese Navy. The resulting design is truly a multi-purpose platform, with primary mission roles including oceanic research, search and rescue, and emergency relief in addition to maritime safety and naval support operations.

Flanders special

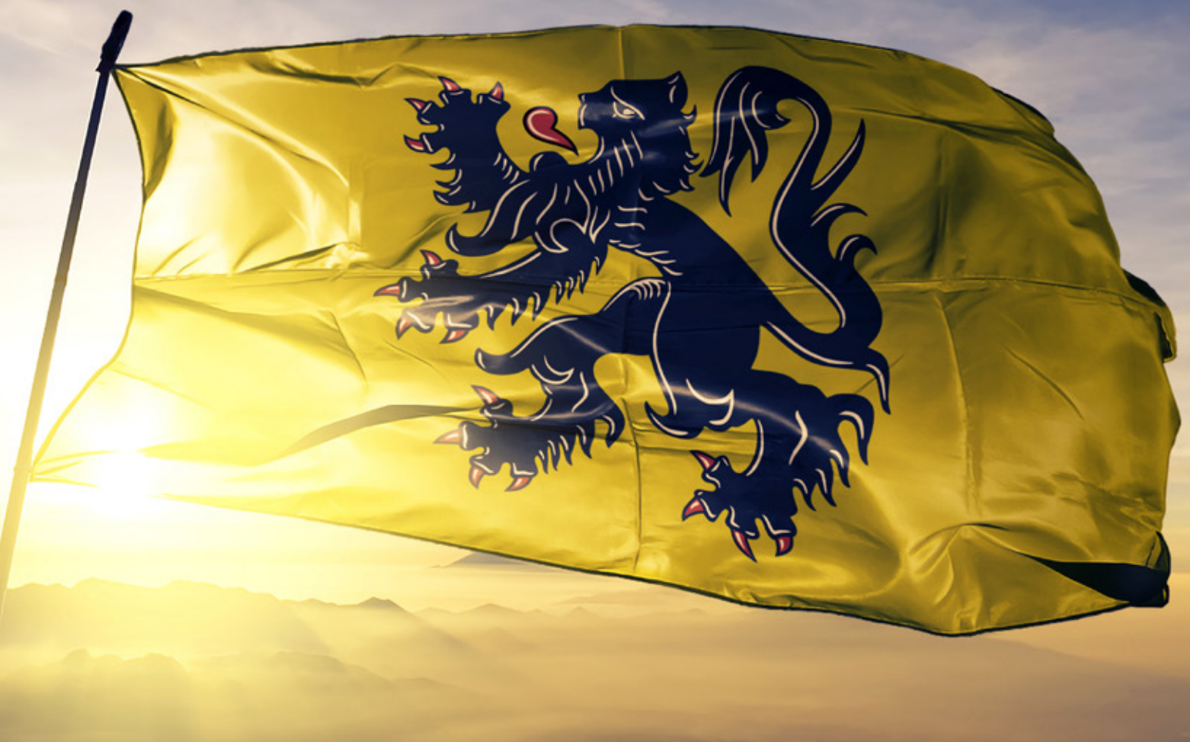
Europe's first fully electric tug | Fueling the future | The future of shipping is remote

Flanders is just 100 kilometres away from Gorinchem. So we have warm ties with the region and a particular affinity with the progressive, innovative mindset of the inhabitants of the northern region of Belgium.

Flanders leads the way in Europe on R&D spending relative to gross domestic product. It is continuing to strengthen its position as a major European hub for innovation, with impressive achievements in patent applications and technological breakthroughs. Belgium set a new national record in 2024, submitting 2,615 patent applications to the European Patent Office. Remarkably, Flanders accounted for approximately 66 percent of these applications, clearly confirming its leading role in Belgian innovation.

This is one reason why Flanders is the driving force behind Belgian exports, accounting for no less than 82 percent of all Belgian exports. As a result, Flanders is fifth in the list of the largest exporters in the EU27 at 418 billion euros.

We talked to three leading exponents of this innovative culture in Flanders.



Volta 1

Europe's first fully electric tug

Interview with Rob Smeets, COO of Port of Antwerp-Bruges

The maritime industry is evolving rapidly. From digitalisation and sustainability to geopolitical challenges, ports worldwide must adapt to stay ahead. The Port of Antwerp-Bruges is taking the lead, investing in smart technology, alternative fuels and cutting-edge vessels. Here, we talk to COO Rob Smeets, together with Vincent Maes (Damen Sales Manager Benelux) on how innovation is shaping the future of one of Europe's crucial harbours.

Vincent: Hi Rob, thanks for inviting us. What a view! Where precisely are we?

Yes, welcome to our Nautical Operational Cluster (NOC), the beating heart of the port. Inside we manage and coordinate more than 850 vessel movements a day in real time. We optimise traffic flow, ensure safety and minimise delays. It's the nerve centre where we keep the harbour running smoothly 24/7.

"Outside you can see our six new energy-efficient tugs, including the groundbreaking Volta 1, Europe's first fully electric RSD (Reverse Stern Drive).This represents a new milestone in the green transition of the Port of Antwerp-Bruges and a testament to our commitment to becoming climate-neutral by 2050. We are very happy that we could pioneer this project with Damen. Our old tugs were built to last, but not energy-efficient nor green, so the time to innovate was now. "

Port of Antwerp-Bruges: Europe's second-largest port and Belgium's economic engine.

- Contributing 4.5% to the national GDP;
- 311,852 ship movements in 2024, ensuring smooth and efficient port operations;
- 277 million tons of cargo handled in 2024, reflecting a 2.3% growth;
- 1,800 direct employees, supporting over 160,000 jobs.

And how did this ambitious project start?

"First, we went to see Sparky, Damen's first full electric tug, in action with its owner Ports of Auckland in New Zealand together. Afterwards we partnered with the Port of Antwerp-Bruges to start the construction of Volta 1 in 2023. Built at the Damen Song Cam Shipyard in Vietnam, the tug first underwent commissioning, harbour tests and sea trials. This was followed by a remarkable 10,000-kilometre journey. Volta 1 now is a European first, proudly operating in Antwerp."

> **"The port of Antwerp-Bruges will be smarter, greener, and more resilient"**
>
> **- Rob Smeets, COO Port of Antwerp-Bruges**

"With 70 tons of bollard pull and batteries that can fully recharge in just two hours via a 1.5 megawatt charging station, this tug operates with zero emissions. Of course, energy storage on board remains a focus point. In addition, five diesel-powered tugs were delivered by Damen. Thanks to a Damen's exhaust after-treatment system and an energy-efficient design, these tugs help reduce emissions and fuel consumption significantly."

> **"The six new tugs help reduce emissions and fuel consumption significantly"**
>
> **- Vincent Maes, Damen Sales Manager Benelux**

Innovation & digitalisation

Vincent: Technology plays a crucial role in the port's transformation. What are the key developments at the moment, Rob?

"Data and AI are increasingly important. We are developing our own AI-tool Applica, like KBC's AI assistant Kate, for example. Applica helps us holistically plan the whole port, monitoring and optimisation of vessel traffic in real time. It also provides an answer to a growing shortage of skilled personnel. In addition, ships are becoming smarter too. The combination of smart ships & smart ports can drive the next phase of innovation in the maritime sector."

What is the main priority for the Port of Antwerp-Bruges?

"Our focus is clear: the port of the future will be smarter, greener and more resilient. Digital tools help us optimise logistics and safety. At the same time, sustainability is at the core of our strategy. From shore power solutions to investing in electricity, hydrogen and methanol, we are committed to reducing emissions. 2025 is an important year, as we are testing all these technologies. Our ambition? A carbon-neutral port by 2050."

Rob: Vincent, how does Damen see this?

"Damen is fully aligned with this vision. We are developing ships that are more efficient, flexible, and environmentally friendly. Volta 1 is a perfect example of how ports can transition to zero-emission operations. Next to electricity, Damen also explores the possibilities of hydrogen and methanol powered ships. Different technologies are advancing rapidly."

Geopolitical & economic challenges

Vincent: Rob, how do global geopolitical shifts impact port operations?

"Ports are always affected by international events. The war in Ukraine, Trump tariffs, changing trade routes and economic shifts force us to be more adaptive and strategic. Supply chain resilience is more important than ever. We are investing in alternative trade routes and energy diversification to ensure long-term stability."

"The geopolitical challenges are present, and we are working together more closely with governments and a military taskforce on securing the port's crucial infrastructure."

Rob: Vincent, what does this mean for Damen?

"Security and cybersecurity are a growing concern for everyone, so we are developing ships with advanced monitoring and security features to protect against threats like piracy and cyberattacks, for example with Damen Triton. Next to that flexibility and resilience are key. Shipowners and ports are looking for more secure multi-purpose vessels. Damen is responding by designing modular ships that can quickly adapt."

Building the future together

Vincent: How do you see the collaboration between the Port of Antwerp-Bruges and Damen evolving?

"We are on a great track and are very happy with how the Damen-partnership is growing. Damen is a key partner, doing more than supplying innovative vessels that match our sustainability ambitions. They work full circle with us and even train our staff on the new innovations. Going forward, we see even more potential in this partnership.

"Furthermore, Europe will benefit from better partnerships in a real European ecosystem. The competition on innovation in Europe should be behind us now. The gigantic investments in a cleaner fleet and smart energy storage can become a shared effort with the ports of Rotterdam and Hamburg, for example."

Rob: Vincent, sounds good?

"Absolutely. Partnering up with Europe's innovators is essential. Damen is ready to co-develop and implement the next generation of vessels, tailored to the ports' needs. By combining our expertise with the ports' extensive experience, we can create a shared maritime future that is smarter, greener and more resilient."

Fueling the future

Building the clean fleet of tomorrow

From hydrogen-powered tugs to ammonia-powered container ships – the maritime industry is navigating into a new era. At the forefront? Two key players with a shared ambition: decarbonising shipping. An interview with Alexander Saverys, CEO of Belgian shipping group CMB.TECH and Joost van der Weiden, Damen Sales Manager Benelux.

Hi Alexander, CMB.TECH is making waves with its green ambition: 'Decarbonise today. Navigate tomorrow'. How do you see this?

"At CMB.TECH, we strongly believe in clean, future-proof shipping. That means investing in greener fuels, developing our own hydrogen infrastructure, and building ships that are ready for the future. The shipping industry is often seen as conservative and rather 'navigates today and decarbonises tomorrow', but we see it the other way around.

"The technological innovations in fuelling are exciting, also from a budget perspective. Renewable energy is getting cheaper as we speak. Hydrogen- and ammonia-powered ships are the future for a sustainable global maritime industry."

Joost, Damen and CMB.TECH have worked together before. What makes this partnership promising?

"CMB.TECH is a frontrunner – not just in talking but also in doing. That matches perfectly with Damen's mindset. We are both family-run companies that understand and trust each other and both focus on innovation that delivers. Whether it's hydrogen, ammonia or electric propulsion, we're ready to co-develop new solutions. Our shared goal? Ships that perform better and pollute less.

"With our six Commissioning Service Operations Vessels (CSOV) for Windcat, (part of CMB.TECH) for example, we are really breaking ground with the hydrogen fuelling component. This Elevation series for Windcat's offshore crew transfers shows the power of innovative partnerships."

Alexander, diving into hydrgen. Why do you believe so strongly in it?

"Simple. Hydrogen is one of the most promising fuels. It's clean, abundant and scalable. At CMB.TECH we are not just users of clean fuel, we also produce, distribute and transport hydrogen and ammonia. We're creating a whole ecosystem."

Joost, how does Damen see this. What's next?

"Alexander is right. The ecosystem approach is key. For Damen, it is not only about building ships, but also about bigger picture partnerships. Damen listens and innovates while working with the market. We focus on designing modular ships that are fuel-flexible and future-ready. Vessels that you can upgrade as technology evolves. That's key to a successful transition."

Let's talk sustainability even more, Alexander. It's more than just fuel, right?

"Absolutely. Energy efficiency, digital tools, smart routing – it all adds up. Every percentage counts. That's why we are implementing AI-based monitoring, predictive maintenance and real-time performance tracking. A green ship is not just about the engine – it's about the whole operation. For example, we never used to send our ships over Scotland (due to possible bad weather), when navigating from America to Germany. Now, thanks to AI, as a 'Waze' of the world seas, it often is the better and faster route."

Of course, the green transition comes with obstacles too. What are the biggest?

"Regulations and cost difference. We mostly crave crystal-clear long-term regulations from governments, not necessary grants or subsidies. Furthermore, if we can make the green fuelling options cheaper than diesel, the markets will follow. I am pretty optimistic that the ammonia and hydrogen-powered ships will get there.

> **"We want to build the cleanest fleet in the world"**
>
> **– Alexander Saverys, CEO CMB.TECH**

"Lastly, the geopolitical pressure is bad for business too, of course. We should come closer as a planet, but it seems to go the other way, I'm afraid. We should keep our eyes open for better global partnerships."

So where do you see the Damen-CMB.TECH collaboration heading, Joost?

"This partnership has huge potential. We can co-create the next generation of vessels. It's not just about steel and engines – it's about a shared mission. Let's scale up and build fuel-flexible vessels together. Together, we can build a maritime future that is smart, sustainable and scalable."

If we meet again in five years, Alexander, where do you hope to be?

"Managing a fleet of zero-emission ships, powered by clean fuels, supported by smart systems, and proudly built with strong partners like Damen. We want to build the cleanest fleet in the world. In 2030 clean shipping should be the new normal."

