Dear Reader,

Welcome to the fifth edition of our annual Damen magazine. This year’s volume is a special one, marking as it does 90 years since brothers Jan and Marinus Damen started Damen Brothers Shipyard. In these pages we take a look back at the events, vessels and – most importantly of all – the people that have contributed to the Damen story.

Of course, as we celebrate this anniversary we also keep in mind the challenges that are currently faced by some of the industries we serve. These are a reminder of the cyclical nature of the shipbuilding industry; we have seen similar times before. Then, as now, our presence in so many of the maritime sectors positions us well to weather the storm. And certainly, there are markets that continue to perform well – fishing and aquaculture for example; sectors for which we have recently unveiled new designs. The drive towards renewable energy and green solutions continues to gather pace. We have answered this call with a comprehensive range of products catering to, for example, the offshore wind industry and the recently ratified IMO Ballast Water Management Convention.

Yachting is also experiencing good times. Here the synergy between Damen and Amels is bringing fresh options to our clients. Last year we received the order for the first of our SeaXplorer range – Damen built adventure yachts that are being marketed by Amels.

Challenging times also serve to remind us that our industry demands constant innovation. As always at Damen, we hold a long-term view on things and are taking the time to develop our portfolio of solutions so that, when the upturn comes we will be ready to respond.

A lot has happened in 90 years and the maritime industry has experienced some profound changes. Some things, however, stay the same, including our approach of listening to what our clients have to say and having the flexibility to respond to their needs. In this way we aim to continue long into the future, delivering reliable solutions with the same pride and craftsmanship that have been our hallmarks from the beginning.

Enjoy the issue!

Kommer Damen
Dear Reader

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Mackenzie Marine & Towage (MMT) of Esperance, Western Australia, took delivery of two, twin-fin Azimuth Tractor Drive 2412 Tugs for operations in Bunbury Port, on the south-west coast of Western Australia. The compact, heavy-duty tugs, named Cape Naturaliste and Cape Leeuwin after local landmarks, have a bollard pull of over 70 tonnes. That, combined with a top speed of over 12 knots both ahead and astern and a powerful aft winch, makes them ideal for continuous and effective harbour towage activities.

The ability to meet the short delivery time for the order was a key part of the contract and the tight time frame meant that MMT was not able to inspect the yard or the vessels that Damen had ready in stock before placing the orders.

However, MMT Managing Director Sean Mackenzie explains this was no issue: “We have built a wonderful relationship with Damen over the last 10 years so we know we can trust them to have the very best tugs and back-up support in Australia.”

Guido Febus has recently taken up the role of Group Compliance Officer for the Damen Shipyards Group. Guido has worked in compliance for the past 15 years, in a range of different sectors. Before starting at Damen in September last year, he spent time working and living in the US.

Guido specialises in anti-bribery and corruption compliance. The initial focus of his role at Damen will be on supporting the management in maintaining a robust and effective compliance programme. A part of this will be about supporting an open culture in which employees feel comfortable speaking up about compliance related matters, including raising the profile of measures already in place, for example the company Whistleblower Policy.

Speaking of his new role, Guido said, “Damen is a company in which people are very proud of what they do. They are very positive and eager – something I also see in their approach to compliance. I am very impressed by what Damen has done so far in terms of compliance processes, in a relatively short space of time.

“As always, however, there is still work to be done. We need to maintain our pace and ensure we keep a high level of awareness and self-criticism in order to identify and mitigate the risks associated with our business model. At the same time, we need to demonstrate to our stakeholders just how serious we are about ensuring compliance in all that we do.”
UPDATES

Damen Schelde Naval Shipbuilding delivers first Sigma 10514 PKR Frigate to Indonesian Ministry of Defence

Damen Schelde Naval Shipbuilding (DSNS) has handed over the first SIGMA 10514 Perusak Kawal Rudal (PKR) frigate to the Indonesian Ministry of Defence, on schedule and on budget. The ceremony took place at the PT PAL shipyard in Surabaya where the vessel was assembled.

The Indonesian Ministry of Defence awarded the contract to Damen as main contractor for the construction of the first SIGMA 10514 PKR in December 2012. On receiving the ship, named the Raden Eddy Martadinata after one of the founders of the Indonesian Navy, the Ministry handed it on to the Navy. The 105-metre, 2365 tonne PKR frigates are designed to undertake a wide range of missions in and around the waters of Indonesia, an archipelago nation made up of over 18,000 islands. Their primary mission is anti-air, anti-surface and anti-submarine warfare. However, they are also equipped for maritime security, search and rescue, and humanitarian support tasks.

The Raden Eddy Martadinata was built using a collaborative modular process operating simultaneously at DSNS in the Netherlands and PT PAL shipyard. The vessel is made up of six modules, and for the Raden Eddy Martadinata four of these were built at PT PAL in Indonesia while the other two modules - the power plant and the bridge & command centre - were built and fully tested at DSNS before being shipped for final assembly at PT PAL.

Construction of the second frigate using the same procedure is now well advanced with sea trials due May 2017 and delivery October 2017.

Gas carriers for LNG market

The maritime LNG market has been described on numerous occasions as ‘a chicken and egg’ situation. This is because ship owners have been reluctant to make the switch to LNG because of the lack of bunkering infrastructure. At the same time, bunker infrastructure has been slow to get up to speed due to low market demand.

The outlook is changing says Bastiaan Schurink, Damen Shipyards Bergum’s Design & Proposal Marketeer. “Emissions regulations are getting tighter every day. Ships need to reduce their emissions – and one way to do that is LNG. Another important point is that the subject of LNG is becoming more and more interesting: both commercially and politically. There are a growing number of European LNG bunkering projects that have been initiated by well-known oil and gas majors.”

In response to these developments, Damen is promoting its range of Liquefied Gas Carriers for the transport of all types of liquefied gases (LPG and VCM in addition to LNG). With proven hull forms, the series of vessels will offer a broad spectrum of cargo capacities: 500, 1,500, 3,000, 5,000, 6,500 and 7,500m³.

“At the moment this is a small niche market – but it’s up and coming,” highlights Mr Schurink. “The European market is getting the ball rolling, and we expect these developments to continue in other regions too. For example, the North American market is paying more attention to emissions. And the feeder markets in Indonesia and the Mediterranean are also interesting.”
In February 2017, Damen was awarded the contract to build two custom, multi-purpose tugs for Baggerbedrijf De Boer B.V. (Dutch Dredging B.V.) on behalf of subsidiary De Boer Remorquage SARL.

Ordered for a 10-year contract that Dutch Dredging has signed with Grand Port Maritime de Guyane, the Water Injection Dredging Tug 2915 HYBRID and Azimuth Stern Drive 2310 SD Tugs are destined to operate in the ports of Cayenne and Kourou in French Guiana. Their primary function will be to assist ships with entering and leaving port and rendering help in the event of emergencies. Moreover, the tugs will serve a secondary role in assisting with maintenance dredging operations in and around these ports.

Joining Dutch Dredging with this project in Guiana is the IJmuiden-based Iskes Towage & Salvage, co-owners of the French subsidiary, De Boer Remorquage SARL.

“While we know Iskes Towage and Salvage well, this is our first time working with Dutch Dredging,” Jos van Woerkum, Managing Director of Damen Shipyards Hardinxveld comments.

Yet in just a few months we developed together the WID 2915 by taking an existing Damen design and adding the collective experience of the two project partners to create the optimum solution. The success of this deal was based on the trust and respect for each other’s knowledge that the counterparties quickly developed.”

Hugo de Graaf, Dutch Dredging CEO, commented, “We chose Damen for its reputation for designing and building both tugs and dredgers to a high standard. Together we have designed something really special.”

Fisheries Research Vessel for German Federal Office for Agriculture and Food

After a European tendering process, the German Federal Office for Agriculture and Food (Bundesanstalt für Landwirtschaft und Ernährung, BLE) awarded Damen a contract for a Fisheries Research Vessel. The 85-metre long vessel, to be called the Walther Herwig, will support Germany’s fisheries and oceanographic research programmes. Damen will construct the vessel to the highest levels of scientific and environmental standards at Damen Shipyards Galati in Romania with delivery expected in January 2020.

The Walther Herwig will be the largest vessel in the German Federal Ministry of the Agriculture and Food fleet. It will have accommodation for 26 crew and 26 scientists. In terms of scientific facilities and equipment, it will be equipped with two hangars, wet and dry laboratory areas and trawling gear for both demersal and pelagic fisheries research. For physical and biological oceanographic studies, scientific teams will be able to utilise winches capable of relaying equipment to depths of up to 6,000 metres.

Eight Interceptors for Panama

The President of Panama, Juan Carlos Varela, has performed the naming ceremony of four Interceptor 1102 vessels. The vessels will be mobilised by the National Air and Naval Service of Panama (SENAN) as part of anti-drug trafficking operations in the Caribbean.

The Interceptor 1102 is an extremely suitable choice of boat for such activities, says Damen Sales Manager Americas Pieter Becker. “This is an ultra-fast vessel – it can reach speeds of more than 55 knots.” Contributing to such high speeds is the low weight construction from fibre reinforced polymer materials combined with twin Volvo D6 engines. Furthermore, the vessel’s single chine hull reduces the amount of impact in heavier seas and improves high-speed manoeuvrability. Damen’s R&D department has also paid close attention to ergonomics and safety for the six persons on board (two crew plus four additional naval or security personnel).

In addition to anti-drug trafficking duties, the 11-metre long Interceptor is also ideal for other maritime security operations like anti-smuggling, anti-terrorist, rapid response, surveillance and Special Forces operations. Coinciding with the vessel handover, SENAN signed a second contract with Damen for an additional batch of four Interceptors. Both contracts include a comprehensive after-sales package that consists of training, spare parts and maintenance.
**InvaSave receives timely type approval**

Damen’s award-winning, mobile, ballast water treatment system has recently received IMO type approval. An external ballast water treatment unit designed primarily for use in ports and harbours, the Damen InvaSave treats ballast water to the IMO D-2 standard, for ballast water received from inbound ships. It can also deliver water treated to the same standard to outbound vessels. Its mobile, containerised format means that it can be operated from the dockside or from onboard a vessel alongside, receiving or delivering water to a ship.

Damen has dedicated years of research on the development of the InvaSave, including collaboration with some of the leading research institutes in the Netherlands and other partners, including Groningen Seaports, Wagenborg, MariFlex and Waddenfonds.

Marcel Karsijns, Managing Director of Damen Green Solutions, said: "InvaSave solves the ballast water challenge in ports. We are very proud to receive IMO type approval – it proves the capabilities of this product, something that we have believed in for a long time now. We are looking forward to providing this solution to the market .”

Philip Rabe, responsible for InvaSave sales at Damen, says: “The InvaSave is a unique product – this is a truly innovative solution developed with the needs of the future in mind. Its application goes well beyond the relevance it has for ports too. In many cases, it offers vessel owners a viable and cost-effective alternative to retrofit. And, in the event of failure in an on board system, it ensures that owners have a means by which to access water treatment quickly, equalling no downtime.”

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**First Damen Service Operation Vessel Bibby WaveMaster 1 launched**

With the completion of the Bibby WaveMaster 1 bow and aft sections at the end of 2016 and a successful slipway launch held in March, the construction of the first ever Damen Service Operation Vessel (SOV) is now at full speed ahead.

The custom-designed, 90-metre length DP2 SOV for Bibby Marine Services is equipped with a motion compensated access system.

Other solutions include a heave compensated offshore-rated knuckle boom crane and the onboard capacity to host 90 personnel in ensuite Comfort Class 2 type accommodations.

Bibby WaveMaster 1, built at Damen Shipyards Galati, will be deployed in the North Sea to support future offshore wind construction and O&M projects and is planned for delivery in August 2017.
In February this year, Damen Shiprepair & Conversion (DSC) successfully completed a series of works on two major vessels in the fleet of dredging, offshore, civil and environmental contractor Jan de Nul Group, in just over 5 weeks.

The work took place at Damen Shiprepair Vlissingen (DSVI) and Damen Shiprepair Brest (DSBr) and involved a 140-metre length jack-up vessel called Vole au Vent as well as a 223-metre length trailing suction hopper dredger, named Leiv Eiriksson. Both vessels are among the largest in their classes, anywhere in the world.

Vole au vent arrived at the end of 2016 at DSVI after having successfully served in the first phase of the Nobelwind offshore wind farm project, just off the coast of Belgium. Focused on getting the vessel ready for her second deployment on the project, modifications were made over the course of 2 weeks. The scope of work included the demobilisation of her existing equipment as well as the installation of a new configuration for the WTG installation phase.

Following the completion of the first vessel, the 223-metre Leiv Eiriksson – used on a large-scale land reclamation project in Nigeria, left DSBr on February 16th after a 3-week maintenance programme.

Satisfied with the outcome, Carlos de Vliegere, Sales Manager at DSC, commented: “Jan de Nul Group is a valued customer of the Damen Shipyards Group and we are delighted to have been able to deliver the services they needed within the timescale required.”

Damen unveils Marine Aggregate Dredger

Damen Shipyards Group has announced a new line of Trailing Suction Hopper Dredgers (TSHD), comprising of the Marine Aggregate Dredger (MAD) 4000 and 5600 vessels.

Designed in collaboration with Maritime Design and Engineering Services (MD&ES), the MAD 4000 and 5600 are welcome additions to Damen’s TSHD portfolio. The new vessels will be able to work in North Sea conditions up to depths of 60 metres. These capabilities allow sand and gravel mining farther from shore than preceding models.

Olivier Marcus, Damen’s Product Director Dredging comments: “We’ve tailored the technical specifications in line with the port infrastructure in the region in which the dredgers will operate. Furthermore, we’ve paid close attention to seakeeping behaviour in order to ensure the vessels can operate comfortably and safely, even in harsh weather conditions.”

Future proof

The bow shape allows operation in adverse weather conditions. The shape is based on a proven Damen design. In addition to improved seakeeping behaviour, the bow shape also protects the sand and gravel cargo from green water ingress.

The MAD vessels have been developed with tomorrow in mind, states Mr. Marcus: “These vessels are future proof. Featuring Tier III engines and, requiring no ballast water, fully compliant with the latest IMO regulations, these dredgers are looking forwards. On top of that the design also takes into account the possible future requirement for advanced automation.”

DSC completes work on Jan de Nul vessels

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Amels goes further beyond

Plvs Vltra is the first 74-metre Amels 242 (242 ft) from the Limited Editions range. The superyacht’s streamlined Tim Heywood design and characteristic paint scheme make her instantly recognisable at any marina. Delivered in 2016, this family boat features large outdoor spaces, a 6.5-metre long pool and a Jacuzzi above the wheelhouse.

“The Owners were heavily involved in the design aspects,” reports Captain Simon Truelove. “When they came to meet us for their first trip on board, they were absolutely stunned at the outcome.

Connections to the sea include the unique wellness centre midships with a folding beach balcony. The yacht has a dedicated owner’s deck with forward-facing owner’s suite – exquisitely crafted with interior designer Andrew Winch’s fresh take on Côte d’Azur grandeur. The Amels 242 has quickly become a signature design for large yachts in the Amels Limited Editions range. Amels is already working on the fourth Amels 242 for delivery in 2019.
Meyer Group orders two Damen ASD 2913 Tugs for Panama Canal operations.

During last year’s Panama Maritime XIII World Conference, Meyer Group of Companies was granted a contract to offer towage support on the expanded Panama Canal, resulting in their current order of two ASD 2913 Tugs.

The Arcangel San Rafael and Arcangel San Gabriel will give the company an 11-strong fleet. Six of these are Damen vessels.

Michel Mittelmeyer, Chief Executive Officer of the Meyer’s Group, said: “There has been a substantial pick-up in activity following the canal expansion. Feeder vessels are being replaced with mega containerships and tankers, as the new Panama Canal lane allows heavier traffic to pass. Hence the need for stronger, versatile tugs. This is why we chose the Damen ASD 2913 Tug and remained loyal to Damen. It has 80 tonnes bollard pull, superb maneuverability, is very responsive, safe and comfortable for the crew.”

Thrilled with the returning client, Pieter Becker – Sales Manager Americas adds: “The Meyer’s Group is a very loyal customer and it is a good sign that they have come back to us again. Damen very much enjoys collaborating with the Meyer’s Group and supporting them in their success.”

Recently launched Damen Yacht Support is a Game Changer

Damen will deliver its latest 70-metre Yacht Support Game Changer in May. Yacht owners take their Yacht Support vessels all over the world in support of the mother yacht.

“Our clients want to go to exciting new destinations with less established superyacht infrastructure and they want to have more fun with larger tenders, larger helicopters and submersibles,” comments Damen Product Director Mark Vermeulen. “They also want to take more staff, guides, pilots and security personnel with them. Game Changer is the massive leap forward in capability that they need, but at a much lower cost than a larger yacht. Plus, they get all the benefits of flexible operations and privacy. That’s why we call it the Smart Stretch.”

With a dedicated 250m² open deck space, above deck facilities include amongst other things a fully certified helideck and large deck cranes for improved logistics and object handling. Once landed on the helideck, a state-of-the-art lift system allows lowering the helicopter into the hangar below deck to protect it from the elements and for refuelling. Additional one-off facilities below deck include a 110m² storage space or dive center, offices and accommodation for 22 crew and staff.

Game Changer is a fantastic showcase of the Yacht Support solutions that our most adventurous clients are looking for and is a welcome addition to Damen’s existing portfolio of eleven Yacht Support vessels delivered or in build.

Niron Staal launches RoPax 5212

The launch, on 31st January, of a RoPax 5212 hull, marks Niron Staal Amsterdam’s first newbuild contract with Damen Shipyards Group.

According to Roland Berends, Director at Niron Staal Amsterdam, the RoPax 5212 hull was a noteworthy project: “First and foremost of course as it was our first newbuild contract with Damen.

Secondly, also because of the expertise and experience shared between both parties throughout all engineering phases.

This resulted in a hull, fully painted and with all hot works completed, in less than 3 months. A great accomplishment within the deadline set.”

“We are pleased to say that we will be commencing multiple contracts in the spring,” informs Mr. Berends. “And, of course, we will be using the lessons learned from this first successful project to continually improve our construction and management processes.”

Currently, the RoPax 5212 Passenger Ferry hull is being outfitted for final delivery at Damen Shipyards Hardinxveld, where it was towed on February 1st following the launch.
Arold de Vries started working at Damen almost 6 years ago; his primary mandate was to set up a global human resources function. “This was new territory for the group because, before that time, each yard handled human resources issues on their own,” he explains. “Our ambition was to create a more consistent HR policy, as well as to become number one employer in the maritime sector. It has been a rollercoaster journey, but we have achieved this using various tools. An excellent internship programme and business courses for students, for example. Talent management has also been an important part of the process. This is the core of the HR department. When you have good people, you have to help them develop.”

Mr De Vries’ ideas of giving people the right tools to develop and flourish in their job also extends to the people in his own department: “It’s my job is to make sure that my colleagues are successful. I only achieve results if my team achieves results.”

Bringing in new ideas
The newest member of that team is Vera Immerzeel. A Bachelor and a Master of Human Resources, a major part of her role is to communicate with her stakeholders throughout the company. This can be talking to a member of the Executive Board at one moment, and a new intern on their first day with Damen at the next. “It is very important to connect these stories from various people from the different levels of the company,” she says. “This is what makes Damen such a people-focused organisation.” And this is actually one of the reasons why she likes working for Damen: “There’s so much to learn here, and so many people to learn from.”

As a recent graduate, Ms Immerzeel’s tasks also include devising and implementing new ideas to develop talents and expanding the Group HR department. A notable example is the Damen Business Experience she organised recently. “We invited 15 technical students to a 3-day course to learn more about Damen,” she explains. “This was a great success – some of those who attended are now working for Damen.”

The Damen Business Experience sums up the philosophy of the Group HR department. “We need to have social skills, but in a business role,” adds Mr De Vries. “There are always new things to invent – new things for us to do.”
MESSAGE FROM THE BOARD

ARNOUT DAMEN
CHIEF COMMERCIAL OFFICER

FRANK EGGINCK
CHIEF FINANCIAL OFFICER
As Damen celebrates 90 years of shipbuilding, it faces a challenging time in a number of markets and the rapid evolution of technological advancement. Here, the company’s Executive Board, Chief Executive Officer René Berkvens, Chief Commercial Officer Arnout Damen, Chief Financial Officer Frank Eggink and Chief Products Officer Jan-Wim Dekker, voice their thoughts on Damen’s recent performances and directions for the future.
Q. In this year's Damen magazine, we are looking back at the history of the group. As we do this, the growth of Damen over the decades from a small Dutch yard into a global maritime enterprise is striking. Throughout this international expansion, what has been the key to ensuring sustained development and success?

FRANK: There are a considerable number of factors behind this. At the root of Damen's success is the standardised vessel concept introduced by Kommer Damen in 1969. This unique approach offers Damen clients a range of advantages, including the fastest possible delivery of proven, reliable vessels. Added to this is our relentless customer focus, the continual process of listening to clients and incorporating their feedback into the evolution of our products. Furthermore, within Damen there is an unwavering commitment to the spirit of entrepreneurialism. Because of this, we are willing to take the necessary risks in pursuit of satisfying the requirements of our clients.

RENE: It's also about presenting people with the same mission and vision values. When people join Damen as an employee, they receive the same introduction to the company – all over the world. Our intranet is being rolled out group-wide, as is our Code of Conduct. We are creating our own culture and ensuring that all our people are aligned.

ARNOUT: The One Damen label is important. We have the same rules of engagement, including safe working conditions, supplier coordination, compliance processes and communications policies, everywhere in the group.

JAN-WIM: Our core values see to this – we want to see our people enthusiastic about what they do and comfortable too. One of the key things is that we allow people to speak and to share their ideas. And, very importantly, we have a common culture across the organisation – client focus. Customer is key.

Q. What do you think about Damen's performance in 2016 – given the economic circumstances would you consider it to be reasonable?

RENE: We are living in the toughest of times. The Shipbuilding market is difficult on a worldwide scale, particularly in the Far East. Low oil and gas prices and low commodity prices are reducing demand for large ships. This has the knock-on effect of reducing the requirement for smaller vessels and port development. It’s the perfect storm and we are affected by it. On the other hand, because we are a niche player it’s not all bad news. Some markets are still performing well – fishing, yachts, defence, cruise, ferries and offshore wind are examples.

FRANK: Although the year still came in at a profit, we cannot afford to be complacent and should shift gears to further reduce costs, improve quality and improve project execution and risk management. A number of markets we serve are being faced with rather sustained oversupply and it is going to take a few more years before new equilibriums between supply and demand will be found.

Q. Last year, there was some realignment within Damen with the re-positioning of some key roles and personnel within the organisation – could you explain a little about the reasoning behind this and has it been a success?

FRANK: The Maritime industry, and Damen as a part of that, is in the first throes of a transformation. Against such a backdrop we should take the best from our past and prepare for – and if possible help shape – the future. We should strengthen the core of our company and prepare for sustained relevance in the future; the right suite of products & services with the right specification and quality, built and offered economically and at acceptably fast delivery times. To do that, we should always have customer expectations top of mind.

ARNOUT: We are working on giving clients a better price quality ratio, developing new solutions and looking to reduce the total cost of ownership. We want to support our customers in becoming more profitable by improving our processes, being more flexible in customisation, being faster and offering more solutions for monitoring and maintenance.

Q. Clearly it's going to be some time yet before we see major improvements in the offshore industry – which markets do you expect will perform well in the coming months?

ARNOUT: A number of markets look good for this year – yachting is
doing well. Amels had an excellent year in 2016 with a large number of orders for newbuild and maintenance. Offshore wind is likely to improve; aquaculture and fishing are performing well.

FRANK: Order intake in 2016 increased slightly compared to 2015 and the deal funnel contains an interesting set of opportunities. Significant resources are invested in the preparatory work for some large multi-vessel projects and the development of improved and new vessel types for a number of current and new markets. Outstanding customer service increasingly helps differentiate Damen from the competition; with an increasing number of Service Hubs close to our customers and Damen maintenance programmes, we can really add value for our clients as we help increase the operability of their vessels and reduce their costs of operation. Going forward we will look at how to use the data gathered from our vessels. Unlocking this information will help us to develop preventive and condition-based maintenance programmes.

These are very difficult times, but we are still doing business. This is because we offer a combination of good services, good quality and good pricing. ARNOUT DAMEN

Q. What do you consider to have been the highlights of 2016?
ARNOUT: A number of things stand out from last year. Amels delivered its largest yacht to date. The second Damen Offshore Carrier, the award winning Maersk Connector, was delivered and we signed one of our largest ever contracts, for an Antarctic Supply Research Vessel for Australia. And, despite difficult market conditions, we still delivered over 150 vessels.

JAN-WIM: The improvements we made in operational excellence and innovation stand out from last year. We made real steps towards the future with lots of new developments, including new products. The Excelerate programme saw us implement a standardised, industrial shipbuilding approach in Singapore, Vietnam and China, improving quality and control, with shorter lead times and lower costs of ownership.

FRANK: During the year, we have enriched our arsenal of financing and insurance solutions. Increasingly we are able to find a solution for all client challenges in this regard, supported by an increasing number of financial service providers. Building on the efforts from 2014 onwards, in 2016 the Group compliance programme was further advanced into the ‘muscle memory’ of the organisation and stakeholders that supply and represent the group. Also, in the area of IT, substantial progress has been made facilitating a professional platform to rely and build on. To name an example, the start of the CAD PDM programme; this will add a lot of value, generating increasingly efficient engineering.

Q. What steps are you taking to ensure that Damen is ready to respond quickly when the upturn comes?
ARNOUT: One of the effects of the current market climate is going to be an increase in competition. This can be a good thing; as such an environment can provide real drive for innovation. What we need to do is invest in the future, developing new ideas, new products. We need to experiment and innovate. And we must always remember, our people are our best assets. We need to ensure they receive the best training and development. The better our people develop, the better we perform.

ARNOUT: We have to focus on being tight, sharp, flexible and fast, ready for when the good times come. A lot is about presentation and customer interface. There is a market out there – even now – we just have to demonstrate to clients that we can offer them viable solutions. We also need to maintain our focus on R&D so that we can continue to innovate and be of sustained relevance for the future.

Q. Can you tell us anything about any new products or solutions that are planned for the near future?
JAN-WIM: There are a number of products in the pipeline. Amongst them the Reverse Stern Drive Tug, the Damen Decommissioning Series, versatile Utility Vessels and the Marine Aggregate Dredger.

RENE: Marine access solutions will be an important part of product development this year. We are looking at a range of options that will make crew transfer safer, faster and more efficient.

FRANK: Sustainability will grow in importance. We’ve already made a lot of progress in this area, with improved fuel efficiency and reduced emissions of our products, new solutions such as the certified InvaSave ballast water treatment unit, measures to increase energy efficiency and recycling in our operations, but we will be doing more. Technical developments, such as further increased fuel efficiency, more uptime, more consistency and remote monitoring will be strong features. Also, more concepts, like the Leaseco Programme, making it easier for clients not only to purchase vessels, but to lease them. We’re looking at ways to better align the CAPEX with the cashflow generation of the contracted work performed with our vessels through financing solutions.

Our people are our best assets. We need to ensure they receive the best training and development. The better our people develop, the better we perform. RENÉ BERKVENS

Q. What will be your personal focus for 2017?
FRANK: There is a challenging year ahead. I will be aiming to ensure continued sound financials for the group and at investing in the developments from which we will benefit when the markets improve. Additionally, I will be looking at attractive growth opportunities that present themselves at the bottom of the economic cycle.

RENE: To continue to bring the group closer together – further developing the concept of One Damen. And to do what we are here to do – satisfy our customers and make them more competitive.

JAN-WIM: To improve our KPIs and stock levels and to keep the team smiling, enthusiastic, and working together. Ultimately, it’s about the people – you can make all the processes you want, but at the end of the day, it’s about the people.

ARNOUT: To show our customers that building with Damen is a headache-free way to quality products with low maintenance and low total cost of ownership.
From relatively humble origins on the banks of the River Merwede in the Netherlands 90 years ago, Damen has grown into a truly global group of companies. In its continual bid to ensure its clients of quick, convenient access to its products and services, Damen today operates over 50 newbuild and repair yards, Service Hubs, sales offices and marine components facilities in eighteen countries across six continents. This includes seventeen newbuild yards and sixteen, strategically located, dedicated repair yards.

While embracing the world, Damen has remained true to its roots. At heart we are still a Dutch company operating fourteen yard locations, employing some 3,000 people, in the Netherlands. The values we started out with – reliability, quality, value for money and a close interface with our clients – also remain a strong part of our culture today; a culture that we have taken to the world.