CMB.TECH

CMB.TECH: facts & figures

Over 130 years of maritime expertise, founded in 1895. Headquartered in Antwerp.

- Operating globally across five continents;
- Active in dry bulk, container shipping, chemical & oil tankers and offshore wind;
- Pioneer in hydrogen- and ammonia-powered shipping and dual-fuel engines;
- More than 160 ocean-going vessels: driving the transition to sustainable shipping.

The future of shipping is remote

A discussion with Louis-Robert Cool, CEO of Seafar

Flanders is at the forefront of crew reduced and remote shipping. One of the pioneering companies in this field is the Antwerp-based tech firm Seafar. CEO Louis-Robert Cool speaks with Pieter Huyskens, Damen Director RD&I, about innovation, challenges, and opportunities for collaboration.

Pieter: Louis-Robert, take us back to the beginning just seven years ago. Why did you start Seafar?

"I have always had a passion for shipping and technology. The idea for Seafar was born out of a growing shortage of available crew. In 2018 the technological advances seemed promising, so we launched our first pilot in collaboration with the Port of Antwerp-Bruges, using just one boat. The proof of concept worked, and today, we are involved in 75 projects using our smart technologies. In addition, four smaller inland vessels (up to 38 metres and 400 tons) are even running fully unmanned.

Pieter: Impressive. How does your technology work?

"Our solution combines advanced sensors, cameras, and AI algorithms to enable remote vessel control from our command centres. We don't want to completely replace traditional crews, but we do want to reduce their physical presence onboard. This addresses one of the shipping industry's biggest challenges – the growing workforce shortage – while allowing for more efficient vessel deployment and optimised working conditions. In our remote control rooms captains can monitor and control different ships during their shift, focus on the important manoeuvres, and go home to their families after a day's work."

> **"Ships will be smarter, more sustainable, and more efficient than ever before"**
>
> **- Pieter Huyskens, Damen Director RD&I**

"Next to optimised routing, AI helps us with weather forecasting, fuel efficiency, increased safety analysis, and much more. We can get from A to B in a faster, safer and greener way thanks to our smart technology."

Louis-Robert: Pieter, how does Damen view these developments?

"We see great potential in autonomous and remotely operated shipping. Digitalisation is a key focus for Damen, and Seafar's technology aligns well with our vision. These innovations can drive greater efficiency and sustainability, especially in inland and short sea shipping. At the moment Seafar is focussing mostly on inland shipping, Damen is excited to see what the possibilities will be for short sea shipping too.

"Furthermore, we see and learn from new technologic initiatives like Yara Birkeland, the Norwegian fully autonomous and zero-emission cargo vessel, and from Fugro, who lead the way in geo-data and, for example, autonomous surveillance of offshore wind parks."

Challenges and Regulations

Pieter: Louis-Robert, unmanned shipping sounds futuristic, what challenges do you still face?

"Technologically, we are largely ready and ever improving, but regulations remain a challenge. Fortunately, in Flanders we can count on a progressive government that is open to these developments, but international regulations are not yet fully adapted to the new technologies.

However, possibilities are opening up. We will be focusing on Wallonia, the Netherlands and Germany in the coming months and years. With the ambitions of the European Green Deal on the horizon, the future looks promising."

Louis-Robert: Pieter, what do you see as the key to broader adoption?

"The biggest challenge lies in scalability and integration with existing ship designs, the so-called retrofitting. Damen is already working on modular vessels that are autonomy ready. A partnership with Seafar could build on that foundation.

"The real breakthrough will come with new vessels. Some ships currently in use are 50 to 100 years old, which significantly impacts productivity, safety, and ecological performance. Gradually transitioning to modern vessels equipped with ever-evolving autonomous technology will be a win for everyone."

Pieter: What is Seafar's priority at the moment, Louis-Robert?

"Next to regulations, cybersecurity is our top priority. We continuously analyse and refine our cybersecurity strategy, certifications, and protocols. We prepare for worst-case scenarios, maintain multiple backup systems, and reinforce our overall safety measures."

SEAFAR

SEAFAR: facts & figures

Antwerp-based scale-up: developing software for semi-autonomous ship navigation using sensors, cameras, and artificial intelligence.

- **Founded:** In 2018 by Louis-Robert Cool (37), a lawyer with a passion for maritime and technology;
- **Investment:** Raised €5 million in 2024 from Victrix, the holding company of the well-known Saverys shipping family, which also acquired a minority stake;
- **Revenue:** Undisclosed, operating at break-even.
- **Employees:** 35 employees, and aiming to hire 15 additional staff in 2025.

The Future

Pieter: Louis-Robert, how do you see potential partnerships?

"Damen is an innovative shipbuilder with a strong focus on technological advancements. Over time, our technology could fit seamlessly into its maritime solutions, building from inland, to short sea and further on. We could learn a lot from each other. In a first phase we could work together on advanced research and later on evolve to hybrid models, where crew remains onboard but is supported by remote operators. The potential of human assisted technology is huge."

Pieter: Sounds like a win-win.

"Absolutely. With Fast Lines we already have a mutual client but intensifying a possible partnership through research first sounds promising. We could set up a pilot project with one of our inland or short sea vessels. That way, we can validate the technology in an operational environment and assess how it integrates with our ship designs and customer needs."

Pieter: Finally, if we meet again in five years, where will Seafar be, Louis-Robert?

"By then, we aim to be managing hundreds of vessels across Europe and beyond from our control centres. Shipping will be largely digital and remotely operated, and we hope to be recognised as pioneers in this field. That thought alone gives me goosebumps!"

Louis-Robert: Pieter, how does Damen see the future?

"Ships will be smarter, more sustainable, and more efficient than ever before. Technologies like Seafar's will be key in driving this transformation. And as for collaboration? Let's just say the chances are high. Shipping is a long-term industry, and it's exciting to see these innovations leading real change."

"In our remote control rooms captains can monitor and control different ships during their shift and go home to their families after a day's work."

- Louis-Robert Cool, CEO Seafar

My favourite project

Combi Freighter 5000 • Lisanna Postma

When I reflect on my work at Damen, the CF 5000 project stands out as my favourite. It is my first warranty project that I can truly call my own since I started in Drachten in July 2024, and it has been a remarkable journey so far.

In my role in after-sales and services, I handle warranty matters for several vessels. My favourite part of this is evaluating warranty claims to determine whether they are structural or isolated issues. Collaboration is key in this process; I regularly consult with colleagues, project teams, the shipyard, and suppliers. I particularly enjoy how our feedback on operational ships is valued and applied to future designs. When we notice something unusual during onboard visits, we are encouraged to share our observations.

The CF 5000 is an impressive vessel with a deadweight of 5,080 tonnes and a length of 86.6 metres. Its box-shaped hold, flexible bulkhead configurations, and fuel-efficient hull design make it an exceptional ship. At the end of September, the first two vessels in this series, Sky Wish and Sky STR, were delivered. I had the opportunity to travel to China for the commissioning of Sky Wish, where I experienced the ship in action for the first time. Its spacious design is notably different compared to the CF 3850, which I previously visited in Harlingen.

Being on board during manoeuvres gave me a deeper appreciation for my colleagues' resourcefulness. I documented the experience through photos and videos to share insights with the team.

This project has also been a learning curve in adapting to new regions; with the vessels now operating in the Mediterranean, our service approach is expanding beyond the familiar waters of Northern Europe.

It has been a perfect blend of challenge, collaboration, and growth, making it an unforgettable highlight of my time at Damen.

How to jumpstart your Shipbuilding industry

Damen Technical Cooperation (DTC) is a means by which to unlock the full potential of the maritime sector – anywhere in the world. DTC offers ship owners, operators, governments, navies and shipyards the possibility to build, sell and maintain Damen quality locally. The aim is not only to build vessels locally, however; the proposition is a sustainable collaboration offering the transfer of technology and expertise to facilitate development of local industry and supplier networks while stimulating regional employment opportunities.

Following a successful design study contract with shipbuilder COTECMAR (Corporación de Ciencia y Tecnología para el Desarrollo de la Industria Naval, Marítima y Fluvial), Damen Naval signed a contract last year. The requirement was for the delivery of engineering, technical support, shipbuilding materials and equipment for a Plataforma Estratégica de Superficie (PES) frigate to be built by COTECMAR for Colombia.

We asked Vice Admiral Luis Fernando Márquez Velosa, CEO of COTECMAR what his vision is on the concept of DTC and its implementation for the shipyard and for the Colombian Navy?

"Damen Technical Cooperation is a technological and commercial concept that allows joint collaboration for the development of shipbuilding projects, through contracts and shared strategies for co-design, co-development of engineering and technical assistance to complement COTECMAR's capabilities. This collaboration is a concept of great potential from our strategic vision to optimise and increase our technological and industrial capabilities.

"DTC allows COTECMAR to develop shipbuilding projects locally in Colombia, for specialised vessels, as was the case of the marine scientific research vessel ARC Simón Bolívar for the Maritime Directorate in Colombia (DIMAR). This allowed us to contribute to the development of our country through the generation of employment and the promotion of small and medium sized local companies that participated in this construction.

"Of course, technical and technological transfer is a very important aspect. Through DTC, COTECMAR drives innovation in Colombia and the generation of inputs for current and future naval science and technology projects. By understanding and appropriating new advanced shipbuilding techniques, COTECMAR continues its goal of strengthening its technological independence that contributes to national defence and industrial development objectives in the country.

"The DTC model offered by Damen fits the capabilities and expertise of COTECMAR for the benefit of the Colombian Navy, ensuring even technical assistance and development of engineering activities in specific areas of knowledge such as combat systems and their integration, aspects that are critical to the success of projects such as the PES."

What are the underlying principles for that?

"The DTC model offered by Damen incorporates a comprehensive framework that includes licensing, material procurement, engineering development, and technical assistance. This model stands out for its versatility, as it can encompass all these possibilities or be implemented based on the specific needs of the project. Furthermore, each phase of the model integrates rigorous planning, management, and quality control processes, ensuring final products that meet the highest international standards, as evidenced by the vessels designed and built under this framework, which are successfully operating in various countries. Some underlying principles are trust, communication, compromise, flexibility, fairness, mutual respect and common goals."

What role do you see for the maritime manufacturing industry in Colombia and how will this role develop in the coming years?

"Colombia's maritime manufacturing industry plays a strategic role in strengthening national sovereignty and driving economic growth. A notable example of this progress is the recent agreement between the Corporation for Science and Technology for the Development of the Naval, Maritime, and River Industry (COTECMAR) and the Dutch shipyard Damen for the construction of the first frigate built in Colombia for the national navy. This project not only represents a significant technological milestone but also fosters job creation and the integration of local suppliers, aligning with the country's reindustrialisation strategy."

What is your experience with the collaboration with Damen and the knowledge transfer that has taken place?

"A successful example of this collaboration is the construction of the Marine Scientific Research Vessel (BICM). Damen provided the base design of the Oil Spill Response Vessel (OSRV) 8316 and the material package, along with the necessary technical assistance, to adjust it to the specific operational requirements of the country and to carry out its construction in Colombia. This contributed to knowledge transfer and the consolidation of new capabilities within our human capital, given the constant interaction between Damen's team and ours. This process has ensured compliance with the specific requirements set by the DIMAR, making the vessel a versatile platform for specialised scientific operations, including Antarctic research capabilities.

The case of Mexico

In 2020, the Mexican Navy took delivery of the ARM *Reformador*, the first of a domestically-built version of the Damen SIGMA 10514, designated the POLA class. With a length of 107 metres and a beam of 14 metres, it was already a proven ship in service with a number of navies. The vessel was built using modular construction techniques, with six modules accounting for the entire structure.

Four of these modules were built in Mexico and two at Damen Naval in the Netherlands. These last two were then transported to Mexico's ASTIMAR 20 naval shipyard for the final integration under Damen supervision. With Damen transferring the necessary skills and technology, the Mexican shipyard will be able to undertake the entire building process itself in the future.

Previously, Damen and the Mexican Navy had built ten Tenochtitlan Class patrol vessels together, based on the Damen Stan Patrol (SPa 4207, and a logistic supply vessel of the Isla María Madre class, derived from the Damen Fast Crew Supplier (FCS) 5009 design. These projects provided a significant transfer of technology to the Mexican shipyards involved and laid the groundwork for the much larger and more complex POLA project.

"Another noteworthy example is the recent co-development of the contractual design for the Colombian PES frigate, based on Damen's Sigma 10514 design. This project represents a milestone in technology and knowledge transfer at COTECMAR, as it has allowed Damen and COTECMAR to work together in developing the Sigma 10514 PES-class design tailored to the operational needs of the Colombian Navy. This achievement enables the Corporation to join the select group of global shipyards capable of constructing technologically advanced combat ships."

How does this relate to the development of the maritime manufacturing industry in Colombia? Do you think it has benefited from the collaboration with Damen?

"The development of the Colombian shipbuilding industry has been a remarkable example of growth in the region and an opportunity identified within COTECMAR's strategic direction to contribute to local industrial development. This is not only due to the successful cases of technical knowledge exchange and experiences shared through various cooperation processes in ship design and construction, but also due to the strengthening of the local supply chain and the growth of the national industry.

Therefore, the collaboration with Damen serves as a catalyst for the Colombian maritime industry, particularly in strengthening technical capabilities, generating skilled employment, fostering national economic growth, increasing regional competitiveness, and consequently positioning Colombia as a relevant player in shipbuilding.