YARDS & COMPANIES
THE NETHERLANDS SPECIAL

The Damen story began in the Netherlands and, today, the company is still very much a Dutch company at heart. There is a natural bond between these low-lying lands and the craft of shipbuilding. Located on the river delta of Western Europe and with a long stretch of North Sea coastline, the inhabitants of the Netherlands are never far from the water. The country’s maritime connections stretch back to the earliest times and, as its innovative contributions to the industry today show; the stage is set for this to continue into the future.
BETWEEN DIKE AND DUNE
How the water shaped the Dutch and the Dutch shaped the Netherlands

DAMEN DREDGING EQUIPMENT
At the heart of the Dutch dredging industry

ICONIC DUTCH THINGS
Some of the characteristics things that make the Netherlands the place it is.

THE MENU OF THE SEA
Delicious treats straight from the water

THE NETHERLANDS
In facts & figures

DAMEN IN NL
A small country with a big maritime heart

DUTCH MARITIME FAMILIES
Kotug, Herman sr., Van Oord & Iskes
There is one element with which the Netherlands can boast a unique relationship. A relationship that stretches back millennia and which has dramatically shaped, not only the landscape, but also the people of this low-lying country. Across the ages, in reclaiming ground from the seas and continually striving to protect it, and in their quest for international discovery and trade, the Dutch have become renowned the world over for their understanding and mastery of water.
With around one third of its total landmass and 8 million of its people living below sea level, the Netherlands has had to learn how to stay dry and, as the population has grown, how to create more land from the depths. The process of reclaiming land, known as polderisation, required from the inhabitants of the Lowlands an extraordinary amount of cooperation.

An expression of this was the creation, already by the Middle Ages, of regional water councils; one of the first examples of democratically elected government anywhere in the world. The councils were formed to involve the whole of society in the maintenance of flood defences. This spirit of collaboration is to be found in the country today, where the favoured style of government is one that seeks compromise and consensus and which is still known as ‘the polder model’ as a hint at its distant origins.

**Fishing, ferries & yachts: a pioneering maritime industry**

Medieval fishing practices played no small part in the rise of the Netherlands’ historic shipping industry. The development of the Herring Bus (from the Dutch ‘buis’) enabled Dutch sailors to process the fish they caught whilst underway, and, therefore, to remain at sea for longer periods of time, considerably increasing their catch. In this manner, the Dutch dominated the market, gaining, even at this early stage, a reputation for cost-efficiency and innovation. At its peak in the early years of the 17th century, the Dutch herring industry, using an estimated 500 busses, landed an annual catch of around 33,000 tonnes of fish.

Inland, the Dutch learnt to work with their abundance of water to develop transportation systems – for both goods and people. In the 1600s, the creation of the trekschuil (literally ‘tug-boat’) gave the world its first taste of public transport. Along purpose-built canals between the major cities of the Netherlands, passengers were conveyed by sail and horse-drawn flat bottom boats. The journeys were slow and uncomfortable by modern standards, but at the time represented a considerable improvement and displayed a pioneering spirit that the Dutch would also put to use far from their own shores. The Dutch also found the time, at this point in their history, to give the world the art of yachting. The first yachts took their name from the Dutch ‘yacht’, meaning ‘to hunt’; the swiftness and shallow draught of the small vessels being employed to patrol the inland waterways and coastline against incursions from pirates.

**Globetrotting 17th century style**

The Netherlands’ development as a global maritime nation began rather close to home with the Baltic Grain Trade. The rapid urbanisation of the country drove demand for imported grain, purchased from the Baltic region. In return, in what contemporaries called ‘the mother trade’, the Dutch exchanged tiles and bricks – used as ballast in the ships on their outward voyages. The Netherlands had become a sailing nation and, by the 17th century, the stage was set; the newly independent country prepared to embrace its finest hour. During what is still referred to as ‘the Golden Age’, Dutch ships plied the seven seas, transporting precious cargoes of sugar and spices from all over the globe. The most notable destination of the day was present-day Indonesia, where the Dutch East India Company (VOC) enjoyed a monopoly on trade. The VOC has been considered the world’s first multi-national corporation and was certainly the first to issue stock publically.

The Dutch were not alone in their overseas adventuring; many other European powers were sailing to far-flung destinations at the time. Protecting these interests, as well as those closer to home, meant the development of one of the most reputable navies the world has ever known. Seaborne events of the time helped to cement the fame of the Netherlands as a nation and of its naval officers such as Maarten and Cornelis Tromp and Michiel de Ruyter.

**Sentinels against the storms**

Today, the Dutch relationship with water is just as strong as ever. To protect their land from the water, the people of the Lowlands have ever been ready to learn lessons from the floods that have befallen them over the years. Following a particularly devastating storm in 1953, action was taken to create a robust flood-defence system in the south-west of the country.

The Delta Works plan has been hailed as one of the ‘seven wonders of the modern world’. Consisting of a series of sluices, locks, dikes, levees and barriers, this incredible work of engineering substantially reduces the length of the nation’s coastline and, thus, the amount of dikes required to protect the land.

Similarly, the ancient Dutch traditions of fishing and maritime trade and defence have all contributed their part to the development of a robust, innovative shipbuilding industry.

Damen continues to play its part in this great maritime legacy; delivering Holland’s Glory to the world.
If you aren’t from the Netherlands there’s a reasonably good chance you haven’t heard of Nijkerk. In the distant past, the small city was a celebrated centre of commerce. For most of history, Nijkerk has enjoyed a relatively anonymous existence, at least in international terms. For the Dutch dredging industry, however, this town, on the shores of the IJsselmeer Lake, is prime territory. For that reason, it is home to Damen Dredging Equipment.

All around the IJsselmeer are to be found the ports and harbours of ancient fishing villages. Some of these are still home to fishing communities, whilst others nowadays make their living via tourism. It’s not hard to see the attraction to visitors; many of these places retain their traditional look and feel. Cosy, cobbled streets of brick gabled houses wind down to wooden quayside buildings where sail masts can still be seen bobbing on the water.

All of these ports have one thing in common – a need for regular dredging. It was this that led to De Groot Nijkerk setting up contracting operations in Nijkerk in the 1930s and playing its part in keeping these harbours open. At that same time, in addition to the regular maintenance dredging, something was happening that was to firmly cement the industry’s relationship with the area. This was something that would radically alter the landscape of the Netherlands forever.

Epic engineering

From the 1920s onwards, the project to realise the plans of Cornelis Lely was underway. Lely, as Minister of Transport and Water – a position he was to hold no less than three times – had suggested an ambitious engineering project of epic proportion. His idea was to cut off the Zuiderzee from the North Sea, minimising the risk of flooding and so paving the way for the reclamation of vast tracts of land. The term ‘reclaimed’ is frequently used to describe land taken from the sea. In this case, however, it is a literal term - this land had not always been underwater.

The land beneath the Zuiderzee was lost to the water in the disastrous St Lucia’s Flood of December 1287. Many thousands of people lost their lives in one of the largest recorded floods of all time. It would take another flood – this time in 1916 – before Lely’s plans were put into action.

The first step began in 1927 with the construction of the Afsluitdijk. Taking six years to construct, this created a 32 kilometre barrier between the former Zuiderzee – at this point renamed as the IJsselmeer – and the North Sea, creating a land bridge between the provinces of North Holland and Friesland. With this impressive dam in place, it became possible to commence land reclamation; the serious dredging work could begin.

Let the work commence

The Noordoostpolder (North-East polder) came first in 1937. In total over 460,000 km² of land was created with the new polder. This included a number of former islands that now found themselves landlocked. One of these, the former island of Schokland, is still visible today, its boundaries apparent as they stand higher than the rest of the land around them.

The Noordoostpolder was followed by the Flevopolder – beginning in 1955 with the eastern part and continued in 1968 with the southern section. With all this land reclamation taking place, the number of dredging companies operating in the area rose significantly and so did the requirements for the repair of their equipment.

De Groot Nijkerk, originally operating as a contractor carrying out dredging work in the ports and on the polders, began to realise new opportunities. With the growing presence of dredging contractors that this large-scale polderisation entailed, there was an increased demand for repair and maintenance of equipment.
A change of focus
De Groot Nijkerk gradually began to work more actively in this sector, finally ceasing to act as a contractor. In this way, the Nijkerk yard became a repair and maintenance site, producing stationary, custom-built cutter suction dredgers and trailing suction pipe systems. This continued for some years, with De Groot making a name for itself in newbuild and repair activities. As the company’s reputation grew, it secured more and more work further afield – notably in the Benelux region, but also outside of Europe. It remained, however, a relatively small enterprise. A big change came in 1988 when the company was acquired by the Damen Shipyards Group.

The benefit here was the potential brought about by combining the knowledge and experience of the two companies. For some time, the company continued to trade under the De Groot name, supplying custom-built dredgers to its clients. However, in 2004, the company became Damen Dredging Equipment (DDE) and adopted a standardised product portfolio.

Since then the company has grown considerably in every way. The production capacity has been increased a number of times in line with rising sales. Most recently, Damen Chairman Kommer Damen officially re-opened DDE’s offices in November 2016 after an extensive refurbishment.

Standardisation & diversification
The product portfolio today has become very diverse. It features a range of Cutters Suction Dredgers – 250, 350, 450 and 500 models (the numbers representing the pipe diameter in mm) – renowned for their durability, power and the numerous standard options that are available for them. Crucially, the CSD range is modularly built so that it can be transported for easy assembly anywhere in the world.

Another notable success has been the Damen DOP Pump. This is a submersible, versatile dredging tool with a wear resistant, hydraulic or electrical driven pump. It has a range of suction heads available so that the DOP can carry out dredging work in all kinds of situations. Additionally, DDE offers a range of Trailing Suction Hopper Dredgers for maintenance operations, and trailing suction pipe kits that can be delivered globally.

Additionally, DDE offers a range of solutions to complement other products in the Damen portfolio – such as trailing suction pipe kits for use on the Trailing Suction Hopper Dredgers. The synergy with DDE and the Damen portfolio is made clear by the recent addition of the Marine Aggregate Dredger (MAD) series – aggregate dredgers for extracting sand and gravel offshore. Other DDE products include booster stations and dredging instrumentation.

Today, with the work on the Flevopolder complete, DDE’s proximity to the IJsselmeer still holds relevance. The valuable experience gained by the numerous generations who have worked in the dredging industry in the area have ensured the development of a regional skills set and knowledge base the equal of any in the world.
The Netherlands has a diverse iconography. From gabled town houses by canal sides to tulip fields presided over by windmills in the countryside. From wooden shoes to Old Masters. The Netherlands is a welcoming land with a rich, characterful culture that offers much to discover.
THE NETHERLANDS IN FACTS & FIGURES

Population
17 million (2016) 409 inhabitants per km².

Capital
Amsterdam With 790.110 inhabitants the biggest city in the country.

Surface area
41.543 km² 18% of Dutch surface is water.

Coastal line
451 km The rest of the country's 1027 km of borders -576 km - are with neighbouring countries Germany and Belgium.

Main exports
Petroleum, gas & computers With a total value of 525 billion, the Netherlands exports make the country the world’s 7th largest export economy.

Currency
Euro The currency in The Netherlands is the Euro.

Monarchy
The Netherlands has a king King Willem-Alexander of the House of Orange is the country’s first king in 123 years following a succession of Queens.

Height
Tallest people in the world The average height of a Dutch person - 182.5 cm - has increased 20 cm in the past 200 years.
THE NETHERLANDS’ PROXIMITY TO THE SEA HAS IMPACTED ON LIFE IN THE COUNTRY IN MANY WAYS. ONE OF THESE IS THE DIET. FOR CENTURIES, FISHERMEN HAVE TAKEN TO THE WAVES OF THE NORTH AND ZUIDER (SOUTH) SEAS, SUPPLYING THE KITCHENS OF THE COUNTRY AND ITS NEIGHBOURS WITH A RICH, DIVERSE CATCH.

ZEELAND FLEXES ITS MUSSELS

In the south-western province of Zeeland, the inhabitants’ battle with the sea is depicted on the regional flag and coat of arms. A lion is seen emerging fiercely from the waves bearing the motto luctor et emergo – I struggle and I emerge. In their struggle, the zeeuwse have learned not only how to live with the sea, but how to prosper.

The area is famed for producing the finest mussels. Each year, in July, a street party is held in the provincial capital of Middelburg, to mark the start of the season. From then onwards, in all the best fish restaurants in the country, and notably in neighbouring Belgium when they constitute a national dish, Zeeuwse Mosselen, or Zeeland mussels, will adorn the menu. The mussels are traditionally served in a large pot, cooked in white wine and accompanied with chips.
DUTCH SUSHI
Since the Middle Ages, herring has been a popular dish in the Lowlands. For centuries, Dutch fishing fleets have fetched the valued catch from the waters further north, around Scandinavia. The herring is popular all along the North Sea coast, but the Dutch have a unique way of eating the fish.

Unlike in Germany or Britain, where herrings are typically pickled, in the Netherlands they are lightly soused for preservation and served raw, with chopped onions. The typical way to consume a herring is whole – the fish is held by its tail and lowered into the mouth.

A SMOKY DELICACY
The historical fishing ground for eels is the IJsselmeer – formerly the Zuider Zee – in the north of the country. From the numerous fishing villages along the edges of the lake, fishing fleets would bring back vast numbers of wriggling eels.

On land, the eels would be smoked in a traditional smokehouse – a few of which are still in operation today – before being sold to wide acclaim.

WASTE NOT, WANT NOT
The thrifty Dutch are not a people to waste things. The popular snack known as kibbeling is a by-product of the historical cod industry.

The leftover chunks were battered and deep fried. Nowadays, kibbeling is made of any number of different North Sea fish, not exclusively cod. It is still served in the same manner, however, from a snack bar accompanied with mayonnaise or tartar sauce.
A SMALL COUNTRY WITH A BIG MARITIME HEART
A Dutch company through and through, Damen’s home territory is the Netherlands. Mijndert Wiesenekker, Sales Director for the Benelux region, talks about how the company’s contribution to the Dutch maritime industry impacts the international market. Damen’s client-focused philosophy is clearly not limited by borders.

“It is quite striking how much of a maritime land the Netherlands is,” opens Mr Wiesenekker. “This includes the largest companies all the way down to the small owner-operator businesses. And I find it remarkable how intensively these various Dutch companies operate in the worldwide market. In fact, most of our Dutch clients are active on the global stage. Yes, we are a small country, but we are very active globally.”