"In this regard, the relationship with strategic partners goes beyond a beneficial collaboration from a technological point of view, it is related to transcendental objectives for the socioeconomic growth and the industrial base of a territory. Having a strategic partner like Damen, with nearly 100 years of experience, presents an opportunity to leverage the accumulated expertise of a world-class shipyard.
This is particularly valuable for emerging economies such as ours, where the shipbuilding industry is only reaching its first quarter-century.

"All of the above results in a reduction of time and errors in the development and scaling of the Colombian shipbuilding industry, generating a trickle-down effect that starts with Damen, passes through COTECMAR, and ultimately strengthens the entire Colombian industrial base. This enables the execution of increasingly complex projects with enhanced technological capabilities."

INDUSTRIAL PARTICIPATION

Building more than ships

Marijke Winiarski

By Marijke Winiarski, Industrial Participation Manager Damen Shipyards Group

**When I think about Damen's partnership with COTECMAR, I see more than steel and shipyards – I see people, progress, and potential.
This collaboration is a perfect example of what happens when industrial cooperation goes beyond the transactional and becomes transformational.**

What we're building in Colombia isn't just a series of naval vessels – we're co-creating a maritime future that empowers a nation. As COTECMAR CEO Vice Admiral Luis Fernando Márquez Velosa so clearly puts it, the DTC model is about much more than shipbuilding. It's about unlocking long-term economic growth, developing national expertise, and supporting Colombia's path toward greater strategic autonomy.

A true partnership

One of the things that excites me most in my role is seeing partnerships evolve – and the Damen–COTECMAR relationship has done just that. This isn't your typical client-supplier setup. It's a genuine collaboration built on trust, shared goals, and mutual respect. Colombia brings local talent, ambition, and vision. Damen brings experience, innovation, and technology. Together, we're creating something far greater than the sum of its parts.

More than know-how – It's capacity building

As someone deeply involved in industrial participation, I can confidently say that technology transfer is only the beginning. Yes, Damen has shared cutting-edge shipbuilding knowledge with COTECMAR – contributing to the yard's growing capability to take on complex projects such as the Marine Scientific Research Vessel (BICM) and the Colombian PES frigate. But what's truly powerful is how that knowledge is being absorbed, expanded, and passed on locally. We're talking about real capability building – high-skilled jobs, strong local supply chains, and lasting strategic competencies. And that's something that continues to pay dividends well beyond the final delivery of a vessel.

Local content, global impact

Industrial participation and local content aren't just box ticking exercises for us – they're key to how we work and what we believe in. When a country invests in its maritime sector, the benefits should stay local – in jobs, in knowledge, and in industrial growth.

In Colombia, we're applying the same principles that guided us on projects like the F126 frigate in Germany – principles focused on building strong local partnerships, enabling local industry participation, and ensuring that economic value is created and retained within the country. This isn't just a nice-to-have – it's the backbone of sustainable economic development.

Colombia's moment

It's impressive to see how Colombia is using this opportunity to strengthen not just its naval fleet, but its economy, its workforce, and its industrial base. The partnership with Damen is giving Colombia the tools to move from being a shipbuilding customer to becoming a regional leader in self-reliant maritime expertise.And it aligns beautifully with Colombia's broader goals – reactivating industry, creating jobs, boosting technological sovereignty, and enhancing national defence capabilities.

The future is collaborative

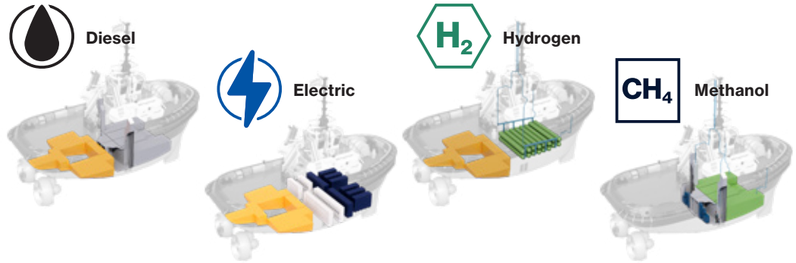
What we're seeing here is part of a larger shift – one where governments, shipyards, and companies are rethinking what shipbuilding means. It's not just about building platforms – it's about building national strength. At Damen, we're proud to partner with countries like Colombia to make that vision a reality.

This long-term approach is exactly what industrial participation should look like: grounded in partnership, guided by purpose, and geared toward results that matter, because in the end, this isn't just about ships – it's about building futures. And that's the kind of work I'm proud to be part of.

Ships of the future

Logistic Support Ship (LSS) series (impression of LSS 11000)
The new Damen LSS series is designed to meet the diverse needs of navies, offering a range of capabilities that ensure operational readiness and flexibility. These ships are equipped with NATO-standard Replenishment-at-Sea (RAS) technology, RoRo capabilities, and substantial cargo transport capacities, facilitating the efficient transfer and transport of fuel, munitions, provisions, and other essential supplies while at sea or in port.

ASD Tug 2713 FF (Fuel Flexible)
How to pay today for technology that will only provide a return on investment tomorrow. What fuels will be available? Affordable? Damen's is the Fuel Flexible Tug – the ASD Tug 2713 FF. The vessel is prepared for operations on a variety of dual-fuel arrangements right now, ready for a rapid – and cost-effective – adaption in the future.



Fast Ferry 3612 Electric
The Damen Fast Ferry 3612 Electric is a lightweight build, HSC Code 2000 compliant, full electric vessel for operations in coastal areas. The layout facilitates a large foredeck for bicycle storage and a spacious passenger saloon. The design is optimised for energy efficiency, together with a high energy battery system providing a long range at high speed.

FCS 2710 Electric
The FCS 2710 Electric builds on the successful Fast Crew Supplier platform to offer zero emissions performance. The design of the FCS 2710 Electric combines the stable platform of a catamaran with the smooth sailing behaviour of the Sea Axe hull shape, providing optimal seakeeping characteristics and on board comfort.

Hybrid River Cruise
Concordia Damen is constructing a state-of-the-art river cruise vessel, set to be delivered in 2025. The CDS River Cruise 135, exemplifies sustainability and luxury through its cutting-edge design and environmentally conscious features. Equipped with hybrid propulsion technology, the cruise ship significantly reduces fuel consumption and emissions, ensuring a cleaner and greener journey. Certified with the Green Award Gold Standard, the vessel meets the highest standards for eco-friendly operations.

Crane Barge 500
The Crane Barge 500 is based on previously built crane barges but now with the latest Liebherr transshipment crane (CBG500) with doubled capacity. The crane is fully electric and has a capacity up to 90 ton grab operation.

MPV 4916
The MPV 4916 offers next level versatility. It has multiple means of positioning and can carry an array of equipment. Amongst the operations it can perform are transportation of cargo, and maintenance duties for the offshore energy sectors, diving support operations, pipeline work, and cable laying, maintenance & repair. The vessel is also prepared for conversion to full electric, or dual-fuel methanol propulsion in the future.

Combi Freighter 5000 (ice version)
The Damen Combi Freighter (CF) 5000 is designed to provide optimally efficient cargo transportation. Numerous additional options are available to reduce both fuel consumption and emissions. The ice version uses a booster to deliver the power required for the vessel to operate in icy waters. Because of this, the base power remains consistent with the standard, open water CF 5000, resulting in significant fuel efficiency.

Plain Suction Dredger (PSD 350)
As more and more countries recognise the necessity and benefits of maintaining their inland waterways for transportation, flood management, and/or as a valuable freshwater source for irrigation, Damen has developed a highly efficient, reliable and easily transportable solution: the so-called Plain Suction Dredger (PSD350). Available in both diesel and electric configurations.

Circles of life

The EU-funded CirclesOfLife project develops the Shipyard Environmental Performance Index and the Ship Lifecycle Passport, empowering stakeholders across the full supply chain to monitor, assess, and enhance their environmental footprint.

Magda Kopczynska has been Director General for the European Commission's department for Mobility and Transport (DG MOVE) since August 2023. We've interviewed her on the importance of this project and the shipbuilding industry for the future of Europe.

Before becoming the Director General of MOVE, Magda Kopczynska was Director for Waterborne within DG MOVE and before that Director Innovative and Sustainable Transport. She's clearly committed to a achieving a sustainable and prosperous shipping industry in Europe.

Magda Kopczynska - European Commission Director General for Mobility and Transport

What would be the pathway for making European shipbuilding resilient, sustainable and competitive in the future? And how do you envision the role of the European Commission in this?

"Shipbuilding and maritime manufacturing, including equipment suppliers, are vital to Europe's prosperity, security, and strategic autonomy. Ensuring the sector's global competitiveness and resilience is crucial, especially given evolving geopolitical realities.

A strong industrial and technological base is essential for driving the twin digital and green transition in waterborne transport and the blue economy, supporting regional growth and employment. To this end, the Commission, under the leadership of Commissioner Tzitzikostas, will present a new Industrial Maritime Strategy this year. As a flagship action under the Competitiveness Compass, it aims to foster innovation, decarbonisation, competitiveness, security, and reduced dependencies.

Aligned with the Clean Industrial Deal, the strategy will stimulate investment, support innovation, enhance skills, ensure fair global competition, and promote synergies between civilian and military capabilities. Success hinges on industry-wide collaboration across the entire waterborne value chain.

This strategy will also connect with key EU initiatives, including the Ocean Pact, Defence Industrial Strategy, Cable Security Action Plan, Sustainable Transport Investment Plan, and Port Strategy, reinforcing shipbuilding's strategic role in Europe's industrial policy."

How can shipbuilding learn from other sectors regarding sustainability and circularity? And do you have concrete examples to illustrate this?

"Shipbuilders and equipment manufacturers are key to delivering sustainable solutions for waterborne transport. Circular design – reusing and recycling materials throughout a ship's lifecycle – can reduce environmental impact, enhance efficiency, and offer a competitive edge.

The railway industry offers valuable insights. Many rail companies achieve high recycling rates by recovering materials from infrastructure maintenance and vehicle decommissioning. Train fleets are regularly modernised to extend lifespan – akin to retrofitting in shipping. When decommissioned, up to 97% of materials (mostly steel, copper, and aluminum) are recycled, often locally – unlike ship recycling, which is frequently outsourced.

Applying these principles to shipbuilding can drive sustainability while strengthening Europe's industrial base."

What do you expect from the CirclesOfLife project, in terms of the progress the EU will make in the field of sustainability?

"The CirclesOfLife project, alongside ECOSHIPYARD (another research and innovation project promoting sustainable shipbuilding practices and material circularity in the European Union), is a major step toward sustainable and circular shipbuilding.

It focuses on integrating circularity by design, greening shipyards, reducing emissions, and improving environmental reporting.

Bringing together fifteen partners – shipbuilders like Damen, research institutes, suppliers, and NGOs from six countries – the project demonstrates the power of collaboration in tackling industry-wide sustainability challenges.

Innovative tools such as the Shipyard Environmental Performance Index and Ship Lifecycle Passport will help stakeholders assess and enhance their environmental impact, fostering greater transparency and accountability. CirclesOfLife sets a strong precedent for the maritime sector's transition to circularity."

What impact do you expect on shipbuilding from the Clean Industrial Deal and the Ships Recycling Regulation and how could these initiatives strengthen the CirclesOfLife project?

"The Clean Industrial Deal places circularity at its core. Given the maritime sector's resource challenges, adopting a circular economy approach is key to enhancing competitiveness and reducing reliance on third-country raw materials. This framework directly supports CirclesOfLife in advancing sustainable shipbuilding.

While the Ship Recycling Regulation mainly governs end-of-life practices, requiring vessels calling at EU ports to maintain hazardous material inventories, its impact on shipbuilding is indirect. However, initiatives like CirclesOfLife – with measures such as the Ship Lifecycle Passport – can reinforce the sector's commitment to circularity and sustainability, complementing these regulations."

Damen’s pilot project for circular shipbreaking

In 2024 Damen conducted a pilot project in which a small tug was dismantled at Damen Shiprepair Rotterdam’s Botlek site in a circular way and entirely in line with EU regulations. The project served as a trial, after which this approach of ‘green’ ship dismantling and recycling will be made available commercially, and also for larger vessels.

The *Jan*, which was built in 1927, was dismantled in line with the regulations set out in the Ship Recycling Facility Plan at Damen Shiprepair Rotterdam-Botlek. That is one of the few sites in the Netherlands on the EU list of certified Ship Recycling Facilities. So the safe and environmentally friendly dismantling of the 15.4-metre-long tug was guaranteed. Damen identified all the materials from the *Jan* and assessed their potential for reuse.
In that way, the maximum environmental and economic return can be generated from the materials in their residual life. After the completion of the pilot project, there was complete transparency about the amounts of dismantled materials and how they have been reused, recycled, or disposed of.

An approach has been drafted with respect to the commercialisation and financing of circular ship dismantling projects in the future.

Jorinus Kalis, Damen RD&I and Project Coordinator CirclesOfLife

Towards a fully climate neutral industry

Shipyards are increasingly required to assess their environmental impact in a transparent and comprehensive manner. While existing standards address the operational footprint of ships, the non-operational impact associated with shipyard processes, materials, and components remains largely unaddressed. This lack of assessment frameworks makes it difficult to determine conclusively whether it is preferable to construct a highly efficient and low-emission vessel, despite its complexity and associated production impact, or to prioritise reducing production impact at the expense of long-term operational sustainability.