Looking at this home ground, Damen’s role in the Dutch market is very relevant, he continues: “We sold our first hybrid tugs here. And many of our ‘first-of-series’ vessels are sold to Dutch operators.” Furthermore, the Netherlands is particularly important for the development of new designs and technologies – where collaboration with various partners plays a crucial role. “The BlueTEC floating tidal energy platform is a project that draws on the expertise of eleven specialist maritime companies. And the award-winning SAR 1906 lifeboat is a project that involved the Royal Netherlands Sea Rescue Institution (KNRM), Delft University of Technology and De Vries Lentsch Naval Architects. When we are performing projects like these – ones that are very important for the sector in general – having the entire Dutch supply chain infrastructure so close at hand makes the whole process more streamlined.”

Both these last examples have a markedly international significance. Tidal energy is a rapidly expanding renewable energy sector with great potential. And Damen’s SAR 1906 design is already being built for countries outside the Netherlands.

BUILDING SYNERGY
Mr Wiesenekker is equally keen to highlight the importance of vessel fabrication in Damen’s Dutch yards. “The typical set up for us is to construct a whole series of vessels, which is preceded by a large amount of engineering,” he explains. The highly engineered series production of tugs at Damen Song Cam Shipyard in Vietnam is a very valid example of this point. “On the other hand, some clients need a one-off vessel. In this situation, this is where our Dutch yards come to the fore. Their very experienced personnel can build vessels like this with relatively limited engineering packages in what is a very competitive market.”

And this is where the relationships between Damen’s numerous subsidiary companies can come into play. After all, the completion of a contract is often concluded with the services of more than one of these companies. “A Damen client is not only a client for the newbuilding side of the business, but often with other parts of the group,” he says. “That’s why it is so important to create synergy within the group. And that can take many forms; whether it’s to optimise inland vessel hull efficiency or to enhance repair, refit or conversion operations, increased cooperation within the group means more effective services for our clients.”

IN FOR THE LONG-TERM
The attention that Damen pays to improving its service provision can also be seen in the Benelux sales team. “There are six of us – all with very strong technical backgrounds. And, while this is not 100% set in stone, we all have our own specialities. That may be towage, renewable energy, dredging or government contracts for instance. This has advantages for the client. By being equal partners, but with a specialised focus, we are able to understand their market and business model.”

Even though we started talking about Damen’s role in the Dutch market, certain ways of thinking are just not confined by borders. “We are always moving forwards – working constantly to develop new designs that are smarter and more effective. And, even if things don’t go as planned, we don’t walk away from the problem. This is because, as a company, we are not looking for short-term solutions. We are looking for strong long-term relationships. Because a client’s success is our success.”
Headquartered in Rotterdam, Kotug is one such towage company. “We are, in fact, a fifth generation shipping company and fourth generation towage company,” says Kotug CEO Ard-Jan Kooren. “Yes, we have Dutch roots, but now we feel like a truly global company.”

Looking at where Kotug’s vessels are currently operating – throughout Europe, Asia, Australia, Africa and the Caribbean – illustrates this global focus.

Hybrid first
Kotug’s activities can be divided into five distinct markets of vessel assistance. These are harbour towage, terminal towage, offshore operations and chartering. The fifth area involves its Maritime Excellence Centre. “This is a knowledge centre,” explains Mr Kooren. “It is where we put our experience into practice to help clients with safer and more efficient operations. With training programmes and building supervision, for instance. And with support for port layouts and special transports. It also looks into new innovations and green solutions like hybrid technology.” Indeed, Kotug’s RT Adriaan was Europe’s first Class-built hybrid tug.

Continued cooperation
When asked to describe Kotug’s links to Damen, Mr Kooren points to the fact that the two companies are both well-established Dutch family-owned maritime firms: “While we both have Dutch roots, we have both stretched our international wings.

“And, in terms of vessel construction, Damen is our leading partner,” he says, referring to the noteworthy number of Damen vessels in the Kotug fleet, which still continues to grow. “For example, we are currently building three vessels at Damen’s yard in Sharjah. And our Maritime Excellence Centre is also looking at future CNG and LNG solutions with them too.”
Jack van Dodewaard, Managing Director, explains that his grandfather Herman Senior, and his grandfather’s brother, had established a business focusing on the inland waterways. They bought their first vessel from Jan Damen, the father of our Chairman, Kommer Damen, back in 1947. She had a 77Hp Caterpillar engine, one of the first in the Netherlands.

A generation on, Jack’s father then bought a Pushy Cat 46+ in 1971, from Kommer Damen. This was the first extended Pushy Cat with a seagoing classification.

The Herman Senior BV of today was actually founded in 1992 by Jack and named after his grandfather, Herman Senior. Again the company’s roots, like that of Damen, are founded in the dredging industry. The company’s tug Herman Sr sailed for many years, but due to demand it was eventually necessary to invest in more powerful vessels and Herman Senior ordered a much larger tug.

In 1996, the Tarka arrived, a Damen Shoalbuster 2409. Tarka was actually only the second vessel ever built of this new type of shallow water tug. After the Shoalbuster proved a huge success the company again decided to invest in 2000 and replaced the Herman Sr with a new Shoalbuster 2208.

12 Damen vessels
Herman Senior has bought twelve vessels from Damen over the years, the last one just recently when it took a new Damen Multi Cat 2712 into its fleet – the Panda. This is the second Multi Cat the company has acquired. Many of the ships in the fleet are named after famous bears. As well as Panda, there is a Baioe, Bommel, Barney and Yogi!

The company’s Shoalbusters and Multi Cats are currently all over the world. And the former one-man operator has grown into a company with more than 35 employees, including two of Jack’s sons. Erwin is Commercial Manager and Chris is Technical Manager/Purchaser.
Van Oord was established in 1868, when the company’s founding father Govert van Oord started as an independent entrepreneur dealing in soft wood.

Today, the Van Oord family is still involved and currently seven family members work within the company. Pieter van Oord, Chief Executive Officer, who is the fourth generation heading the company, comments: “In 2008, I succeeded my cousin, Koos van Oord, as CEO. By that time – thanks in part to projects such as the Palm Islands and Maasvlakte 2 – the company had already expanded to become one of the largest dredging companies in the world.”

Commenting on what makes a family company special, Mr Van Oord explains: “Van Oord focuses on future generations and long-term business relationships. I’m a huge supporter of family-owned companies. Studies have shown that they perform better over the long-term. That’s because they’re being managed for the next generation, while listed companies are often only managed for the next quarter. The objective is to create and manage a healthy and sustainable business which can be passed on to the next generation of family owners as guardians of the future.”

Van Oord and Damen also have a long relationship spanning decades. In 2008, Chairman Kommer Damen was appointed to the Van Oord Supervisory Board.

Van Oord’s first Damen vessel Marius was ordered in 1938 and this was followed by several launches, tugboats and Multi Cats. Over the decades more than 50 vessels have been delivered by Damen to Van Oord.

So what has made Van Oord return to Damen over the years? Mr Van Oord comments: “Damen and Van Oord know each other very well. The long-term relationship between our families is based on mutual trust and sharing common values. Damen’s expertise combined with Van Oord standards results in fit-for-purpose additions to our fleet.

“For example the latest cutter suction dredger we ordered: the Mangystau. Van Oord and Damen have jointly optimised the dredger by introducing additional tank capacity and specific safety and environmental features. As a result, the Mangystau has been given the coastal waters classification. The success of sister ship Ural River laid the basis for the design of the Mangystau. Damen’s knowledge combined with our practical experiences resulted in a very versatile vessel.”

And finally, does Van Oord have a message for Damen on its 90th Anniversary? “Damen is an important and valued member of the Dutch maritime cluster. The knowledge and expertise built up in the last 90 years characterises this company. Keep up the good work!”

Even though Damen is celebrating its 90th anniversary this year, renowned Dutch family-owned dredging firm Van Oord still manages to make Damen look like a relative ‘youngster’.
“The Dutch are explorers and the maritime industry is our nature,” states Jim Iskes, Managing Director of Iskes Towage & Salvage. “Of course there are other countries with a strong maritime tradition, but we as the Dutch always try to be one step ahead.” Stating his point with the Iskes fleet, which has shown a solid growth since the operational start half a century ago in the Dutch harbour of IJmuiden, at the port mouth of the North Sea Canal towards Amsterdam.

“Just as Damen, we are a family owned company, my father started with harbour assistance to fishing vessels in Ijmuiden in 1968 and since then we steadily worked up to provide towage assistance to larger vessels, such as the cape size iron ore and coal vessels calling the Tata Steel plant in IJmuiden.

And also we are active in offshore work, for instance doing “rig moves” and towing barges for the offshore renewables market. Our Damen AHT BEVER was most of last year active in the Gulf of Mexico.”

“But also for harbour towage we have an appetite for the outside world.” To this end, Iskes commenced towage activities in Aruba, French Guyana (together with De Boer Dredging) and Portugal in 2016 and Germany in 2017.

“And we have ambitions for further growth – we don’t want to sit still,” he continues.

Playing a part in this growth is Damen; who have delivered seven vessels in the last seven years to Iskes Towage. In addition to standard vessel designs that are both customisable and available on stock, the financial services provided by Damen, in the form of temporary vessel leasing, are also attractive, says Mr Iskes.

“But quality is paramount. And not only it’s important that a vessel performs optimally, but comfort is a key aspect too. A tug is not just a work boat; the crew lives on board for weeks at a time. Therefore, it shouldn’t have the sterile feeling of a hospital – it should feel like home.”
A THIRD FCS 3307 PATROL BOAT FOR THE GULF OF GUINEA

In February 2017, Homeland Integrated Offshore Services Limited (Homeland) of Nigeria placed an order for a third FCS 3307 Patrol vessel for use in security operations in Nigeria’s offshore oil and gas fields in the Gulf of Guinea. Discussions are also ongoing regarding the purchase of a fourth. The third vessel will be named Guardian 3 and will join sister ships Guardian 1 and Guardian 2, which were delivered in February 2014 and November 2015 respectively.

Homeland was founded in 2006 to support international oil companies working in Nigeria’s offshore oil and gas fields by providing a wide range of services both at sea and on shore. 11 years later, it now operates a sizeable fleet that includes fast supply intervention vessels, platform support vessels, anchor handling tug supply ships, security and patrol vessels, and tugs. Led by Managing Director Louis Ekere, the company works with many of the international oil companies (IOCs) active in the region.

100% Nigerian owned, Homeland’s activities extend well beyond logistics into construction, electrical and mechanical engineering, and manpower placement and support, together with pipeline protection and maintenance and the supply of a wide range of spares and ancillary equipment. Its truly integrated approach towards the offshore industry, together with a focus on efficiency and effectiveness, has enabled it to build a loyal and high quality client list in the decade since it began operations.

A high risk area
The Gulf of Guinea has been a major hotspot for piracy and other criminal incursions on board vessels for some years, with dozens of reported events in and around the oil fields over the past 12 months alone. The safety and security of assets and personnel is therefore a major consideration for the oil companies. The piracy situation is different to that off Somalia in the Indian Ocean in that the criminal activity takes place in the territorial waters of the relevant countries rather than in international seas, and so intervention by third-party governments is not an option.
The Nigerian Navy is therefore solely responsible for security off its own coast but, with resources stretched, private security companies are permitted to operate their own vessels under strict guidelines. While the Guardians are themselves unarmed, the presence of armed security personnel on board and their ability to respond rapidly to calls for assistance makes them a valuable addition to the offshore security presence.

The FSC 3307 Patrol features Damen’s trademark Sea Axe bow for superior seakeeping at high speeds of up to 30 knots. Additional features include eighteen bunks for the eight crew plus ten security personnel, a bullet-proof wheelhouse, an internal safe haven, fifteen extra seats for crew transfers, thermal imaging apparatus, a fast rescue craft and a self-cleaning fuel separator to protect the engines and generators from contaminated fuel.

A complete turnkey solution
All the vessels for Homeland are supplied as a complete turnkey solution. Damen is taking care of delivery and crew training, as well as the design and build. An integral part of the contract is also the total care solution that Damen is providing to Homeland. The Damen Service Hub in Port Harcourt has now been open for 2 years and is manned by a technical manager and five specialist engineers, ready to render assistance and undertake a wide range of maintenance and repair tasks with minimal downtime. Stocks of spare parts are also held on site to ensure fast turnarounds.

At present the FCS 3307 vessels are the most advanced patrol vessels operating in Nigeria’s offshore oil and gas fields and, thanks to the excellent performance of Guardians 1 and 2, Homeland has already secured a long-term charter for the latest addition. Already under construction as part of Damen’s build-for-stock policy, Guardian 3 is currently nearing completion.
Damen has delivered over 150 vessels during the past 12 months. Included in this are vessels from every sector of the maritime industry.

1 Sigma 10514 PKR Raden Eddy Martadinata
2 Yacht Support 5009 Fast & Furious
3 Azimuth Stern Drive Tug 2913 Germania
4 Shoalbuster 2308 S Graham Robertson
5 Stan Launch 1305 Santa Giulia
6 Shoalbuster 3009 Agatooa
7 Floating Pump Station Sauger III
8 Platform Supply Vessel 5000 Paul A. Sacuta
RECENT DELIVERIES

9 Fire Fighting Vessel Jan van der Heyde IV
10 Shoalbuster 3512 Lingestroom
11 ART 80-32 SD Tempwat
12 Multi-role Aviation Training Vessel MV Sycamore
13  FCS 2610 MCS Allianz Venus
14  Multi Cat 2712 Panda
15  Crane Barge 4318 Souk Ahras
16  Stan Tug 1606 Pacini
RECENT DELIVERIES

17 Stan Pontoon 7020 Nuwa 1 & 2
18 Fast Crew Supplier 2008 Wherry Fisher & Broads Fisher
19 Trailing Suction Hopper Dredger 650 Tommy Norton
After starting at Damen in 1974, Frits van Drenth worked in numerous areas of the company before joining, and eventually heading, the team at Damen Technical Cooperation (DTC) – the branch of the company that sells vessel designs, licences and materials to non-Damen yards around the world.

A memorable career
With more than 40 ‘Damen’ years under his belt, Mr Van Drenth is planning to retire at the close of 2017. In looking back on his career, he points to DTC’s worldwide coverage as one of the many positive aspects. “We are not tied down to any one particular yard,” he says. “Every contract is different. And the varied conditions and facilities at each yard means we have to be flexible.”

For a man approaching retirement, another memorable facet has been the opportunity to travel: “I have been to around 70 countries while working for Damen. The highlights have been where we had the most success. Building relationships in Brazil, Indonesia, South Africa and Vietnam - all these have been very special.”

New blood
While he was still at middle school, Erik Hertel (then a keen windsurfer) had his first encounter with the maritime sector when he was given the opportunity to carry out a hydrodynamics research project on his windsurf board at the renowned Technical University of Delft. This ultimately inspired him to study Maritime Technology at the very same university. After graduating in 2005, he joined Damen – building up a broad CV within various departments before taking on the role of DTC Operations Project Manager in 2015. “What I really like about DTC is the concept of helping yards in other countries build our vessels. Whether it’s a straightforward 8-metre tug or the most complex naval project – our success is their success,” he states.