The EU-funded CirclesOfLife project aims to fill this gap by creating a methodology and framework for assessing the environmental performance of European shipyards. Damen has been instrumental in uniting the consortium and establishing a coherent strategy to tackle these challenges and transform them into opportunities for both the company and its clients.

The project aims to create a shipyard environmental performance index (SEPI) methodology and a Ship Circular Material Passport that builds on SEPI and the contributions of our supply network, which will be tested in day-to-day operations spanning from newbuilding projects to recycling yards. Independent NGOs, Green Marine Europe and ShipBreaking Platform are actively supporting the project’s clear pathway towards market introduction and societal impact. The ultimate objective is to establish a standard that allows stakeholders to effectively compare the environmental footprint of ships and shipyards. Additionally, it will provide shipyards with a clear insight and a decision framework for implementing measures and technologies to reduce their environmental impact most effectively.

Damen has been involved in the drafting of the call text, via the Waterborne platform, and has taken the lead in the formation of a project consortium and proposal. As a coordinator we’re closely involved in the execution of the project that has now been underway for over a year and has resulted in a wide network, far beyond the original consortium, of maritime industry partners that are highly interested in the findings of the project. This is because it promises a well-defined process for measuring their environmental impact and support in strategizing towards the European ambitions of a fully climate neutral industry and corresponding reporting obligations. The project highlights how collaboration can turn guidelines and regulations into industry-specific opportunities. Inspired by numerous European initiatives, standards, and projects addressing similar topics in other industries, we are eager to share our insights and findings with colleagues across different sectors.

GENERATIONS

‘If you think you can do it, give it a try’

Jan-Jaap Eits recently made the switch to Sales after five years in project management. Jan-Wim Dekker has now worked for Damen for more than thirty years, amongst others as Chief Commercial Officer.’ He says, “It’s fantastic to see these ‘kids’ coming in. They enrich your organisation and keep you on your toes.”

Jan-Wim (57) was one of those ‘kids’ himself back in 1994 when he started out at Customer Finance. “The world looked different but, even then, there wasn’t much internal hierarchy. People were mostly interested in what you could do.” Jan-Jaap (26) thinks that’s still the philosophy now.

“As a ‘newbie’, you may be given a tough time for half an hour, with some jokes and tricks. After that, you’re one of the team. Colleagues are very open to each other. The attitude is primarily ‘if you think you can do it, give it a try’.”

Jan-Wim continues, “One thing I have seen is that young colleagues today expect their wishes to be met almost immediately. Back in the day, we tended to wait and see more. I think a bit more balance is better in that respect and it also prevents a lot of personal tension. It’s also good to see the results of your own efforts for yourself.”

Challenging region
Jan-Jaap started out in a challenging region, the Middle East, with clients in countries like Qatar, Bahrain and Jordan, where the culture is very different to here in the Netherlands. “It was great to have colleagues you could ask about the culture and business customs in those countries. This is particularly true of our sales secretaries, many of whom have extensive experience. That’s an enormous help.”

Conversely, Jan-Wim welcomes the new generations to the company with open arms. “I learn from them about ICT and social media, for example. Another important factor is that we can be blind with respect to the company. Their fresh knowledge and skills, and the questions they ask, always generate new insights.

REFIT POLICY

Financing the future of second-hand ships

A new financial model for sustainable shipping

In June of 2024, the newly refitted *E-Nine* set sail from Damen Maaskant Shipyard Stellendam towards her new project in Guinea. Originally built in 2010 as the *DMS Osprey*, this Shoalbuster 3511 underwent a substantial refit, transforming her into a modern, efficient vessel.

The transaction was made possible through an innovative supplier credit from Damen Financial Services, secured by an Atradius Dutch State Business (Atradius DSB) export credit insurance. This unique financial approach has paved the way for similar transactions in the maritime industry.

Why Atradius backed a second-hand vessel refit

Traditionally, Atradius DSB focuses on insuring the financing of newly built vessels. However, with increasing regulatory pressures on emissions and sustainability, the company has adapted its policies to include refits that meet stringent criteria. Frank Kramer, representing Atradius DSB, explains: In the past, we received frequent requests to insure the financing of second-hand capital goods.

While Atradius DSB does not insure second-hand goods trading outright, we can support financing of a second-hand capital good with significant modifications or overhauls that meet our criteria. The *E-Nine* project was a prime example: the refit constituted 21% of the vessel's value, surpassing our minimum threshold of 15%. Additionally, the refit contained a 100% Dutch component, fulfilling another key requirement."

Atradius DSB has a long standing relationship with Damen, handling multiple insurance applications each year for supplier and buyer credits, guarantees, and working capital support. The company carefully assesses each transaction for compliance, environmental and social impact, and creditworthiness. Given that the *E-Nine* meets all necessary conditions, Atradius DSB provided a policy covering the credit risk under Damen's supplier credit arrangement.

Innovating maritime financing for the future

For Damen Financial Services, this project marks a significant milestone as the first transaction where a used vessel was both sold and financed through an insured supplier credit. Rogier Lammers, Export Credit Specialist at Damen Financial Services, highlights the broader implications:

"This financing model creates new opportunities for shipowners who wish to modernise their fleets without the upfront capital required for a newbuild. It also allows us to extend the lifecycle of existing vessels, promoting sustainability and cost-efficiency."

With the successful execution of the *E-Nine* transaction, Damen, Emar Offshore Services, and Atradius DSB have demonstrated the viability of financing second-hand vessel refits, setting a precedent for future projects in the maritime industry.

A STRATEGIC ACQUISITION
The customer's perspective

For EMAR Offshore Services, acquiring the E-Nine was a well-considered decision. Johan van Beek, Managing Director of EMAR, shares their experience:

"At EMAR Offshore Services BV, we had been eagerly anticipating the availability of the *DMS Osprey*, as we already own her sister ship, the *E-Three* (former *DMS Stork*). These Damen Pushbuster 3511 vessels are not only powerful, versatile, and highly manoeuvrable, but they also provide a comfortable and efficient working environment for our crew, which is crucial given the demanding nature of offshore operations. Our client is equally enthusiastic about this vessel type, appreciating her reliability, performance, and overall design. The *E-Nine* has proven an excellent addition to our fleet, bringing operational efficiency and satisfaction to everyone involved.

"During the inspection in the Caribbean, where the vessel was operating at the time, we found that significant maintenance was required, and a major refit would be necessary. Following this assessment, we sat down with Damen to explore how we could execute a refit in a way that made financial sense for both parties. Jan Willem van Helden and Rogier Lammers played a crucial role in developing this new financing model within Damen Financial Services."Given the scale of the refit and the associated budget, the *E-Nine* met the criteria for refit financing. The four-month refit took place at Damen Maaskant Shipyard in Stellendam, and since completion, she has been operating smoothly in West Africa."

A step towards greener customer financing

The inclusion of second-hand ship refits within Atradius DSB's policy framework aligns with its broader strategy of promoting sustainable shipping.

"One of our focus areas is supporting transactions that contribute to reducing CO_2 emissions. Many vessels currently in operation do not meet new emissions standards and require significant retrofitting. By offering financial security for these projects, we enable shipowners to invest in greener technology." The *E-Nine* project, for example, resulted in an estimated 67% reduction in CO_2 emissions compared to the older vessels she replaced. This aligns with our Green Label incentive, which rewards sustainable investments with premium discounts.

Looking ahead, Atradius DSB anticipates a surge in demand for similar financing structures. With approximately 25,000 vessels expected to undergo emission-related upgrades globally in the next decade, the role of export credit agencies like Atradius DSB will become increasingly vital.

"We see great potential in financing refits that align with environmental goals. While commercial banks remain cautious about such transactions, export credit agencies can bridge the gap by providing financial backing. Our collaboration with Damen in this area has been strong, and we encourage early discussions on new projects to ensure smooth and efficient transactions."

Sustainability all around the world

A global impact story

Building a better future together

At Damen, sustainability is more than an initiative, it is a fundamental part of the company's identity. As a family-owned business with a global footprint, Damen recognises its responsibility, not only to its customers but also to its employees, communities, and the environment.

Across Damen's shipyards worldwide, teams work tirelessly to implement impactful sustainability projects, reflecting the company's commitment to education, sustainability, community well-being, and sports.

On this journey across Damen's global network, each yard plays a role in shaping a better, more sustainable future.

Education

Investing in the future

Empowering the next generation is at the heart of Damen's sustainability efforts. Across multiple locations, Damen partners with schools, universities, and training programmes to inspire and support future maritime professionals.

Albwardy Damen has established strong partnerships with leading academic institutions, including the Higher Colleges of Technology (UAE) and the Arab Academy for Science, Technology & Maritime Transport (Egypt). Through internships, shipyard visits, and expert guest lectures, students gain first-hand insights into the maritime industry. These collaborations ensure that the next generation of engineers and technicians are well-equipped to drive future innovations.

Damen Maaskant embraces its role as a mentor for young minds, providing educational workshops and guided tours of its shipyard. Many employees at Maaskant are second- or third-generation shipbuilders, highlighting the long-standing tradition of craftsmanship passed down through the years.

Damen Shipyards Galați takes a hands-on approach to education by sponsoring the Faculty of Naval Architecture at Dunarea de Jos University. With this sponsorship, Damen contributes to modernising classrooms and laboratories, ensuring students receive the best possible training. Additionally, the Galați yard rewards greatness by supporting the annual Gala of Excellence in Education, celebrating students with top academic achievements.

Damen Shiprepair Rotterdam is actively involved in developing maritime professionals through its collaboration with the maritime trade school. This partnership provides students with industry-relevant training, equipping them with the necessary skills for a successful career in shipbuilding.

Damen Yichang Shipyard organises educational yard tours for children, giving them a unique opportunity to witness shipbuilding in action. This initiative helps cultivate early interest in engineering and maritime careers.

Environment

Caring for our communities

Damen's mission to become the most sustainable and connected shipbuilder in the world is reflected in eco-conscious initiatives across its shipyards globally.

Damen Song Cam is leading the way in environmental innovation with its Pilot Circular Economy Waste Management Project in Lam Dong Commune. This initiative, part of the larger Lam Dong Zero Waste project, focuses on reducing waste through composting, recycling, and community engagement. By implementing sustainable waste practices, the project aims to create a replicable model for cleaner shipbuilding and environmental awareness in local communities.

Damen Shipyards Antalya organized an event within the scope of the Zero Waste Project together with the students of Uğur Schools Çallı Campus. In our event, we emphasized the importance of separating waste at source, recycling and reuse.

Damen Yichang Shipyard has taken a significant step in marine conservation through the Ecological Restoration Program for the Chinese Sturgeon. Partnering with local authorities, the shipyard contributes to protecting this endangered species, often referred to as the Panda of the Yangtze River.

Damen Naval has integrated solar panel technology into its facilities to reduce its carbon footprint. Additionally, Damen Naval promotes cycling among employees, reinforcing the company's dedication to green mobility.

Communities

Supporting our people

Damen's sustainability extends beyond its business, fostering community resilience and providing essential support in times of need.

Foundation Damen Support has played a crucial role in supporting Ukrainian colleagues and their families affected by the country's war with Russia. Since 2022, over 425 adults and 143 children have been evacuated to safety. Damen has also established community centres, offering medical care, language lessons, mental coaching, and activities for children, including Summer Schools in the Netherlands and Romania.

Damen Shiprepair Amsterdam supports local communities by partnering with Stichting Flora Buurtkokjes, an organisation providing meals for low-income families. Additionally, during the Christmas season, Damen donates leftover festive packages to Zeemanshuis, ensuring seafarers spending the holidays away from home receive a warm gesture.

Damen Shipyards Antalya recognises the importance of food security. The shipyard launched a Ramadan Food Aid Programme, ensuring that over 350 employees received nutritious meals during the holiday season.

Damen Shiprepair Harlingen sponsors the Damen Diamonds, a football team formed entirely of young refugees living aboard the River Diamond, a vessel hosting asylum seekers. This initiative helps integrate the players into the local community through sport.

Damen Shiprepair Brest actively supports its community through sports, culture, and humanitarian initiatives. It sponsored the Europ'Raid, a 9,000 kilometre humanitarian rally aiding disadvantaged schools in Eastern Europe, with HSE apprentice Zachary Nedelec proudly representing Damen. In the neighbourhood, the shipyard backs local sports clubs and collaborated with artist Paul Bloas to create portraits of its workers, showcased at a maritime event in July 2024, celebrating craftsmanship and community spirit.

Sports and sponsorship

Bringing people together

Sport has the unique ability to foster teamwork, well-being, and community spirit. Damen supports various sports initiatives to encourage healthy lifestyles and unity.

Damen Shiprepair Vlissingen celebrated its 60th anniversary by creating a multifunctional sports field for employees, seafarers, and other businesses in the port area. This space encourages collaboration and interaction through friendly sporting events.

Damen Shipyards Kozle proudly sponsors the ZAKSA volleyball team, one of the town's most cherished institutions. With limited entertainment options in the region, supporting ZAKSA strengthens Damen's ties with the local community.

Damen Shipyards Galați marked its 25-year anniversary by sponsoring the Măcin Mountain Fun competition, an outdoor sports event featuring mountain biking and cross-country races. Over 27 Damen employees, including Ukrainian colleagues, participated as volunteers and competitors.