On 1st January 2017, Mr Hertel took over the reins of DTC from Mr Van Drenth. As new Managing Director, Mr Hertel is reanalysing DTC’s business plan. “Not necessarily to reinvent it, but just to refocus. By looking at the roots of our success, we can move forward to make ourselves future proof – to show our added value time and time again.”

Mr Van Drenth’s input during the time before his retirement will still be highly valued, adds Mr Hertel: “I can get all the support that I need from Frits. This is not only important for me, but also for our clients. The close relationships that he has built up have been one of DTC’s greatest achievements.”

Erik Hertel, Managing Director Damen Technical Cooperation (36 years old) & Frits van Drenth, Director Sales Support Damen Technical Cooperation (66 years old)
A selection of tomorrow’s vessels: Damen ships being built at yards all over the world.
5 Water Injection Dredging Tug 2915 HYBRID
6 Damen Ferry 1866
7 Amels Full Custom concept
8 Antarctic Supply and Research Vessel
9 Yacht Support 5009
10 Fast Crew Supplier 3307 Patrol
UNDER CONSTRUCTION

11 Ropax Ferry 5212
12 Amels 188
13 Utility Vessel 4312
14 SeaXplorer 65
15 Fast RoPax 4812
16 ¡VAMOS! Launch and Recovery vessel
17 Fishery Research Vessel 7417
18 Jack-up Pontoon 3526
19 Crane Barges 6324
20 Azimuth Stern Drive 2310 SD
21 Search & Rescue Vessel 1906
NEW DESIGNS

Innovation is in Damen’s DNA. We are constantly seeking the solutions required by the maritime world of the future.

1 Damen Decomissioning Series
2 Damen Responder 5413
3 DG Jack Series
Each year, around 1,500 vessels call at a Damen yard for repair, maintenance, refit or conversion works.

1 Cruise & Maritime Voyages selects Damen once again, image shows the Marco Polo at Damen Shiprepair Amsterdam
2 Tall Ship Stad Amsterdam docks at Damen Shiprepair Oranjewerf for maintenance and refurbishment
3 Thor undergoes repainting and thruster inspection at Damen Shiprepair Dunkerque
Damen Shiprepair Vlissingen completes major project to reconfigure heavy transport vessel Blue Marlin

Gaselys for a renewal survey maintenance programme at Damen Shiprepair Brest

Damen Shiprepair Van Brink Rotterdam completes repairs to Jumbo Javelin Heavy Lift Crane Vessel

Damen Shiprepair Amsterdam installs crane boom extension on jack-up vessel Sea Installer

Oil Tanker New Paros at Damen Shiprepair Curacao

Freight catamaran Noord-Nederland conversion at Damen Shiprepair Harlingen

New funnel and scrubber for LPG tanker Waasmunster
A tradition of innovation
Since Kommer Damen took control of Damen nearly 50 years ago, research and development has become a key part of the group’s success. Right from the beginning he introduced what were then unheard-of ideas of standardisation and modular building, and the much faster delivery times that resulted were a near-instant hit, particularly with the Dutch dredging industry. The dredging industry needed to be able to respond quickly to new contracts, and this new approach to shipbuilding gave them a significant advantage. Word spread swiftly about the shipyard that dared to do things differently and the orders started to flow in.

This was just the beginning. Mr Damen’s willingness to tear up the rulebook and take a fresh look at how ships could be designed and built coincided with a period when the maritime sector was growing rapidly and owners and operators were increasingly looking for more complex, specialist vessels that could undertake specific tasks. Whilst continuing to drive innovation in its business processes, the Damen organisation also began broadening its product range; using its willingness to explore and adopt new technologies alongside its ability to cut delivery times without sacrificing quality to engage with customers and meet their often highly specific needs.

One example of this is the Enlarged Ship Concept, developed in the early 1990s in partnership with the Delft University of Technology. By experimenting with larger hulls than normal for a given amount of internal space, this research showed that the result was lower resistance and better seakeeping, particularly important for offshore patrol boats and similar craft. This focus on performance in turn led to the design of the Sea Axe Bow, to this day probably the most well-known of Damen’s design innovations. The Sea Axe configuration has transformed high-speed offshore operations and remains a key feature of Damen’s fast patrol and crew supply boats.

Further innovations followed, including the Azimuth Stern Drive (ASD) 2810 tug. Over 200 of these compact, manoeuvrable and very powerful harbour tugs have been sold. Its low-emissions hybrid equivalent, of which the Dutch Navy has ordered three, began in 2009 as the E3 project; a collaboration between Damen, tug operator Smit Internationale and system integrator Alewijnse Marine. Most recently, Damen has been playing a leading role in the European Innovation Project ‘Leanships’ (Low Energy And Near to zero emissions SHIPS), which includes developing a Reverse Stern Drive (RSD) tug running on compressed natural gas (CNG). The RSD hull form delivers equal performance when running both ahead and astern thanks to its revolutionary design, and natural gas (methane) is recognised as the cleanest of all fossil fuels.

A permanent revolution
Some companies innovate reluctantly, as change is forced upon them, but Damen welcomes the fast-changing world in which it operates, and the challenges that this brings. Its long history of looking for new ways to do things better means that its structure has inbuilt flexibility and its staff are always looking out for ways
to differentiate it from its competitors. The group’s emphasis on standardisation has also been a major factor in its ability to innovate. Standardisation allows it to create successive generations of a vessel, each one representing an incremental improvement on those that have gone before, based on customer feedback and the application of new research, materials and technology. It also means that new vessels do not need to be entirely redesigned from the keel up, making the process both faster and more cost effective.

Some innovation is driven by forces external to the maritime industry. These can be economic, such as high oil prices, or, increasingly, regulatory, particularly with regard to the environment. Here Damen has always been highly responsive, developing specific products such as the ASD 2810 Hybrid tug and also continuously refining its product portfolio to maximise fuel efficiency through better design. In other areas, such as ballast water treatment systems, it has ensured that it has a range of products available well in advance of the mandatory adoption date.

Damen also seeks to identify changing market conditions and the arrival of new opportunities, well in advance. In recent years it has developed specialist vessels to anticipate the needs of new sectors such as offshore renewables and aquaculture by developing the Service Operations Vessel (SOV), a completely new class for the efficient maintenance of wind farms, and a Utility Vessel range for aquaculture and other multifunction tasks. Work is also currently underway on a deepsea mining concept.

Of course, none of this is possible without close coordination with its clients and the wider industry. Listening and asking questions is an important part of innovation, and the Damen sales teams spend a lot of time talking to owners and operators to learn about their aspirations, priorities and frustrations and, critically, what their customers want from them. This information is then used to drive the search for new and more effective solutions.

When it comes to maintaining a lead in innovation, the greatest challenges come from the disruptive technologies that these days come thick and fast from the global IT industry. Picking those that offer the most added value and adapting them for maritime applications requires foresight, an in-depth knowledge of the key drivers of the industry and substantial resources. Currently top of the list are digitisation, data analytics and the internet of things (IoT), together these represent a great opportunity and a great challenge.

Meeting the challenge
Those early Damen employees who began looking for ways to do things differently, and better, would not recognise Damen’s R&D resource base in 2017. Nearly 100 individuals across Europe and Asia are dedicated to pushing the boundaries of ship design and construction, while internal programmes and initiatives encourage everyone within the group to contribute ideas and insights that will support the development of solutions for Damen’s customers. From its main hub in Gorinchem, the Netherlands, the R&D department supports both new vessel development and a series of
broader programmes across a variety of time scales. Of these, the Damen Cooperative Research programme takes the longest view and is currently running four major projects.

Three of these are focusing on specific technologies; composites, and how they can be applied to the building of larger vessels; an analysis and validation of computational fluid dynamics (CFD) software to create a virtual towing tank that will reduce the time needed to design and test new hull forms; and the development of air lubrication systems for hulls to reduce fuel consumption.

The fourth project is developing solutions regarding the industry-critical issue of vessel monitoring and performance. The digitisation of onboard systems and the ability to analyse the data onshore in real time has huge potential to revolutionise shipping as we know it. Innovations such as condition-based maintenance have the scope to dramatically reduce operating costs, while the advent of safe and reliable autonomous vessels is the ultimate goal for more than a few in the industry.

With a close eye on more immediate benefits for its clients, Damen also operates short-term programmes that focus on the continuous improvement of existing products and technologies. These include investigations into noise and vibration, new coatings, virtual design optimisation and fender design, and the group is always looking for more opportunities. Project Morpheus is just one initiative that invites everyone in the group to think like an entrepreneur and submit ideas for any aspect of the business and product portfolio. Since its start,
240 ideas have been reviewed and the six teams who have made it through to the final round now receive support, guidance and time to develop their ideas to the point at which they can be implemented. Innovation sprints is another technique in use at Damen, whereby multifunctional teams are given just 3 months to take an idea and establish its desirability, feasibility and viability.

No time to stand still
The key to Damen’s success has been its culture of welcoming change and where possible taking the lead in driving it onwards in search of new and better ways to help its customers. All the group’s initiatives and programmes share the common goal of giving the product groups within Damen the tools they need to build and deliver vessels with the capabilities and attributes that their clients need now and in the future. The continual process of innovation driving feedback, and feedback driving innovation, ensures that the objective of meeting customer needs is never forgotten, and momentum is maintained by doing this in a collaborative and collegiate way. Enthusiastically celebrating success ensures that everyone in the group is encouraged to get involved.

Encouraging innovation, embracing change and always looking ahead is the Damen way. Whatever the future may hold for the Damen Shipyards Group, it certainly isn’t going to be dull!
Damen Song Cam – the story of Damen’s Vietnamese joint venture shipyard is quite a remarkable one. First of all, just take a look at the sheer speed with which it has reached its intended production capacity. The first tugs left the yard in 2014, and now, in 2017, it is able to produce 40 tugs per year. Secondly, the yard’s production portfolio allows it to have a crystal clear focus on efficiency.

“The first Damen vessels built in Vietnam were with Damen Technical Cooperation at Song Cam Shipyard back in 2003,” begins Chris Groninger, Managing Director at Damen Song Cam Shipyard. “This was a great cooperation that continued with that yard fabricating more and more vessels for us.” As the relationship between Damen and Song Cam Shipyard grew, the two companies started planning a joint venture together; one for a new dedicated outfitting yard. “We got the green light to build the new yard – to be called Damen Song Cam Shipyard – in 2013. It is 70% owned by Damen and 30% by Song Cam Shipyard.”

On one line
The rapid growth of vessel production figures speak for themselves: five tugs built in 2014, fifteen tugs in 2015 and 32 in 2016. “We are ready to build 40 tugs in 2017, but obviously this depends on how many orders come in.”
The organisation of production is distinctly divided between the two yards: “Song Cam fabricates the hulls – including all of the hot works,” he explains. “And Damen Song Cam completes the outfitting, systems installation and commissioning. The cooperation between the two yards is on one line. We are constantly fine-tuning – pushing ourselves to be more efficient – in order to reduce lead times. At the moment we can complete an entire vessel in just over a year, but it is our aim to get this down to 10 months.”

**Improving processes**

Such high and fast production levels can be attributed to the fact that Damen Song Cam is more of a production facility than a traditional shipyard. “Most yards have to be flexible, building different vessels at different times. However, we are in the heart of Damen’s standardisation strategy, building multiple examples of just five or six vessel designs to European quality standards. Because we don’t see each vessel as an individual project, but more of a construction conveyor belt, it makes the process very efficient.”

This move from a project focus to a product focused organisation can be seen in the yard’s work process. “Our method is that we bring the work to the boat,” states Mr Groninger, referring to dedicated work platforms that are positioned adjacent to the tugs at various levels. “These platforms contain everything – the stores, the tools, small fitting workshops for piping, steel and carpentry and the foreman’s office. Logistics and human ergonomics are both optimised.”

**Coordinating deliveries**

Extending beyond the vessel construction phases, the yard’s primary goal of efficiency improvement is always close at hand. For a Vietnamese yard with a large customer base in the Atlantic Ocean region, vessel delivery is definitely a subject that can be bettered.
Because delivering one vessel at a time would lead to spiralling transport costs, Damen uses a multiple vessel delivery strategy to transport several vessels in a single shipment. Sometimes more than 20 vessels are transported simultaneously.

“This concept is coordinated with multiple Damen yards. A single heavy lift vessel picks up the finished vessels – tugs, pontoons, crew suppliers, for instance – from our yards in China, Singapore and here in Vietnam. This considerably reduces the transport costs per vessel.”

Future development
With Damen Song Cam Shipyard up and running with a potential construction capacity of 40 tugs per year, how does Mr Groninger see the yard developing in the future? “In our position as extension of Damen’s worldwide organisation, we want visitors to the yard to really understand the Damen feeling. We also will continue to be a preferred production location for tugs – producing top quality vessels in the most efficient way at competitive prices,” he says. “And, looking further in the future, it is, of course, our dream to become the world’s biggest tugboat factory.”

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### Specifications

- **ASD TUG 3212**
  - Bollard pull: 80 tonnes
  - Length: 32.7 metres
  - Beam: 12.82 metres
  - Power: 5050 bkW
  - Max Speed: 14.3 knots

- **ASD TUG 2810**
  - Bollard pull: 60 tonnes
  - Length: 28.67 metres
  - Beam: 10.43 metres
  - Power: 3730 bkW
  - Max Speed: 13.4 knots

- **ASD TUG 2813**
  - Bollard pull: 85 tonnes
  - Length: 27.6 metres
  - Beam: 12.9 metres
  - Power: 5050 bkW
  - Max Speed: 13.0 knots

- **ATD TUG 2412**
  - Bollard pull: 62.4 tonnes
  - Length: 24.74 metres
  - Beam: 12.63 metres
  - Power: 4200 bkW
  - Max Speed: 11.7 knots

- **RSD TUG 2513**
  - Bollard pull: 70 tonnes
  - Length: 24.75 metres
  - Beam: 13.13 metres
  - Power: 4480 bkW
  - Max Speed: 11.7 knots
Casper Vermeulen has worked in the shipbuilding industry for his entire career; for the previous two decades as UK Sales Manager at Damen. Before he retires in June 2017, one of his final tasks will be to introduce his successor – Frederik van der Linde – to Damen’s solid presence across the North Sea, and also to the intricacies of working in the UK. “The market has changed a lot since I started,” he comments. “Competition has increased significantly; back then, we were the only foreign shipyard approaching UK clients. In that respect, Damen’s timing in the UK market was perfect.”

So, what are the secrets to success in the UK maritime sector? “It’s all about understanding – fairness and openness are very important. That’s the only way to succeed in the UK. And, of course, don’t forget that understanding the British sense of humour is a key part of doing business there. It wouldn’t be a bad idea to watch the British TV classics – Monty Python, Fawlty Towers, ‘Allo ‘Allo, for example – in preparation.”

A maritime background
Frederik van der Linde has firm connections with the maritime sector. Born and raised in Gorinchem, family holidays were most often on the family Tjalk; a traditional flat-bottomed, Dutch sailing ship. The house he grew up in was next to the busy Merwede River. “And even now,” he says. “It is still impressive to see vessels performing their work – looking closely at their operational or technical solutions, for instance.”

His path to become Damen’s new UK Sales Manager has seen him work in various departments and yards, thus gaining a broad knowledge of the company. “My life at Damen started 6 years ago,” he continues. “It was after I started work at Amels in the Marketing department that I knew that I wanted to represent Damen in the market.” And, from 1st March, Mr Van der Linde has joined existing Sales Manager Arjen van Elk in serving the UK market: “It is a pleasure to work with Casper in this transition period – continuing his, and his predecessor’s, work with customers from a notably broad range of maritime sectors.”

Restoring a dragon
On the subject of retiring, Mr Vermeulen has already made numerous plans. “I’m not worried about falling into the big black hole of retirement,” he says. “I have a 1970s Dragon sailing boat that needs a full restoration. And a bed and breakfast business and a vineyard at home and Michelin Star recipes that I want to develop.” When asked if he will still keep an eye on Damen after stopping work? “Of course I will,” he smiles.
THEATER PEERISCOOP
A THEATRE FOR EVERYONE
IN THE HEART OF GORINCHEM
Theater Peeriscoop is situated on a quiet street in the heart of the historic fortress city of Gorinchem in the Netherlands, close to Damen’s headquarters. From the outside, the theatre building displays the 1920s Expressionism of the Amsterdam School of architecture. Inside, it is the showcase of one man’s dream.

The actor Fred Delfgaauw boasts a diverse CV and numerous awards. As the voice of many Dutch TV commercials, he is frequently to be heard in sitting rooms across the country. He is also the voiceover for the Netherlands’ version of any Disney animated character performed by Robin Williams, Jim Carrey or Woody Allen. At Theater Peeriscoop, and many other locations around the country, Fred is well known for performing his shows such as Wachtkamer van de liefde (the waiting room of love), with characterful puppets like Mevrouw Rauwbos.

Looking to new horizons
The theatre is named for Peer Gynt, the Norwegian play of which Fred is so fond. “I love how it’s about a boy in a grown-up’s world, and how disconnected he is from it.” But the meaning of the theatre’s name is dual: “It also refers to a periscope – a view finder, something that helps people to see the horizon, even when submerged. That’s the message of theatre, of culture; you can break through and look to new horizons.”

Fred’s dream was a straightforward one: he wanted to create a theatre for everyone. A place where people could come to access culture and be entertained, yes, but also somewhere fledgling talent could find the support it needed to succeed. In realising his dream, Fred has left no stone unturned: his hallmark is to be found on every detail of Theater Peeriscoop’s lavish interior. Take the bar, for example. No conventional wooden-topped glass rest, this eye-catching feature is capped with thousands of Dutch stuivers – an old coin obsolete since the introduction of the euro in 2002.

“My father used to save these coins for my brother and me when we were young. When I came to make the bar, I had lots left and I figured it would make a good feature. I didn’t realise until after we started that I only had enough to get this far,” he says, pointing a quarter of the way along the bar. “At the same time, the euro was coming in and everyone was taking these coins to the bank to get rid of them. I was the only person who was actually looking for them.”

But look for them he did and in time he found enough of them to fill the bar – some 24,000 coins. The energy exerted in seeking out the missing currency is typical of Fred’s approach to the theatre in general. If his dream came true, it’s because Fred made sure it did.

“I worked 18 hours a day, 7 days a week, for 1 year. It was the most beautiful time of my life. Focusing exclusively on one thing, dedicating my mind to it and each day seeing the results unfold before my eyes. It was very peaceful.”
Collaborative spirit...
Of course, Fred also received a lot of support. To fulfill his ambitions, he tirelessly sought out the people who could help him to bring the dream to reality – and who could benefit from having a theatre such as this in their vicinity. “It had to be this way. There was no money available. One of the things I am most proud of is that this theatre is what it is because of the efforts of those who believe in it; it has never received a cent in government subsidy.”

As you walk through the main entrance, one of the first things you see is a row of bricks, each one bearing a plaque naming a person or business that has provided support to the theatre. “In the Netherlands we have a saying about working together,” Fred explains. “Iedereen draagt zijn eigen steentje bij’ (everyone brings his own stone). Here, this is literal.”

… Every step of the way
The results of this collaborative spirit are everywhere at Theater Peeriscoop, but the ornate balustrading of the staircase is a fine example. “I went to a blacksmith’s forge in Leerdam,” states Fred, getting up and making his way over to the steps. “I outlined my vision for the staircase to him and he agreed he would help me get it off the ground – he would work with me for 1 day on it.”

Fred demonstrates the custom nature of the elegant staircase as he talks, walking down the steps, his hands resting on the perfectly spaced balustrades and over the raised ends with a flourish; perfect for a theatrical entrance. “He came here and he started the job and he loved what we were doing so much he stayed the whole week,” Fred continues. “He still comes here now to see what he calls ‘our work’.”

The culture that residents of Gorinchem have access to via the theatre is diverse – in keeping with Fred’s vision of something for everyone. In addition to Fred and his puppets, the theatre features a range of musical acts and cabaret performances.

The proving ground
To many performers, Theater Peeriscoop is the first step on the ladder to success. “We let performers use the theatre to prove themselves. People, for example, who cannot access the education they need to make it as a performer. We help them put together a show – the education they receive is a practical one. We get professional people to come here – with a wide range of different skills and we put together a show, and we play it for a year. The young actors can make some money from this, a share of which they return to the theatre. It’s a win-win situation.” The theatre has created four such shows and is now working on the fifth. Via these performances, a number of prominent Dutch performers – some of whom are now to be seen regularly gracing the nation’s TV screens – have made their debut. Similarly, a number of well known acts, debut new performances at the theatre to test them in front of a live audience.

“Gorinchem has actually been called ‘the most average city in the Netherlands’. That’s not meant in a negative way, just that the city is a good representation of the country as a whole. That being the case, we are perfectly positioned here to serve as the proving ground for the nation’s entertainment.”

"Without culture, life is empty."
Up close & personal
For some, a visit to Theater Peeriscoop is an opportunity to see their favourite act up close. “Performing or watching a performance here is very personal, the act takes places right in front of a relatively small audience of 150 people.”

This can sometimes be a little surprising for visitors who find themselves face to face with their idols. “We once featured a performance by Mike Stern (formerly jazz guitarist with Miles Davis), which brought a number of people here from the UK. They loved it! They were used to seeing him play in packed concert halls, not in a venue such as this where they were so close to the action.”

So close in fact, that many of the acts join their audience in the bar after a show for a drink – something that is of benefit to the performer as well as the audience. “It gives them a chance to get direct feedback which they would often miss out on at a larger venue.”

Builder of bridges
Fred has received a knighthood in acknowledgement of the work he has done in building bridges between the worlds of culture and business. Not only were a number of local businesses instrumental in helping Fred to get the theatre up and running at the outset, many continue to provide support for its operation to this very day. “It’s such a good thing when companies can see the value of culture,” Fred opines. “Without them, this would be impossible. It’s black and white.”

Amongst the local institutions supporting the theatre, is Damen. “Damen has been there from the start and has always been a very loyal, very supportive friend of the theatre,” states Fred before going on to explain the nature of the relationship. “We have similar interests. A company that has so many employees in the city wants to know that these people are happy living here. Damen realises that the happiness of its employees is in everyone’s best interests. In this, Damen is a leading example to other companies in the area.”

Mrs Josien Damen, who has known Fred for a considerable time, 3 years ago joined the theatre’s advisory board. She agrees with Fred, saying, “We will take care that our employees are happy in their work, but outside, in their private time, it is equally important that they have access to a good environment in which they can socialise and where there is culture.

“Without culture, life is empty. We want to take care of cultural life – that is why we invest in culture in Gorinchem and a key example of that is Theater Peeriscoop.”
DAMEN ANCHOR & CHAIN FACTORY LAUNCHES MOBILE TESTING SERVICE FOR LIFTING & HOISTING EQUIPMENT
Damen Anchor & Chain Factory (known as Damen AKF) has launched a new mobile service for carrying out testing and certification of lifting & hoisting equipment.

The mobile service, which started officially in April, is overseen by the Dutch hoisting and lifting association EKH (Erkende keurbedrijven Hijs- en Hefmiddelen).

This new service is in addition to Damen AKF's in-house testing facilities in Schiedam, in the Port of Rotterdam. Damen AKF is certified by Lloyd's Register and already has four calibrated hydraulic test benches with pulling capacities from 1 tonne up to 2,000 tonnes for proof and break load testing on all kinds of lifting, mooring, lashing and anchor equipment.

Initially, the new mobile service will be offered at Damen Shiprepair Rotterdam, Damen Dredging Equipment and Damen Shipyards Gorinchem. Damen AKF's certified experts have more than 20 years' experience with lifting and hoisting equipment and EKH testing procedures.

A broad range of equipment such as shackles, steel wire ropes, hooks, chains, clamps and everything used in lifting jobs can be tested and certified. At the moment this equipment can be tested on-site with a mobile test bench to 30 tonnes, but in the future this will be increased to 50 tonnes. Damen AKF also offers services for overhead cranes that need to undergo annual tests and inspections.

For heavier weights, equipment will be tested by Damen AKF at its own facility. Damen AKF can carry out tests for proof loads, break loads or calibration. Its four test benches are suited for a maximum of 100, 300, 900 and 2000 tonnes.

Mr van Gelder points out that many industries use its heavy lifting and hoisting equipment services, it is not limited to the maritime industry. One of its first clients was Huisman, which designs and manufactures heavy construction equipment. Other clients include Van Beest, which is maker of the GreenPin shackle.

He adds: “Although there is fierce competition in the market, we have a solid order intake for our anchors and chains, and I think this new testing and certification service is offered at a good price and this is coupled with unbeatable service levels.”

Online database
Additionally, for customers’ convenience, Damen AKF will set up a cloud-based, online database. “Customers get their own personal login so can access the database at any time. For example, if they have an ISO or VCA audit, they can immediately see the history of the equipment, any repairs and its certification date.”
A 50-YEAR DYNASTY

The Damen Stan Tug 1606 is pretty near perfection in the eyes of Coen Boudesteijn, the well-known Product Director Tugs and Workboats, who recently retired from Damen. This popular vessel represents decades of tug building evolution and its roots can easily be traced directly back to the renowned Damen Stan Tug 1 and Pushy Cat 42. These traditional Damen round bilge workboat hulls, were introduced between 1968 and 1972. In total, an impressive 360 Pushy Cats 42/46 and 175 Stan Tugs 1 were delivered between 1968-1988.
Damen’s current Pushy Cats and Stan Tugs are all essentially founded from these two original models, which have been popular since their introduction. Over the past 50 years, Damen has worked closely with dredging firms, towage operators and many other companies. The company listened carefully to clients, their captains and engineers and this input has been invaluable when it comes to the development of the Stan Tug Series. This especially goes for the Stan Tug 1 Series, which has been renewed four times over the past half century!

Each new tug generation is the result of constant product development. Each step and each detail has resulted in a vessel that is more cost efficient, more maintenance friendly, less prone to corrosion, has reduced fuel consumption and more power.

**Hull design**

Over the decades, the Stan Tugs have grown larger and gained more beam, but at the same time, they still embody their original robust forefathers. In the course of the standard development process, much attention was devoted to optimising the hull design. Valuable recommendations from Damen Research were combined with extensive full-scale testing, numerous detailed calculations for strength, vibrations, frequencies, stability and wave profiles.

In addition, the propulsion units have continually been improved, as noise levels and emissions were substantially reduced, even though bollard pull has increased. For example, the Damen Stan Tug 1606 has an impressive 50% more bollard pull than the Stan Tug 1 and yet its noise and vibrations are minimal compared to the first Damen Stan Tug.

The Stan Tug 1, with a 10-tonne bollard pull, evolved into the 1600/1605 with more power, more volume, more beam and with a 13-tonne bollard pull. The 1600 version was built between 1985-2007. But in 2005, the Stan Tug 1606 was introduced, again with more power, volume and beam and this time with a 16 tonne bollard pull.

**Multipurpose**

The Stan Tug 1606, which is always delivered with twin propellers, has essentially been developed for towage, pushing, mooring assistance, mooring line handling, crew transfer, survey work and pilots’ services. In combination with a Damen Barge, it can take in bilge water, bring fresh water, do supply work and carry out many other harbour tasks. “It can all be done by one multipurpose, small tugboat,” Coen points out.

The Stan Tug 1606 features a very sturdy hull constructed out of 10 mm thick plating, a 20 mm heavy-duty sheer strake, continuous rubber D-fendering fitted at the sides and stern, and a heavy-duty rubber pushbow. Coen emphasises that this very strong construction all shows how Damen goes the extra mile. “A thickness of 6 mm is accepted by Class. But we decided to include thicker plating, heavy knees on deck and extra strengthening on the side and extra frames because of the knowledge we had from the dredging industry. We knew what rough conditions these boats could be working in.”
The sturdy hull has a shape to ensure the optimal water flow towards the propellers and rudders. And the Damen Stan Tug 1606 has open decks, both fore and aft, which have been kept as smooth as possible, obstacle-free, providing maximum space for safe working conditions.

A 1-metre high bulwark, with access doors, is all around and standard bollards are positioned on the aft deck, midship, on the pushbow and on the fore deck. And because the Stan Tug 1606 standard middle bollard has developed from the original Pushy Cat Series, this modern tug is still the ideal vessel for a one-man operation and speedy mooring. “A captain can moor and fix the tug with one line himself. He is never more than five steps away from a mooring bollard!”

Meanwhile, the fore deck accommodates sound anchoring equipment with an electrical winch. The engine room hatch and emergency hatches, and ventilation facilities are all designed for optimal convenience, safety and easy accessibility for maintenance. In the wheelhouse and on deck, rounded-off corners make it easier to apply high quality epoxy painting and – benefitting the client – easy cleaning. Additionally, the Stan Tug 1606 has standard hoisting eyes to allow efficient transhipment onto another vessel.