One Damen, creating shared value

As we journey through Damen's global sustainability efforts, a common theme emerges: a deep-rooted commitment to making a meaningful impact. Through these efforts, Damen continues to uphold its values of fellowship, craftsmanship, stewardship, and entrepreneurship, ensuring that every initiative aligns with the company's long-term vision. Sustainability at Damen is not just about corporate responsibility, it's about building a sustainable and connected world, together.

My favourite project

Elevation Series CSOVs • Natalia Bielashova

Working at Damen since 2006 and based at MDEG Romania, I have had the privilege of contributing to many remarkable projects. However, the the Elevation Series of Commissioning Service Operations Vessels (CSOV) stands out as my favourite. It is an entirely new product for Damen, introducing innovative solutions and exciting challenges for me and my team.

The Elevation Series CSOVs are designed to support offshore wind farm operations, a growing and critical sector in renewable energy. These vessels, developed in close collaboration with Windcat and CMB.TECH, combine Damen's shipbuilding expertise with operational insights from Windcat. The series builds upon the proven design of the Bibby Wavemaster, optimised with feedback from the field and the latest requirements for windfarm service and operation.

These highly versatile vessels can accommodate 120 people in comfort for up to 30 days. They are equipped with diesel-electric propulsion systems, battery arrays, and a hull designed for efficiency and stability, including anti-roll tanks. Their advanced features, such as motion-compensated gangways and cranes, ensure smooth personnel and equipment transfers. Additionally, the vessels are pared for methanol engines and offshore charging, showcasing a forward-looking approach to sustainable energy solutions.

My team is responsible for the detailed engineering phase of this series, where we refine the conceptual design into a 3D model. This process ensures the vessel's structural integrity and functionality, producing all technical documentation required for the shipyard in Vietnam, where these vessels are built.

Collaboration is key, involving engineers, designers, and experts to address challenges like integrating advanced technologies and maintaining regulatory compliance.

The Elevation Series won the Offshore Renewables category at the OSJ Awards 2023, a testament to its exceptional design. Seeing the project come to life has been incredibly rewarding, and I am grateful for the dedication and teamwork of everyone involved. Together, we are pushing the boundaries of what is possible in offshore support vessels.

FCS 7011
Aqua Helix

FCS 4008
RSS Barracuda

FCS 5009
Esnaad 715

Yacht Support 53

The making of an icon

The remarkable versatility of the Damen Fast Crew Supplier range

The Damen Fast Crew Supplier (FCS) was introduced in 1999. Over a quarter of a century later, the FCS series has proven a perennial success, remaining a popular choice of vessel operators today. Part of the appeal of the FCS is its versatility; the various models and varieties can be used in diverse sectors including military and coast guard roles, as well as in both renewable and non-renewable offshore energy industries. Additionally, the FCS has evolved over the years, ensuring its continuing relevance to modern operations. In this article we consider the development of this iconic vessel type and some notable examples.

At the time, the Fast Crew Supplier (FCS) was developed on the basis of another vessel type: the Stan Tender 4709. “That was a good vessel in itself but it was really more like a forerunner. There was room for improvement in its seakeeping characteristics,” says Wim Boerma, the Damen High Speed Craft Product Manager who has been working actively on the development of vessels of this kind for more than 20 years. “So we came up with the FCS: a stable vessel that can take crew members and supplies at high speed to and from oil rigs and the like.”

Fast adaptation

The FCS was an instant success in offshore energy supplies and it didn’t take long before there was interest from other sectors. The secret of that success? “A large aft deck that could accommodate 250 tonnes of cargo in combination with plenty of space for the crew and passage workers. But the main asset of these vessels is their flexibility. They can be adapted quickly and that increases their deployability enormously.”

The FCS range is much wider now. There are 33, 40 and 50-metre versions. They are used on all sorts of projects. That still includes offshore oil and gas, but there are offshore wind and solar activities as well. The ships are also used as oil spill response vessels and patrol vessels, and even as fast support intervention vessels. Wim says, “The thing I still find most surprising is the ongoing development of this type. Damen Yachting now supplies them as yacht support vessels. They are very much in demand there as well and there are about ten such vessels in operation.”

Patented

Given this success, with 75, 12 and 66 vessels in the respective length classes, it is hardly surprising that other shipbuilders have built vessels based on the FCS designs. “But without our Axe Bow because that is patented.”

Multirole Support Ship

The Multirole Support Ship is a 50-metre FCS vessel with a large, 225m² working deck, where the space can be adapted depending on the mission, with a combination of anti-aircraft missiles, electronic warfare equipment, armed flying drones and small underwater drones. Two vessels will be delivered to the Royal Netherlands Navy in 2026.

Dona Diana
Mexico’s Naviera Integral was the first to order an FCS from Damen over twenty years ago. The *Dona Diana*, an FCS 5009 joined the company’s fleet in 2007, supporting offshore energy production in the Americas. Since then, Naviera Integral has purchased fifteen further FCS vessels.

RSS Barracuda
Suriname also started using an FCS recently. This is a 40-metre version that, in its role as a patrol vessel (P501), is used primarily to protect merchant ships from piracy, and to secure oil fields and fishing grounds.

CMM Continuity
The *CMM Continuity* is one of five FCS 5009 vessels used by Compagnie Maritime Monégasque as an oil spill response vessel for the Brazilian company Petrobras. The vessels have been fitted out for this work with two oil trawls, skimming gear, a handling reel and a hydraulic oil recovery pump.

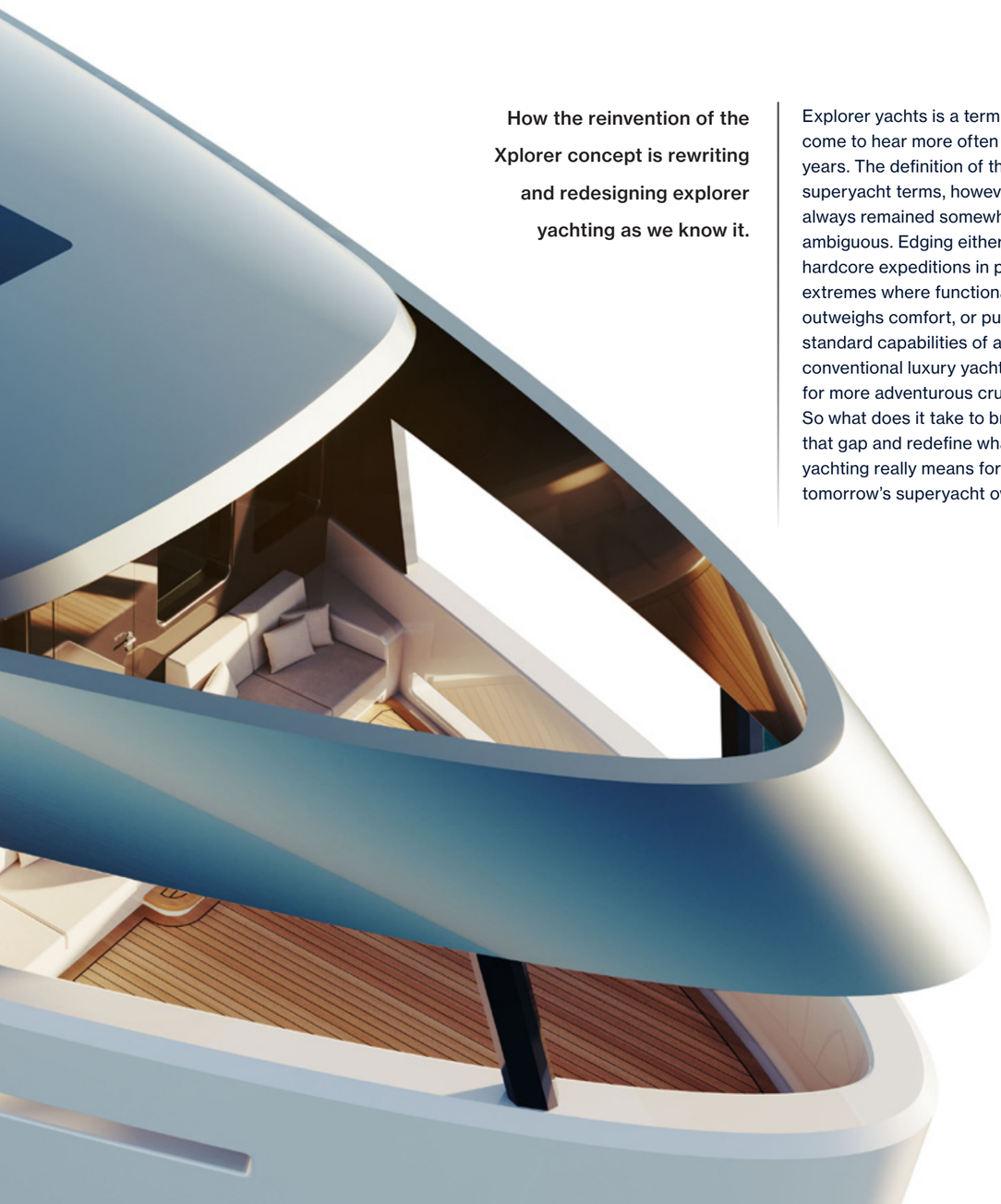
Esnaad 715
The Abu Dhabi National Oil Company uses its FCS vessels for emergency response work. They have been fitted out with a wide range of fire-fighting and life-saving equipment.

Aqua Helix
The revolutionary *Aqua Helix* is currently the only 70-metre FCS. With a top speed of more than 70 kilometres an hour and a walk-to-work bridge from Ampelmann, the vessel is an efficient alternative for helicopter transport to and from offshore locations. Compagnie Maritime Monégasque operates the FCS 7011 in Brazil.

Yacht Support 53
The YS53 is based on the FCS 5009. Its expansive exterior deck is designed for action and boundless versatility. It scope covers everything from launching helicopters, tenders, submersibles and specialised vehicles, to hosting events and supporting scientific discoveries.

XPLORER

Dare to be Different



How the reinvention of the Xplorer concept is rewriting and redesigning explorer yachting as we know it.

Explorer yachts is a term we've all come to hear more often in recent years. The definition of this in superyacht terms, however, has always remained somewhat ambiguous. Edging either towards hardcore expeditions in polar extremes where functionality outweighs comfort, or pushing the standard capabilities of a more conventional luxury yacht to allow for more adventurous cruising. So what does it take to bridge that gap and redefine what explorer yachting really means for today and tomorrow's superyacht owner.

Xplorer 80 exterior design by Azure Yacht Design

The Xplorer 80 is the latest addition to the Xplorer range which includes the Xplorer 60 and Xplorer 105. This latest 80-metre design is the follow up to the original and notable SeaXplorer 77 bringing an updated and next generation Xplorer yacht to Damen Yachting's continuously evolving diverse yachting product portfolio.

For the exterior design, Damen Yachting has once again chosen to partner with Azure Yacht Design & Naval Architecture to further develop the Xplorer 80's exterior lines. As a highly experienced Dutch studio, their unique and instantly recognisable philosophy builds upon our heritage and character.

Whilst the original award-winning SeaXplorer exterior DNA is still recognisable, with for example the signature bow, Observation Lounge, enclosed wheelhouse and Crow's nest, the more modernised and refined styling brings an elegant and luxurious look to this very capable and robust yacht.

Upper deck luxury complete with pool and lounge

▲ *The observation lounge*

◀ *The Harrison Eidsgaard team, with Ben Harrison, Ewa Eidsgaard & Peter Eidsgaard*

▲ *Main lounge*

◀ *Beach club and Spa* ▲

For the interior design concepts, Damen Yachting has partnered with London-based design studio Harrison Eidsgaard. The result is a home made for long-term and luxurious living. Known for their quality and personal attention to detail, the Harrison Eidsgaard team has developed a Manhattan loft-inspired space that encompasses how you like to explore and experience your passions. With refined details, smart storage and a warm ambience throughout, every step you take around this yacht has been considered.

"This interior can cover every journey and any lifestyle - all you need to do is immerse yourself." Ben Harrison, co-founder of Harrison Eidsgaard

As Owners expect with an 80-metre yacht, this concept design has been conceived with customisation in mind. Utilising Damen Yachting's expertise in the field of spec builds and proven, standardised technical platforms, the Xplorer 80 offers a number of configuration options to suit any yachting lifestyle. Xplorer Design Manager Enrique Tintore explains, "The way the Xplorer has been designed allows for a high level of flexibility to suit any extreme environment or refined landscape. If a helicopter isn't essential for you, we've got many other options for that space. Need a conference room or a seventh guest cabin? Or a separate gym and a high-spec laboratory? We can make that happen."

Amongst the configuration options on offer, future Owners can opt, for example between a hidden heli hangar for safe storage below deck plus refuelling and an operational, gym and wellness setup for everything you need to stay in top shape worldwide. Or a twin tender garage setup for those looking to take everything needed for on and in-water action. Dedicated divers can choose a large and fully-equipped dive centre. Those not needing heli operations can even opt for a wall-to-wall lounge club.

Alternative exterior design by Harrison Eidsgaard

Alternative exterior design by Espen Øino

Xplorer 80 at a glance

• Length Overall	80 metres (262 ft)
• Beam Overall	14,25 metres (46,75 ft)
• Gross Tonnage	2,900
• Capacity	12 guests & 26 crew + Captain
• Accommodation	6 suites
• Autonomy at Sea	Up to 40 days
• Builder	Damen Yachting
• Naval Architecture	Damen Yachting
• Exterior Concept	Azure Yacht Design
• Interior Concept	Harrison Eidsgaard

The flexibility in the design does not stop at configuration options. For the Xplorer 80, Damen Yachting has also partnered up with a number of exterior and interior designers to provide a unique set of alternatives centered around the same base platform. For the exterior, alternative designs have been created by Espen Øino, Harrison Eidsgaard and Azure Yacht Design whilst both Winch Design and Reymond Langton have provided alternative interior concepts.