More power, fewer emissions, quick response
Stan Tugs 1606 have a proven and reliable propulsion installation. Two durable, electronically-controlled Caterpillar C18 engines are combined with high quality Reintjes gearboxes, with an aggregate output of 894 kW at 1800 rpm. Thanks to the Damen Standard closed cooling system, these modern diesel engines have a very high torque of 1900 N-m at 700 – 1800 rpm available, resulting in a great acceleration.

The proven Damen standard propulsion train includes CuNiAl Kaplan propellers fitted in high performance Damen Marine Components nozzles. These nozzles give the Stan Tug 35% more pulling force compared to ‘open’ propellers. Both the propeller shaft and the nozzles’ inner rings are made of stainless steel for an extra long lifespan.

Exceptional manoeuvrability
The Stan Tug 1606 has exceptionally good manoeuvrability thanks to its power hydraulically operated, streamlined double-plated rudders with 2 x 50° rudder angles. “These rudders facilitate easy turning circles, whereby the tug stops within a ship’s length and because of this 50° rudder angle she can turn around on her axle.” And again, Coen adds this is not required by Class, which only asks for 35° degrees. “This is another development which is based on our knowledge of the market. Quick turning is crucial in narrow, busy harbours for safety and efficiency.”

Main engine cooling is based on the original Pushy Cat Series; featuring the proven Damen standard closed cooling system with the streamlined cooling channels placed against the bottom shell plating. In this way, the Stan Tug’s cooling system remains pollution free, whilst navigating in extremely shallow water is enabled, and the cooling liquid is kept from freezing over during winter conditions. “This closed cooling system was already a great development when introduced in the Pushy Cat Series. There is no risk of pollution or freezing and the special cooling fluid guarantees an extra long lifespan for the main engines; this has all been part of the success of these Stan Tugs.”

The latest Stan Tug 1606 generation has a modern engine room alarm system installed for engine and gearbox control, bilge water sensor surveillance, watertight door alarm and fire detection. All displays are visible from the helmsman’s seat. The Stan Tug 1606 wheelhouse has an efficient layout with control and instrument panels positioned ergonomically. At the helm, the tug master has an excellent view all around through large windows. The centrally placed seat is close to the fore windows, with all essential control handles and buttons within reach.

And the spacious wheelhouse includes a comfortable dinette.

Both the wheelhouse and the accommodation below deck are fully air-conditioned and heated. The modern, well-tried, durable Damen standard ship carpentry contributes to a cosy, user and maintenance friendly accommodation. The accommodation includes sleeping facilities for two persons, a galley with cooking facilities, a refrigerator, pantry, cabinets and a bathroom with shower.

Four weeks delivery
Stan Tugs 1606 give a great performance, are powerful, fast and boast outstanding manoeuvrability. They are totally vibration free and offer comfortable sailing under all conditions, thus enhancing the confidence of those who sail in them.

The range of standard options, such as a deck crane, extra coupling winches, a flying bridge, radar and additional accommodation are all available from stock, just like the completely finished Stan Tugs themselves and all standard components. Consequently, any Stan Tug tailored to the client’s specific demands, can be delivered within 4 weeks.

“The Damen Stan Tug 1606 can be seen all over the world today. In total, more than 200 modern Stan Tugs 1606 Series have been delivered since 1985 and we are still counting! It is a fantastic tugboat – as close to perfection as you can get!”

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**STAN TUG 1606**

- **Bollard pull:** 16 tonnes
- **Length:** 16.76 metres
- **Beam:** 5.94 metres
- **Power:** 894 bkW
- **Max Speed:** 11.2 knots
In 1927, the brothers Jan and Rien Damen opened a small shipyard in the town of Hardinxeld-Giessendam by the River Merwede in the Netherlands. The yard remained a small, but prosperous concern for many years until, in 1969, Kommer Damen introduced the standardised shipbuilding concept.

This unique approach to the craft has seen Damen grown into a shipyards group with international acclaim. Today, the group operates across the entire spectrum of maritime industries with over 9,000 employees around the world.

On the 90th anniversary of the beginning of Damen, we take a look back at some of the people, places, events and vessels which make up the Damen story.
The story of Damen begins in the 1920s with brothers Jan and Rien Damen starting the company in a shed next to the family home on the banks of the River Merwede in Hardinxveld, the Netherlands. In 1927 they formalised the company as Damen Brothers.

That same year, Yard Number 1 was launched. A 4.5-metre flat-bottomed boat with a beam of 1.7 metres, that the brothers had designed themselves.

As Damen was starting out, the world was entering a new era in international connectivity. 1927 was the year of the first intercontinental telephone call – by radio – between New York City and London. On May 20th of the same year, just before 0800, Charles Lindbergh took to the skies above Long Island, New York. He arrived 33 ½ hours later, to much excitement, in Paris.
A LISTENING APPROACH

By the 1930s, the Hardinxveld yard, though still a small concern, had begun to develop a reputation for listening closely to its clients and incorporating their feedback into its vessels.

In this way, it generated a number of repeat orders – some of which came from companies who are still clients of Damen today.

The tradition of listening to customers became ingrained into the Damen business model and today, the portfolio of vessels evolves through a combination of in-house research and close cooperation with customers.

Customer Feedback
The Critical Ingredient

According to Joop Jansen, Manager Research & Development Department, client cooperation and feedback are of vital importance in developing vessels. “I remember, in 1978, visiting a Mexican client who had taken delivery of the first ever Stan Tug 2600L – he was having problems with high levels of vibration. Because this vessel was the first step towards a new generation of products, it was vital to identify, analyse and solve any underlying issue. We accomplished this by visiting the client’s operational site to get hands-on experience of his problems.”

This way of thinking (putting enormous value on a vessel owner’s operational feedback) has been a solid cornerstone of the company. Moreover, one that is still valid today. “Vessels are still very much the result of a collaborative effort with a client,” he states. “A great example of this cooperation is the Bibby Wavemaster 1 that we are currently building for Bibby Marine Services. This vessel is the result of getting together with the client to talk about what exactly is required in their operational environment to make a difference in the market.”
A new shed was added in Hardinxveld in 1941. This represents the company’s first expansion. No one could know at the time that Damen was destined to grow into an international group of companies operating 33 ship and repair yards all over the globe.
In 1942, Damen delivered YN 116, a twin mast sailing vessel for client Schenk.

Pictured here is the Damen workforce with the yard’s 100th vessel. Today, the Damen Shipyards Group has delivered over 6,000 vessels to clients all over the world.
1950s
The 1950s were an era of technological and scientific advancement. During the decade, televisions and radio sets began to become commonplace in the home. It was during the 1950s that the first commercial passenger jet planes came into use. The DNA double-helix was discovered and the USA and USSR began to explore space via satellite technology.

Since the earliest times, Damen has always held a belief in taking care of both its customers and its employees. The hard work has always been well balanced with fun and social activities. The very first Damen company outing took place in 1952, when the employees of the time were treated to a trip to the historic Dutch fishing village of Volendam. Pictured, second left on the front row, is a young Kommer Damen sporting traditional Dutch dress.

IN THE MEANTIME....

1950s
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IN THE MEANIME....

1960s
The 1960s are well remembered for their colourful expressions of fashion, music and counterculture. People were becoming increasingly mobile, thanks to increased accessibility to passenger flights and to automobiles. Mankind took a giant leap on July 20th, 1969, when Apollo 11 became the first manned spaceflight to land on the Moon.

1965
EVERYONE DOING THEIR BIT!
The whole Damen family helped out to deliver ships on time and keep them running. Kommer Damen’s sister Dina Damen recalls evenings with the family painting hulls so that the vessels would be dry in time for high tide delivery. While Kommer Damen was in the Navy for his military service, she made her first car journey after passing her driver’s license – hurtling through pouring rain to deliver a large ship’s propeller to the other side of the country.

1954
KOMMER DAMEN’S HOLIDAY
Life along the rivers had begun slowly recovering from the devastation of World War II. The Damen shipyard had a healthy order book supplying the post-war reconstruction with much-needed workboats.

But the economy was still fragile and running a small family business demanded thrift and a sense of community. Jan Damen’s son Kommer spent these summers working on the farm run by the Mulders family – the same family that operated the Damen-built Zeldenrust foot ferry across the river Maas.

Dina Damen
Today, the Damen Shipyards Group is world-renowned for its standardised, series production. This innovative process was the idea of Kommer Damen and commenced when he took the reins in 1969. The idea was, by building vessels in series, Damen could offer its clients the fastest possible delivery of reliable, proven vessels.

Sabrina Henrika
The Sabrina Henrika, one of the earliest vessels designed by Kommer Damen when he started working at the family business. Coming across the vessel many years later in Amsterdam, Mr Damen purchased the vessel and restored her to her former glory at Damen Shipyards Hardinxveld. Today, the vessel can be found, in prime condition, in the Lingehaven, Gorinchem, close to Damen’s headquarters.
The standardisation philosophy is the root of Damen’s success. The above image, from 1970, shows the concept at work. Pictured are a number of Pushy Cats at Damen Shipyards Hardinxveld at various stages of construction. Compare this with the image below, taken recently at Damen Song Cam Shipyard in Vietnam showing the series production of Damen tugs and workboats in the present day.

**ORIGINS OF R&D**

Following the success of standardising the construction process of the Pushy Cat, Damen expanded the concept to new vessels such as Stan Tugs, Stan Pushers, Stan Carriers and Stan Landers.

“To accelerate this step forward, we needed a dedicated design department to carry out preliminary and concept vessel studies,” Joop Jansen, Manager Research & Development Department, highlights, referring to the origins of the Damen Research Department.

“It was our job to come up with new designs and present them to the sales and technical teams at monthly product development meetings. Everybody had the opportunity to give their feedback on our designs – which sometimes could lead to some very long but inspiring discussions.”

“These monthly meetings also brought new insight and ideas,” he goes on to say.

“There would be new vessel concepts added to our to-do list; we couldn’t design them fast enough! The starting point in a design was always a standard construction package and never with a specified yard number. That is how we worked. First standardisation and then building. And not the other way around.”
IN THE MEANME TIME....

1970s

The 1970s were a period of profound political changes in the world and an era of economic challenges for industrialised nations. Such things did not stand in the way of progress, however and the 1970s witnessed the birth of modern computing. During this decade, the first MRI image was produced and the first call made on a cell phone.

1970s

PRACTICAL JOKES IN THE EARLY DAYS

Steef Staal, now Managing Director of Damen Marine Components, joined the steadily growing Damen team in 1973. “It was a young team back then,” he recalls. “And, maybe because everyone was so young, we had quite a lot of fun. We played jokes on the office staff by replacing the microphones in their telephones with weights.

“And I could imitate Kommer Damen’s voice particularly well over the phone. This lead to some memorable incidents – like one Friday afternoon in Hardinxveld. Pretending to be Kommer, I called up a sales guy from another room. I could see him from where I was and I can remember how he straightened his tie before he took the telephone. I told him ‘Come to my office,’ and he got up at once.

As he passed the room I was in, I called to him to tell him it was a joke, but he said ‘Not now Steef, I have to see Kommer.’ And if I remember correctly, Kommer wasn’t even in that day!”

The pranks continued as the company expanded to Gorinchem. “The sales team there were close to tying up an order with a client from abroad. Dressed up in the national dress of that client, one of the new bookkeepers from Hardinxveld pretended he was there on behalf of the client to increase the order to twelve vessels. It caused quite a lot of excitement and took some time before anyone realised it was a joke!”

Anecdotes about practical jokes would of course be incomplete without a mention of April Fools’ Day. “One April 1st, we played a joke on a yard manager by convincing him that a client would be coming to inspect a vessel. We even set up a fake helicopter landing pad. When the appointed time came, the Yard Manager went out to greet the client. Instead of the client’s helicopter however, there was just a banner that said ‘April Fool’.”

PRODUCTION EFFICIENCY

Sales Engineer Services and long-standing Damen employee, Bert de Rover: “It was back then when we started to have two production teams. One team on outfitting and the second for detailed completion, commissioning and trials.

And, combining this with having all components in stock, this really made the whole process very efficient. One time we started outfitting a Pushy Cat 42 on a Friday afternoon. We worked all weekend to finish it in time for trials on Monday.”
Steef Staal says Damen has always had a cutting-edge approach. “We always had the latest technology available. Back when I first started, there weren’t many computers around, but we did have word processors – a lot of people were still using typewriters. “We also had access to telefax. Mind you, it was in the Post Office. If you wanted to send a message, one of the secretaries had to go down to the village.” Nowadays, Damen continues to adopt the latest innovations on the market. Things are a little more advanced; amongst the tools to be found in the offices today are 3D printers and CAD PDM technology.

Bert de Rover’s opinion of Damen’s composite vessels has certainly changed over the years. In the mid-1970s, when Damen started building faster vessels, he was involved in the production of the Poly Cat. He wasn’t much of a fan to begin with: “I used to call them the plastic buckets.” His stance on composite materials changed in 2016 when he was a passenger in a 60-knot Damen Interceptor. He used one word to describe the experience: “Sensational!”

Kommer Damen’s persistence during his first trips to the Middle East was paying off. The big dredging companies needed reliable equipment to meet the region’s soaring demand for port infrastructure. By 1978, about 100 Damen Pushy Cat workboats were operating there, so Damen took its first step outside the Netherlands with a Service Hub in Bahrain. Having the Damen technician arrive on site in Doha or as far as Jeddah within just a few days offered an extraordinary level of customer service for the time.
1974

SETTING UP DAMEN’S SERVICE OFFICES ABROAD

After successfully setting up Damen’s first international service office in Bahrain in 1974, Hennie den Toom and Nijs van Noorloos took on the task of establishing the company’s presence in Nigeria.

“This was in 1976,” says Mr Den Toom. “The Nigerian civil construction and dredging industries were growing fast – and the cement trade was enormous. Flying into Lagos at night, you could see so many boats in the harbour waiting to unload that it looked as if a second city had erupted.”

The job of building up a business called for a great deal of independence from Mr Den Toom and the team: “Especially in terms of communication. We had to go the Federal Palace Hotel in Lagos to make our international phone calls – and even then, there was a 4-hour long wait.” Another, more unpredictable, aspect was the political situation in Nigeria in the mid-1970s.

“To be honest, those were rough days. Not only for setting up a business, but also for my family, including my two children who were born there. We really enjoyed our 8 and half years there though. A fantastic time.”