Coinciding with the introduction of the Xplorer 80, Damen Yachting have also introduced their updated and modernised branding for their range of luxury explorers. Damen Yachting's Marketing Manager Sarah Flavell explains more about this development. "We wanted to make the original SeaXplorer branding more relevant for today's and tomorrow's luxury yet adventurous yachting needs. Whilst the DNA within the Xplorer 80 proudly carries all of the original SeaXplorer key attributes, we wanted to update the way the brand was presented to better reflect the forward thinking nature of this new 80-metre Xplorer. The result is that the Xplorer 80 absolutely embodies the brand values associated with the Xplorer range bringing extensive capability, unrivalled autonomy and above all luxury space and lifestyle to the most extreme corners of the globe."

The Xplorer brand focusses on a world of infinite adventures where superyachts and expedition yachts combine.
A unique crossover of unlimited luxury and boundless exploration. A range of yachts aimed specifically at innovators looking to forge their own path, with a clear goal in mind. For those wanting to avoid the ordinary, explore the remote and experience the new.

The Xplorer 80 was introduced to the industry during the 2024 Palm Beach International Boat Show.

"By introducing the Xplorer 80, we have further established our ability to create a perfect crossover superyacht.

She combines design, luxury, expedition, capability, high-spec shipbuilding and everything in between."

Rose Damen,
Managing Director Damen Yachting

The journey to sustainability in the maritime freight sector

Combi Freighter 3850 equipped with wind-assisted propulsion

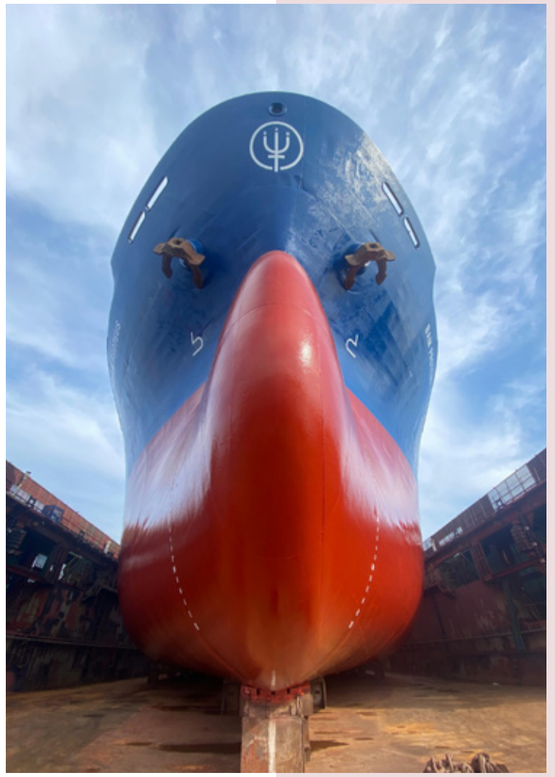
It is thirty years since the maritime sector began addressing the consequences of its emissions on the environment and started investigating alternatives to hydrocarbons. Yet today, there is an impression that not much has been achieved. Out of the 110,000 commercial vessels afloat today that are larger than 400 gross tonnes, only 10,000 have had some form of green system installed. Why has so little progress been made?

There have been a number of causes, not least first mover disadvantage. Ports are not going to go to the expense of installing various new bunkering facilities if there aren't many vessels to use them, and ship owners will not undertake conversions if they can refuel at only a few ports. Ship owners are generally conservative, and for good reason. Shipping is a hazardous business and so their vessels need to be reliable, which means being as simple as possible.

Retrofitting clean technology is also very expensive. Comprehensive retrofits mean not only changing the engine, but also completely rebuilding the engine room. This is equivalent to heart surgery in a human, and for a big ship converting from Heavy Fuel Oil (HFO) to Liquid Natural Gas (LNG) this can involve being out of service and in the shipyard for up to nine months.

Many shipowners prefer to avoid the debts incurred from the conversion process that may take many years to repay while adding to their costs, while their conventional competitors are able to out compete them from day one.

However, times are changing. In the coming years the rate of scrappage for cargo ships of all types is set to increase substantially, to be replaced by cleaner vessels as mandated by the IMO. As demand for new vessels begins to outstrip supply, charter rates will strengthen from their current historical low levels, enabling owners to invest in new, low emission vessels.



A first for CMA CGM in Europe

Damen is also working with leading shipping group CMA CGM to improve the energy efficiency of its ships, with the works taking place at Damen's yards in Dunkerque and Amsterdam. CMA CGM already has a history of undertaking retrofits of bulbous bows to achieve fuel efficiencies and reductions in greenhouse gas emissions through improved hydrodynamics. CMA CGM already has experience in retrofitting bulbous bow retrofits, but these have been done in China and occasionally Türkiye, but not Western Europe. This was the first time with the installation of the three bulbs taking place in Amsterdam.

The vessels included two, LNG fuelled, 1200 TEU container ships, with more to follow in 2025. At the same time new systems to reduce methane leaks by up to 40% were also installed in partnership with engine manufacturer Wärtsilä.

"We carry out about ten bulb changes a year worldwide, resulting in energy consumption savings of between 5-10%," says Giancarlo Brosolo, who oversees the entire refitting of the 600 strong CMA fleet. "These refits are quickly amortised with a three-year payback, solely from fuel savings. But now we are not just focusing on fuel savings, we are also aiming to reduce the carbon footprint." At the same time as doing the bulb changes, Giancarlo and his team also oversee the installation of more efficient propellers, modifications to the nozzle and the application of low-resistance silicone paint. Together these can add 2-5% improvements in fuel savings each year, with a quick return on investment of less than two years.

This upgrade opens up the option of fully electric propulsion, which in turn allows for zero emissions manoeuvring.

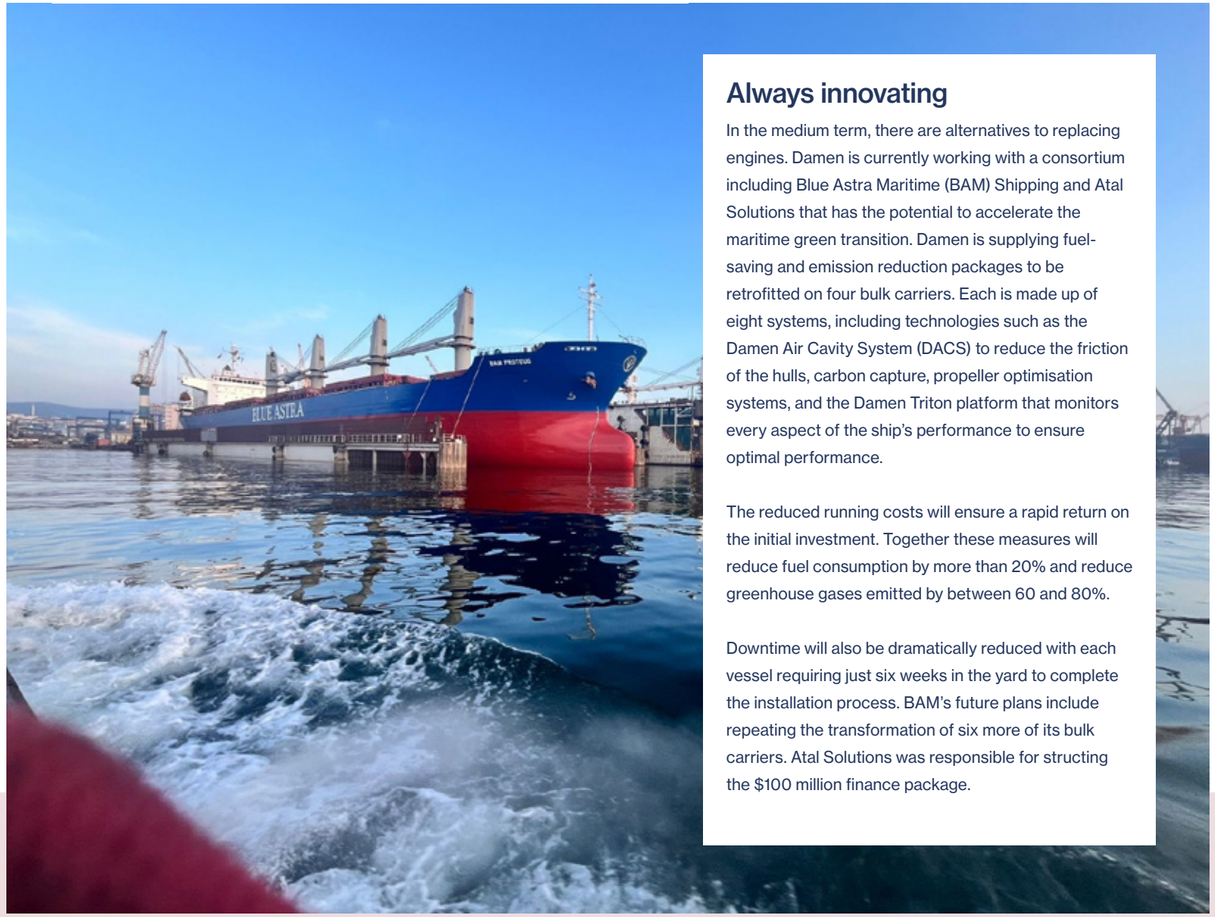
Taking it to a new level

It is not just the large vessel owners who are looking to cut their emissions in response the wishes of their customers. In October last year, the German family-owned shipping company Reederei Bernd Sibum placed an order with Damen Shipyards Group for the construction of four, hybrid-ready Combi Freighter 3850s for delivery early next year. These 3800 DWT vessels are intended for operations in the European short-sea shipping market and will feature enhanced design platforms that deliver a 30% improvement in fuel efficiency. Being hybrid-ready means that they will come prepared to run on biofuels and pre-prepared to fit wind assist technology.

The vessels are also being equipped with a set of batteries connected to the bow thrusters for peak shaving and port operations and, once again looking ahead to the future, they will be prepared for battery-powered propulsion systems and upgraded shore power connections. That is not all. In a further sign that the shift toward sustainability in the marine transportation sector is gaining momentum, Reederei Bernd Sibum has recently received funding from the German government to take the sustainability of the four vessels to a new level. The CF 3850 vessels are now undergoing upgrades that will enable them to sail using hybrid propulsion via a PTO/PTI system. This upgrade opens up the option of fully electric propulsion, which in turn allows for the redundancy of the diesel propulsion engine as well as zero emissions manoeuvring.

The funds will also be used for the installation of Econowind VentoFoils, wind-assisted ship propulsion solutions that are fully automated using intelligent technology. These are expected to lower the vessels' fuel consumption by around 12.5%, delivering significant reductions in emissions.

"Reederei Bernd Sibum are to be praised for their pioneering approach to maritime sustainability," commented Remko Bouma, Commercial Director of Damen Cargo Vessels. "The bold steps that they and other forward thinking vessel operators are taking are worthy of wider industry recognition."



Always innovating

In the medium term, there are alternatives to replacing engines. Damen is currently working with a consortium including Blue Astra Maritime (BAM) Shipping and Atal Solutions that has the potential to accelerate the maritime green transition. Damen is supplying fuel-saving and emission reduction packages to be retrofitted on four bulk carriers. Each is made up of eight systems, including technologies such as the Damen Air Cavity System (DACS) to reduce the friction of the hulls, carbon capture, propeller optimisation systems, and the Damen Triton platform that monitors every aspect of the ship's performance to ensure optimal performance.

The reduced running costs will ensure a rapid return on the initial investment. Together these measures will reduce fuel consumption by more than 20% and reduce greenhouse gases emitted by between 60 and 80%.

Downtime will also be dramatically reduced with each vessel requiring just six weeks in the yard to complete the installation process. BAM's future plans include repeating the transformation of six more of its bulk carriers. Atal Solutions was responsible for structing the $100 million finance package.

The order will take the fleet of innovative, sustainable Damen CF 3850s to 46 vessels, of which six are now fully green. Two similar sister ships are already under construction for Germany-based Gerdes Green.

Ultimately, many ship owners operating under less demanding regulations will only go greener when alternative fuels are cheaper than fossil fuels and as easily accessible. This can only be achieved through a combination of technological advances, economic incentives and pressure from their own customers and public opinion to make the transition. Maintaining the pace of innovation is vital to this progress, as is reassuring the financiers of the viability of these new and unfamiliar systems.

The last ten years have seen great advances in innovating for a cleaner, safer industry and the next ten will no doubt show more progress.

Damen is proud of being at the forefront developing more efficient, less polluting vessels, but even here the momentum has been primarily behind workboats serving ports and harbours, shortsea and offshore wind farms.

However, the foresight of companies such as CMA CGM and Blue Astra Maritime will play a valuable role in demonstrating the benefits that can be gained now without having to spend large amounts of time and money.

Damen is supplying fuel-saving and emission reduction packages to be retrofitted on four bulk carriers.

GENERATIONS

Lessons in Machinery

At Damen Shipyards Antalya, experience meets ambition in the Machinery department, as two colleagues, separated by more than 25 years in age, but united by their craft, share their thoughts on work, tools, and teamwork.

Bülent Yeşil, 48, has been a skilled Mechanical Department Supervisor at Damen since 2013. He believes good work is built on patience and precision. "When I started, we lacked the technology and resources we have today. Young people prefer speed, but they must understand that not everything can be rushed."

Recently onboarded mechanical staff member Ali Korkmaz, 21, can confirm this. "Yes, I want to move fast sometimes, but the master always says, 'Calm down, do it right first, then you'll get faster'. And, honestly, he's right – even though it is not always easy to slow down."

Both agree that, while times are changing, some traditions remain valuable. Bülent says, "I prefer old tools as I've grown used to them, but I see the benefit of technology. Speed doesn't replace attention to detail – mistakes undo the time saved. And sometimes, nothing beats the work done with a classic hammer!"

Ali agrees: "Technology is fast, yes, and I enjoy working with machines. But there is magic in working with your hands. You experience the work differently."

Bülent emphasises that while phones and social media are useful, they can be distracting, and he prefers face-to-face communication at work, believing that doing a job well doesn't depend on technology. Ali agrees on the importance of social media for staying updated but acknowledges that, again, balance is key – technology and work must coexist without one overpowering the other.

When it comes to teamwork, the bond between these two is clear. "Young people sometimes like to work alone," Bülent says. "I understand that, but the best results come from helping each other. In my time, teamwork meant everything."

Ali takes a moment to reflect on this. "I'm learning patience. Teamwork can be challenging when there are so many ideas, but in the end, it's always better when we work as one."

Both colleagues at the yard in Türkiye are driven by pride in their work. Bülent recalls finishing his first ship: "Every detail mattered. I learned respect for the work that day."

Ali shares a similar moment. "When the master said the job was complete, I felt so proud – but I know I've still got a lot to learn."

A fair wind for offshore renewables

There is no denying that the past couple of years have been challenging for the offshore wind sector. Inflation and high interest rates have led to cost overruns for the turbine manufacturers, projects cancelled, few or no bidders for new leases and delays to new grid connections. Additional factors have included a refocus on traditional, predictable energy sources due in part to political changes. Severe weather, environmental concerns and the lengthy processes to obtain regulatory approvals have also added to delays. Supply chains have been under pressure with competition for components as new entrants come into the sector. Yet despite a slowdown in starting new projects, the global industry achieved a 9% increase in output over the period.

The long view

"The offshore wind industry takes a long view and the fact is that demand for energy is only going to grow," says Frederik Andersen, Head of Renewables at leading maritime consultancy Clarksons, a long-standing partner of Damen with a history going back many decades. "To put it in perspective, offshore renewables currently account for just 0.4% of total global energy production. Analysts are forecasting that by 2035 offshore wind will account for 2-3% of global energy supply, a seven-fold increase in output. By 2050, it is expected to account for 7% of overall global energy output. So, while the sector has its headwinds at present, the medium to long term outlook is highly positive. In the meantime, investors are wary of committing funds while the political and regulatory environments are uncertain."

From the perspective of energy management, there remains the unpredictability of wind turbines. Until solutions are found for large scale energy storage, the power generated by variable renewable power sources will not be able to fully displace hydrocarbons, hydro and/or nuclear, but in the meantime there is still consistently more demand than supply for clean energy.

Looking ahead

There is much to be optimistic about. The new technologies now being developed have the potential to transform offshore wind. Wind turbines capable of generating more than 20MW with rotor diameters of more than 250 metres are now feasible and should be available from 2030. The final piece of the jigsaw is designing the many different vessel types that will play key roles in transporting, installing and operating these giant offshore power plants.

As the industry matures, it is expected that the first multi-purpose wind turbines will be deployed. These will be able to act as offshore refuelling stations, storing some of the electricity that they produce in batteries or directly recharging electric vessels that are operating in the vicinity. It is also envisaged that they will be used to produce green hydrogen. This is highly energy intensive, but the cost of energy at the point of production would be a boost for hydrogen-powered vessels, and could encourage the adoption of hydrogen and its derivative ammonia as mainstream maritime fuels. The price of liquid hydrogen would fall significantly using cheap energy and zero cost of transport, and allay safety concerns with production taking place far from land.

Strong demand for specialist vessels

"At the end of 2024, there were 14,000 turbines in operation spread across 333 wind farms, with around twenty nations involved, concentrated in the Far East, Europe and the USA," continues Frederik Andersen. "All these power plants require regular maintenance which is generating demand for the specialist vessels that host and deploy the technicians and their specialist equipment." Order books are strong with shipbuilders who have developed portfolios of vessel types to meet these specific needs.


Wijtze van der Leij

The look from the inside

At Damen we have continued to see strong demand for our crew transfer vessels (CTVs) and our Service Operations Vessels (SOVs)," says Wijtze van der Leij, Sales Manager Offshore Wind at Damen.

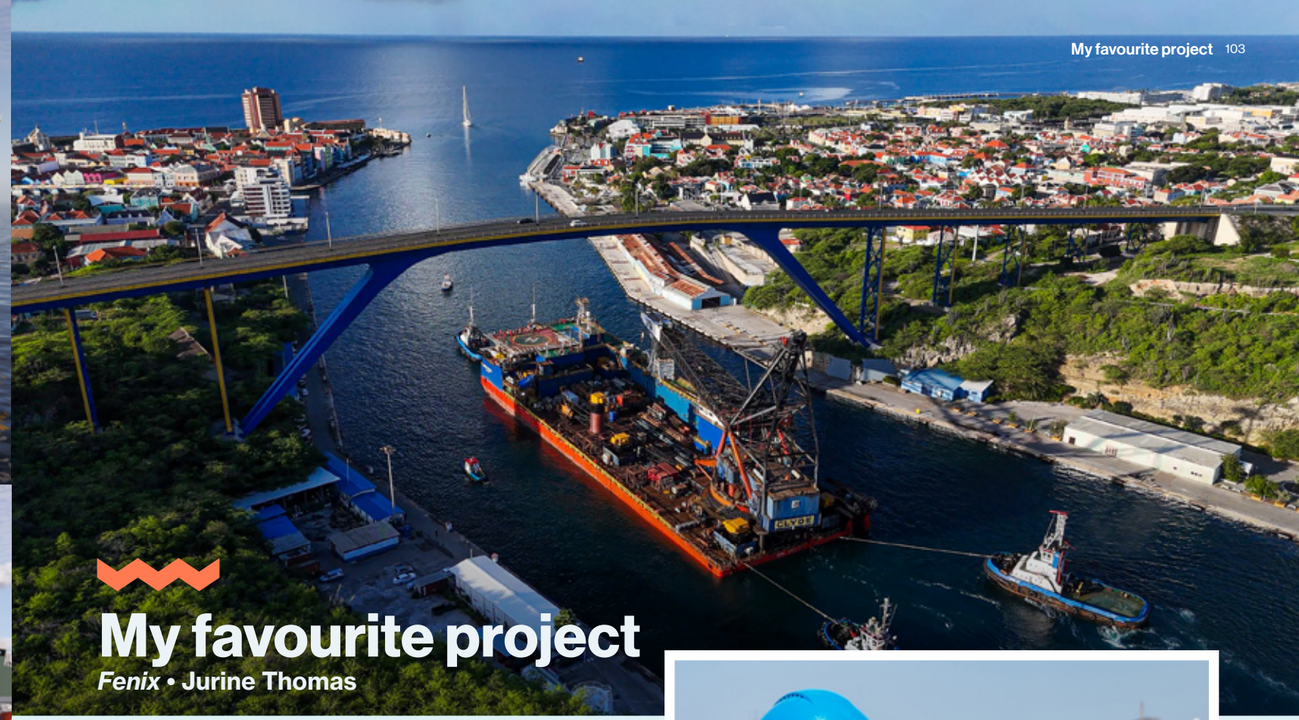
"We offer a wide range of models that continually evolve in response to customer feedback. Our Fast Crew Supplier (FCS) 2610 and 2710 CTVs have sold all over the world, and our latest version, the FCS 3210, which is available in both hybrid methanol and fully-electric versions, is already taking orders and is in build. The intense demand has led to waiting lists but we expect it to ease off in 2025, enabling shorter delivery times."

Demand is further underpinned by the fact that many of the heavy lift and other vessels from the oil & gas sector that have won contracts in offshore renewables are reaching their end-of-lives and will need to be replaced in the years ahead. Damen's SOV range, designed to optimise the maintenance of wind turbines, also continues to evolve. Its latest version allows for a range of power systems to be integrated into the vessels. As the technology develops, fully-electric, hybrid, methanol and hydrogen power plants could all be options for those operating in a green environment. "Currently Damen has nine SOVs in build or on order," adds Wijtze, "and with the oil and gas sector taking an interest in applying the SOV concept to their own activities, more are likely to be in the pipeline."

While floating offshore wind is still some years away, Damen is already consulting with the industry and based on the feedback is developing the Floating Offshore Wind Support Vessel (FLOW-SV) concept.

This new class will optimise the entire process of installing floating wind turbines, with the FLOW-SV designed to transport and install safely, quickly and reliably, the larger, heavier chains and fastenings that the turbines will require. As mentioned above the moorings are still under development, but the FLOW-SV concepts have already received a positive reception.

As with many new technologies, offshore wind depends on governments, financiers, a collaborative manufacturing base and the landside infrastructure coming together to deliver the solutions that will ensure its success. It is 31 years since the first eleven wind turbines were installed at Vindeby, Denmark, and the industry has achieved so much since then. The next decade will be pivotal, but there is every reason to look forward with optimism.



My favourite project

***Fenix* • Jurine Thomas**

Since joining Damen Shiprepair Curaçao in March 2017, I have had the chance to witness and support remarkable projects. However, the Fenix crane barge stands out as a project that will always hold a special place in my heart.

Fenix, a 121.57-metre-long and 43-metre-wide crane barge built in 1967, arrived at our yard under the flag of Mexico. The first time I heard about *Fenix*, In my role as Office Manager I was planning meetings and assisting with preparations, assuming it was a huge vessel. When I realised it was a barge, I was surprised. It was unlike anything we had seen docked here before. Watching her pass through the Sint Anna Bay and arrive at the shipyard was an unforgettable sight that left me deeply impressed.

The *Fenix* project showcased the incredible teamwork and dedication of everyone involved. For weeks the anticipation rose, as the island's interest in the project grew rapidly. From port authorities to local press, everyone came together to capture and celebrate this historic event. The pride I felt, knowing how this project puts Curaçao and Damen Shiprepair Curaçao on the map, was immense.

Inside the dock, seeing *Fenix* up close was breathtaking. The barge filled the entire A-dock, making it an immense undertaking for our team. Watching my colleagues work in such challenging conditions, crawling into tight spaces, only deepened my appreciation for their skills and commitment.

This project was not just about repairing steel; it was about unity, resilience, and family. We came together during joyful moments. The experience reinforced the strength of our team and our dedication to delivering quality work.

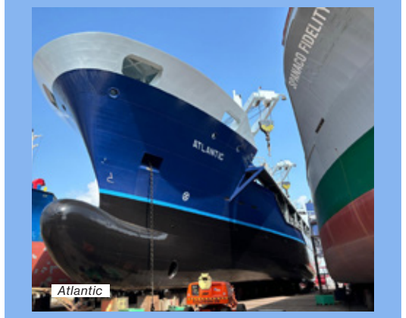
I am incredibly proud of what we accomplished with *Fenix*. It was not just a project; it was a reflection of what we can achieve when we work together.

Driving to the yard and seeing the massive *Fenix* barge in our drydock brought a huge smile to my face. I love ships, but now I can say I love barges too!"

SHIPREPAIR PROJECTS


Vivax

Damen Shipyards Den Helder
The *Vivax* suffered an unexpected setback when a fishing line in the seal caused a thruster leakage. The ship went into dock on the island of Texel. At the same time, Damen carried out maintenance on the bow thruster and replaced a single zinc anode.


Atlantic

Damen Shiprepair Harlingen
The *Atlantic* was hydrojetted and coated with silicone antifouling, and the propeller coated with Propspeed. The resultant increase in efficiency is anticipated to deliver fuel savings of between 8 and 10%.
At the same time, Global Seatrade chose to overhaul the entire controllable pitch propeller system – paving the way for the vessel to sail trouble-free for another ten years.


Nexus

Damen Shiprepair Amsterdam
Damen Shiprepair Amsterdam installed selective catalytic reduction (SCR) systems on Van Oord's *Nexus*, reducing the vessel's NOX emissions by up to 80%. The project involved fitting five SCR units, one for each engine, to meet IMO Tier III regulations.


Aroya

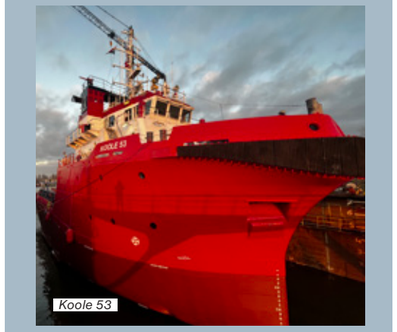

Noble Regina Allen

Damen Shiprepair Rotterdam
Extensive repairs and upgrades were carried out to the 98 x 84 metre jack-up rig *Noble Regina Allen*, owned by Noble Corporation. The project involved the removal and replacement of bracing and cords, repairs to the high tensile steel legs, in-house fabrication of the new leg section and the installation using Mammoet's Mega Jack lifting system.

The *Aroya*, formerly named *Manara*, was docked at Damen Shiprepair Rotterdam's Botlek location for a major refurbishment project. The 3,400-guest vessel featured five complimentary restaurants, ten specialty restaurants, thirteen cafés and lounges and exclusive spaces for women.


Hough Caribbean


Fenix


Koole 53

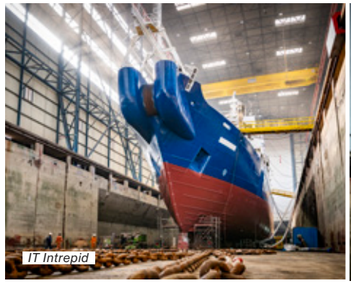
Damen Shiprepair Oranjewerf
The ship *Koole 53* docked at Damen Shiprepair Oranjewerf. The work consisted of painting, minor steelwork, recording of clearances, and reporting. When one of the two rudder stocks had to be re-jected, a temporary blind plate was installed, and the ship was launched. The yard then machined a new rudder stock itself, which it was able to install during a second docking in January, 2025.


Duchesse Anne

Damen Shiprepair Dunkerque
The *Duchesse Anne*, the last fully rigged ship under the French flag, called at the yard for removal of 350 tonnes of concrete ballast and various steelworks, sandblasting, and painting. The renovation is expected to be completed by mid-July 2025, in time for the Tall Ships Races 2025 programme.

Damen Shiprepair Curaçao and Damen Shiprepair Harbour & Voyage
Following a collision, damage occurred at the bow portside of a RoRo vessel. Our Harbour & Voyage team was requested to assist, and a pre-inspection was performed in Guadeloupe. Shortly after, the vessel drydocked at Damen Shiprepair Curaçao for a scheduled survey. Here, the DSHV riding team replaced the damaged area. All materials were prefabricated based on offset drawings in advance to avoid additional time in drydock.

A tailored operation in the port of Willemstad, Curaçao, saw a crane barge guided under the Queen Juliana Bridge with a clearance of only 1.5 metres between the barge's crane and the bridge's centre. The crane barge then drydocked at Damen Shiprepair Curaçao for a lifetime extension to the hull and boom in a cooperation between Damen Shiprepair Curaçao and Damen Shiprepair Harbour & Voyage.


IT Intrepid


Geo Ocean III

Damen Shiprepair Vlissingen
IT International Telecom's cable-laying vessel *IT Intrepid* entered drydock number 2 for a special survey. Due to the vessel's age the yard was facing an extensive scope of work including exterior and interior coatings, installation of a ballast water treatment system, and overhauls of lifeboats, thrusters, cooling systems, and deck machinery.

The offshore survey vessel *Geo Ocean III* docked at the yard for a 5-year special survey. The work scope was diverse, requiring a range of mechanical works and painting to take place simultaneously. Despite time constraints, both dedicated teams from the client and the Damen crew worked hard with great synergy.

Damen Shiprepair Brest
The *Disney Dream*, a 340-metre-long vessel built in 2010, underwent a comprehensive workscope that included sustainability upgrades, major mechanical works, maintenance of life-saving appliances, and logistics support for major interior refurbishment works. Key tasks involved the removal and replacement of the hull paint system, exchange of all thrusters, overhaul of stabilisers, tailshaft bearing exchanges and machining, and the removal and refitting of the Aquaduck slides.


Disney Dream

Galați

Damen's Romanian stronghold

Since the beginning of 2025, Damen Shipyards Galați has been part of our Naval division. The dramatic transformation of the international security situation has driven a rise in interest in European-built naval vessels. Galați will become Damen's epicentre for the construction/hull construction of larger topside vessels for navies, in addition to the ongoing construction of other vessels such as full electric ferries.

The order book for naval vessels already includes two anti-submarine warfare frigates for the Royal Netherlands Navy and two for the Naval Component of the Belgian Armed Forces. Work is also continuing on the building of a Multi-Purpose Vessel (which will also serve as a drone carrier) for the Portuguese navy.

Established:	1893
Part of Damen:	1999
Ships delivered since 1999:	±500

Employees

Damen Galați:	1,800
Subcontractors:	700

Covered workshops

Cutting/steel prefabrication:	9,200 m²
Section building:	12,365 m²

Halls

Assembly:	11, including a new 120-metre hall
Blasting and painting:	5

Aluminium fabrication and piping

Steel fabrication

Workforce capacity:	1 million hours per year
Steel cutting capacity:	20,000 tons per year

3D robotic line for flat bulb profile processing
High-def plasma cutting solutions

Dry berths:	6, up to 220 meters and 60,000 tons dwt
Slipways:	2
Quayside:	1.5 kilometres
Uncovered assembly berth:	17,000 m²

Investment 2025-2026

Extension and raising of the Estacada hall for future newbuild programmes (including naval): 26 million euros.

Designing for inclusivity

What does it take to design a frigate that meets the requirements of a truly diverse naval crew? That was the challenge Damen Naval, the Royal Netherlands Navy (RNLN), and the Dutch Materiel and IT Command (COMMIT) tackled during a one-day design sprint: Frigate of the Future.
The goal was to reimagine inclusivity, not as a buzzword, but as a guiding principle to improve both crew well-being and mission readiness.

Naval vessels operate in high-stakes environments where every design choice can impact performance, safety, and the well-being of the crew – sometimes making the difference between success and failure, or even life and death. Recognising this, the discussions began with a focus on gender-specific requirements, but naturally expanded to consider inclusivity across genders, cultures, roles, and responsibilities.

Hosted at De Werkspoorkathedraal in Utrecht, the sprint brought together a multidisciplinary team of approximately twenty participants, divided into three groups. Each team included RNLN crew members, naval architects from COMMIT, and Damen Naval engineers, specialising in research and development. The varied mix of expertise allowed for a meaningful exchange of ideas.

> “Design can actually change reality.”
> **- Elanor Boekholt-O’Sullivan**

Pictionary

The day began with an introduction to design-thinking principles, emphasising divergent and convergent thinking.
A playful icebreaker, Pictionary, set a collaborative tone, while Lightning Talks and curated question cards revealed the challenges of naval life, such as limited privacy, coping with incessant noise, and the psychological toll of long deployments.

These insights fed into affinity mapping and the creation of actionable how might we (HMW) questions.

“This societal shift might require a ship design reformulation. How can we provide more comfort while maintaining ship capabilities and performance?”

Annelies Damen and Lieutenant General Elanor Boekholt-O’Sullivan

Noise levels and privacy

After lunch, the teams moved into ideation using structured methods. Challenges were mapped by frequency and impact on an X/Y chart, highlighting issues such as shared space, noise levels, or modular layouts for privacy.

Then teams used a morphological chart to systematically combine features – such as modular layouts, noise-dampening materials, and reconfigurable spaces – to develop multifunctional design concepts. Sketches and scenarios were then brought to life through storyboarding, imagining how adaptable designs could function under real-world conditions.

Three concepts were presented to a jury, including Lieutenant General Elanor Boekholt-O’Sullivan, Deputy Director-General of Policy at the Netherlands Ministry of Defence, Vice Admiral Jan Willem Hartman, Commander of COMMIT, and Annelies Damen, Supervisory Board member at Damen. The jury also included a panel of industry experts from Damen Naval.

Living pods

An innovative idea that gained traction was the introduction of living pods. These customisable spaces, inspired by Japanese capsule hotels, would allow crew members to personalise temperature, lighting, and sound levels, to improve sleep and enhance comfort during long deployments. A good night’s rest is half the battle.

Human-centred innovation

As the jury emphasised, the success of these ideas lies in their adaptability; not only to meet the immediate demands of today’s crew but also to evolve with changing naval requirements. Concepts like ergonomic accessibility innovations, modular layouts, and enhanced logistical routes have the potential to reshape how navies think about crew well-being.

The panel explored the practicality and feasibility of the ideas. They also urged teams to consider scalability and long-term durability. A key outcome of the sprint was a shift from focusing solely on representation to making inclusivity a strategic priority. The conversation moved beyond gender-specific requirements to adaptable designs that can improve life and work for each and every crew member on board.

However, this is just the beginning. The design sprint marked the first step in incorporating these ideas into future naval design briefs, with the aim of incorporating human-centred innovation into practical solutions. As Elanor Boekholt-O’Sullivan said, “Design can actually change reality.”

GLOBAL PRESENCE

Yards & Companies

Australia
Damen Services Australia - Brisbane
Knud E. Hansen - Perth

Bangladesh
Damen Services Bangladesh - Dhaka

Brazil
Damen Services Brazil - Rio de Janeiro

Canada
Damen Services Canada - Victoria

China
Damen Shipyards Changde
Damen Yichang Shipyard
Damen Marine Components Jiangyin
Damen Trading Suzhou

Curaçao
Damen Shiprepair Curaçao

Denmark
Knud E. Hansen - Elsinore
Knud E. Hansen - Odense

Faroe Islands
Knud E. Hansen - Tórshavn

France
Damen Shiprepair Brest
Damen Shiprepair Dunkerque

Germany
Damen Services Germany - Hamburg
Damen Naval Hamburg

Norway
Damen Folla

Panama
Damen Services Central America - Panama

Poland
Damen Shipyards Kozle
Damen Shipyards Gdynia
Damen Engineering Gdansk
Damen Marine Components Gdansk

Romania
Damen Shipyards Galați
Damen Workforce Romania
Marine Design Engineering Galați

Singapore
Damen Schelde Marine Services

South Africa
Damen Shipyards Cape Town
Damen Services Africa - Cape Town

Spain
Knud E. Hansen - Cádiz

Türkiye
Damen Shipyards Antalya

Ukraine
Marine Design Engineering Mykolayiv

United Arab Emirates
Damen Services Middle East - Dubai
Albwardy Damen - Dubai
Albwardy Damen - Fujairah
Albwardy Damen - Sharjah

United Kingdom
Damen Services United Kingdom - Southampton
Knud E. Hansen - London

United States
Knud E. Hansen - Fort Lauderdale

Vietnam
Damen Song Cam Shipyard
Damen Services South East Asia - Haiphong

The Netherlands

Gorinchem
Damen Shipyards Group
Damen Shipyards Hardinxveld
Damen Workboats
Damen Technical Cooperation
Damen Maritime Ventures
Damen Services
Damen Financial Services
Damen Shipyards Gorinchem
Damen Civil & Modular Construction
Damen Green Solutions
Damen Compact Crafts
Damen Marine Services
Damen Cargo Vessels
Damen Offshore & Specialised Vessels
Damen Digital Solutions
Damen Trading & Chartering
Bawat Damen

Amsterdam
Damen Shiprepair Amsterdam
Damen Shiprepair Oranjewerf
Niron Staal Amsterdam

Den Helder
Damen Shipyards Den Helder

Drachten
Damen Cargo Vessels

Texel
Damen Shipyards Den Helder - Oudeschild

The Hague
Damen Corporate Affairs

Hardinxveld-Giessendam
Damen Marine Components

Harlingen
Damen Shiprepair Harlingen

Vlissingen
Damen Yachting
Damen Naval
Damen Naval Services
Damen Shiprepair Vlissingen
Damen Schelde Marine Services

Nijkerk
Damen Dredging Equipment

Werkendam
Concordia Damen Shipbuilding

Rotterdam
Damen Shiprepair Rotterdam - Botlek
Damen Harbour & Voyage

Schiedam
Damen Shiprepair & Conversion
Damen Shiprepair Rotterdam
Damen Anchor & Chain Factory

Stellendam
Damen Shipyards Maaskant

Our core values

Fellowship

We believe firmly in our team – but also in the strength of the individual – working together as One Damen. Together with you and with our industry partners, we form close collaborations focused on ensuring your total satisfaction.

Craftsmanship

In the previous century, we revolutionised shipbuilding. Thanks to standardisation and serial production, we were able to supply our customers faster with better ships.
More than ninety years and 7,000 ships later, those pillars are unchanged. Their importance is only increasing with the rising need for maritime sustainability and digitalisation. It is not efficient to find new solutions for every single ship to get them green and connected.

Stewardship

As a family business we look to the long-term. Our goal is to secure the future for the next generations. We achieve this by greening our vessels – and the processes by which we create them. We believe passionately that, in order to ensure the opportunities presented by our waters for the next generation, we must utilise them as efficiently and responsibly as possible. This is why we aim to become the most sustainable shipbuilder in the world. Our ambitions lie in circularity and zero emissions sailing.

Entrepreneurship

We strive to understand your business and to help you add value to it as a trusted partner. We offer ship-as-a-service concepts, in which you pay for use and not for ownership, as well as a range of financial services tailored to your requirements. In this way we can support you over the entire product lifecycle; from design, engineering, construction and maintenance to the recycling of our ships.

Our Mission

Becoming the most sustainable and connected shipbuilder in the world.

Our Vision

At Damen, we believe that oceans, seas, lakes and rivers offer humanity a growing range of possibilities in the areas of trade, food, energy and recreation.

We offer unprecedented maritime solutions for this through design, shipbuilding, ship repair and related services.

We offer versatile platforms to connect the world and enable you to be successful.

Innovative ships that inspire and raise the standard in terms of safety, reliability, efficiency, ease of use and – crucially – sustainability.

SUSTAINABILITY COMPASS

Navigating to zero

Are you our new colleague?

career.damen.com

DAMEN
OCEANS OF POSSIBILITIES