Never shy of a challenge, on leaving Nigeria in 1985, Mr Den Toom decided to drive back to Europe with a colleague – a journey that involved crossing the Sahara by car in mid-summer with temperatures roaring well over 50°C.

“Of course, back then there was no such thing as satellite navigation,” he adds. “I remember calling my wife from a phone booth in Niamey [capital city of Niger] to tell her to expect a phone call from us when we arrived on the North Coast in 10 days’ time.”

1980s DAMEN SERVICES

During the 1980s, Damen operated a Services Bus, pictured here loading spare parts onto a KLM flight for international distribution.

THE COMPLETE LIFECYCLE

Services are still an important part of the Damen business model today. Beginning well in advance of the purchase of a vessel, Damen’s service solutions cover the entire lifecycle of a vessel, from financing, through 24/7 assistance, to ship recycling. Today, with its international footprint, including 33 ship and repair yards located on six continents, and six strategically located Service Hubs, Damen is never far from its clients.
GOING GLOBAL

During the 1980s, the group became increasingly global in its outlook. It was possible to find Damen hulls being constructed simultaneously in soaring temperatures on the banks of the River Nile and in the freezing climes of the Soviet Union.

STRENGTH IN NUMBERS

By this stage, Damen had grown to be a company with over 1,000 employees and with both newbuild and repair facilities. The growth was set to continue far into the future. Today, with locations all over the world, Damen employs over 9,000 people.

LONGEST SERVING DAMEN EMPLOYEE

Damen has always strived to be a committed employer – and as such it has some very loyal personnel. Holding the honour of longest serving employee is Bert de Rover who joined the company in July 1967 when he was 14 years old.

He now works at the Spare Parts department in Gorinchem, in a function where his considerable experience is often called upon. “It is still very good to work here,” he says. “Every day is different. I am often asked for advice by my younger colleagues because so many of the vessels that we built in the 80s are still operational.

“There are even older Damen vessels still going – the oldest parts request that we have had is for a vessel that was built in 1972.”

MORE THAN SPARE PARTS

You might think that working in the Spare Parts department of a shipbuilding company would mean that you only concentrate on the purchase and distribution of vessel parts and components.

That is sometimes not the case. “It’s a great job with lots of contact with clients and suppliers,” notes Bert de Rover. “And we have had some very varied requests over the years.”

He has dealt with orders for coffee filters, artificial grass, chicken egg incubator and 200 pairs of work shoes. “We’ve handled it all. Our philosophy is, the client is king!”
In 1989, Damen hosted a royal visit, when Queen Beatrix of the Netherlands attended the naming ceremony of the Eendracht, a national seagoing sailing vessel. The Queen is pictured here disembarking the vessel.

Since then, Damen has hosted a number of Royal and governmental visits, as well as having taken part in many trade delegation events also attended by Dutch and other national heads of state.
STATE VISITS

In 1983, Kommer Damen received the ‘Golden Lead’ (het gouden voortouw) award from the Minister of Economic Affairs, G. van Aardenne. In the background stands Professor A. van der Zwan of the Erasmus University.

On 21st January, 2013, Minister of Defence, Miss Hennis-Plasschaert, visited Gorinchem for a yard tour with Damen Schelde Naval Shipbuilding Director Hein van Ameijden, Kommer and Arnout Damen.

In 1990, Her Majesty Princess Margriet visited Damen Shipyards Gorinchem for the naming ceremony of a lifeboat named in her honour.

On 2nd April, 2014, Queen Máxima named the Search and Rescue Vessel NH1816 in her home port of IJmuiden.

On 4th December, 2001, Queen Beatrix visited the Gorinchem yard to name the Seagoing Patrol Vessel, Visarend, for the Dutch Customs.

In 2003, the then Princess Máxima named the last in a series of four Air Defence and Command Frigates of the Seven Provinces Class built for the Royal Dutch Navy.

Prime Minister of the Netherlands Mark Rutte visited Damen Shipyards Gorinchem on 23rd November, 2011. His visit was in order to keep inform of the state of Dutch industry. Mr Rutte is pictured here with Damen CEO René Berkvens, and Kommer and Arnout Damen.

20th January 2009 saw Queen Beatrix name the Patrol Vessel of the Water Police Force, P99. The vessel was the last in a series of ten, delivered by Damen between 2008 and 2009.

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On 2nd April, 2014, Queen Máxima named the Search and Rescue Vessel NH1816 in her home port of IJmuiden.
Damen’s superyacht company joined the group in 1991. Amels, originally based in the northern Netherlands Province of Friesland, has been building ships since 1918.

Soon after joining Damen, Amels’ operations were moved to Vlissingen in the southwest of the Netherlands. Amels’ current location has a rich history of shipbuilding dating back centuries.

It was in 1982 that Amels constructed its first yacht, the Katalina, setting it on the path to becoming the most successful superyacht builder in the Netherlands. Since then, Amels has delivered almost 60 superyachts, including, in 2017, its largest to date, the 83 metre Here Comes the Sun.
At 75 metres, Montkaj was the longest yacht ever built in the Netherlands when her owners took delivery in 1995. The same family is still enjoying this iconic Amels Full Custom superyacht almost a quarter of a century later.

Thanks to continued investment, Amels has grown into the largest superyacht facility in the Netherlands.

AMELS was the first Dutch yacht builder to slash harmful NOx emissions by almost 80 percent.
1998

CULTURAL EXCHANGE

Damen's international spread has brought about a two-way exchange as clients and personnel from all over the world have come to the Netherlands when visiting the head office. An example of this is the visit, in 1998, of the crew of a vessel that was being built at Damen Shipyards Gorinchem for an African client. The crew stayed in the city for some time, during which they took every opportunity to discover their surroundings – even visiting Madurodam, where miniature versions of iconic Dutch landscapes and buildings are displayed.

CREATING VIBRANCY AND PROSPERITY

Recently, when Kommer Damen was awarded Honoured Citizen status of the City of Gorinchem, the town’s Mayor praised Damen for encouraging this cultural exchange, which has contributed so much to the vibrancy and prosperity of the city.
In 2001, Damen Schelde Naval Shipbuilding (DSNS) joined the Damen Shipyards Group. The Royal Schelde company has a rich history, dating back over 140 years. Based in the south-west of the Netherlands in the historic harbour city of Vlissingen, the yard had long held a valued reputation for quality in both naval and commercial sectors, delivering over 400 vessels since 1875. Since becoming part of Damen, the Schelde yard has introduced the successful concept of standardised modular production to a number of projects.

**2000s NAVAL MODULARISATION AT WORK**

A notable example of this are the recent SIGMA 10514 PKR frigates for the Indonesian Navy. The construction of these vessels – the first of which was delivered in January this year – is via a collaborative process, which sees simultaneous production taking place at DSNS in Vlissingen and at the PT PAL Shipyard in Surabaya, Indonesia.
Today, with an international presence, multi-market penetration and some 9,000 employees, Damen is still very much a family company at heart.

Kommer Damen is Chairman of the company. His wife, Josien, organises a number of events and exhibitions for the company, as well as handling company sponsorships, such as with the Nederlands Dans Theater. His sister, Dina, manages the company’s archives. The four children of Kommer Damen all have active involvement in Damen today. Arnout holds the position of Chief Commercial Officer, having joined the company in 2010 and Rose Damen has recently taken up the position of Commercial Director at Amels. Last year, Bear produced the all-new Damen commercial movie, whilst Annelies manages the group’s real estate portfolio. The continuing involvement of the family ensures that Damen maintains the values that it has had from the start – listening closely to its clients to ensure they receive the vessels they need, taking care to provide its employees with a pleasant, productive place to work and always taking a long-term view in everything that it does.
With nearly 70 years of experience operating in the harsh conditions of the Antarctic in 2016, the Australian Government took the decision to invest $1.9 billion in a new, once-in-a-generation Antarctic Supply Research Vessel, which is set to serve the country for the next three decades.
This very special icebreaker is at the heart of Australia’s Antarctic Strategy & 20 Year Action Plan, announced in April last year. The ASRV will be the main lifeline to resupply Australia’s three permanent research stations in Antarctica and its sub-Antarctic research station on Macquarie Island with cargo, equipment and personnel. Essentially, the 156 metre, ASRV is an icebreaker, survey vessel and resupply vessel all in one, and it will be Australia’s only icebreaking scientific research platform.

The Australian Antarctic Division’s (AAD) Modernisation Program Manager, Rob Bryson, says the AAD has been operating in the Antarctic and the Southern Ocean since 1948. And, based on this operational experience, it developed a set of requirements that it believes will ideally serve the Australian Antarctic Program.

“The new vessel is a multi-mission ship designed to sustain our geographically dispersed stations, support helicopter operations, sustain shore parties on remote islands, map the seafloor and undertake a variety of scientific activities across the Southern Ocean. “The AAD’s project for a new ship has been running officially since 2012. We undertook an extensive study to validate our past experience with ice conditions around our three Antarctic research stations and then looked to determine what we might expect in the future. This drove the ice breaking capability that is at the core of our expectations for the new ship.”

IMPROMPTU ICEBREAKING
The AAD had an extensive list of functional performance specifications that determine what the ship will be designed to accomplish. “This is made up of over 1,300 individual requirements ranging from an icebreaking capability (1.65 metres at 3 Knots) to capacity for cargo, endurance and fuel,” he adds.

On April 28th, 2016 the Australian Government signed a contract with DMS Maritime, a wholly owned subsidiary of Serco, for the delivery, operation and maintenance of the ASRV. The vessel will be built by the Damen Shipyards Group, with the engineering and project management undertaken by Damen Schelde Naval Shipbuilding (DSNS) in Vlissingen, the Netherlands, and the construction and outfitting of the vessel carried out at Damen Shipyards Galati, Romania. Serco will represent the AAD as a project manager but the AAD will be intimately involved during the build phase.

Mr Bryson explains that the underlying philosophy is that the ship needs to be flexible enough to adapt to change over the next 30 years. “What this means is that we went for a more modularised approach to the science spaces with a preference for containerised laboratory spaces rather than fixed labs. This allows us to adapt the ship for the science questions that need to be answered in the future.”

The new ship gives the AAD a substantial increase in cargo capacity, with an almost threefold increase in container carrying capacity between this ship and the current vessel, the RSV Aurora Australis, as well as much improved icebreaking ability.

THREEFOLD INCREASE IN CARGO CAPACITY
The new ASRV has a 1,200 tonnes cargo capacity below decks in up to 96 TEU. Additionally, it can carry 14 TEU and six 10-ft containers on the aft deck, as well as more above the helicopter hanger and in front of the helideck. This compares to just 19 containers in the holds of the existing Aurora Australis. The significant increase in cargo carrying capacity enables the AAD to resupply two stations in one voyage.

It also has increased endurance and a significantly improved environmental performance. “This is a major consideration and we have included relevant notations and requirements that are in keeping with MARPOL provisions for operations in waters above 60 degrees south,” Mr Bryson points out.

The ship also has a significantly enhanced scientific suite, which allows the AAD to probe from below the sea floor all the way up to the upper atmosphere and everything in between. Designed with 500 m² on board laboratory and office facilities, the ASRV will host up to 32 maritime crew and as many as 116 AAD scientific personnel as well as a doctor, in climate controlled accommodation.

The ship also has two 55 tonne knuckle-boom cranes and a 15-tonne crane on the helideck and a 15-tonne, side-loading crane.
NOISE REDUCTION

Given its unique role, the ASRV is faced with a major challenge in that one of its most important scientific functions is to study microorganisms and to map the seafloor, relying on a variety of acoustic instruments, which need a very quiet environment. With this in mind, a lot of work has gone into the design of the ship’s hull and propulsion system, to reduce noise wherever possible. And, given DSNS’s 140 years of naval experience, the yard is well equipped to build vessels with a low noise profile.

A spacious aft deck will be used for a variety of tasks including seismic mapping, operating AUVs, towing underwater cameras, deploying nets and for extracting sediment cores of up to 24 metres long, amongst other things. The aft deck will also have a capacity for fourteen TEU and six, 10-foot containers. And, as it is impossible to predict the research taking place many years down the line, eight of the containers will have services for laboratories of the future.

Seawater can be cooled as low as -1.8°C in tanks, which will be used for krill and other organisms. And scientists will be able to store samples at temperatures down to -135°C.

INNOVATIVE ‘WATER WELL’

The ASRV will also feature a 13 metre deep, 4 metre wide moonpool. This will allow scientists to deploy conductivity, temperature and depth instruments. These can be used to collect water samples at different depths down to 6,500 metres below the surface.

Other acoustic instruments include multi-beam, bathymetric and scientific echo sounders, (8x8 metres), which can work at depths to 11,000 metres, as well as hydrophones, fishery sonars and Acoustic Doppler Current Profilers.

A truly pioneering addition, which will be deployed for the first time, is a ‘wet well’ sampling space. This is a watertight room below the water line, which has three intake pipes to the sea. Up to five tonnes of seawater per minute will be fed into the wet well, which will catch krill and jellyfish etc. Viewing tanks allow scientists to identify and collect organisms and place them in temporary aquariums.

And, given the harsh conditions the ASRV will work in, it has to be very robust, with a lot of built in redundancy.

Mr Bryson comments: “Operating in polar waters off Antarctica requires a certain degree of robustness. With this ship we have learnt a lot from past experience and ensured that critical mission systems have a very high level of redundancy. Being a single ship operation it is extremely important to have a reliable shipping service, especially when trying to keep research stations running in extreme environments.”

The vessel will be named by children this year, via a school competition. The unique project will continue up until final acceptance in April 2020.
ITALIAN TUG OWNERS

SCAFI

Scafi Società di Navigazione S.p.A. was founded in the 1950s by Salvatore Cafiero and manages tug services in the port of La Spezia, Savona and Gioia Tauro.

In Italy, the group has three subsidiaries, Rimorchiatori Riuniti Spezzini (La Spezia), Con.Tug (Gioia Tauro, in partnership with the terminal operator Contship group) and Carmelo Noli (Savona-Vado). Since November 2016, Scafi has also operated in Croatia together with its partner Cafimar Spa. Currently, the company operates with 20 vessels in Italy, nine in Croatia, one in Venezuela, while two are on charter and one is on standby for repairs.

Scafi has worked closely with Damen since 1992 and ordered 15 vessels over the years. Franco Visco, Scafi Managing Director, says: “We chose Damen originally after a long investigation through European shipyards in the early nineties. Before that date Scafi was only building in Italian shipyards, but we wanted to explore further possibilities to obtain good products at reasonable prices.”

With the two companies having worked together for more than 20 years, the relationship has seen a number of firsts. In 2002, Scafi took delivery of the first new ASD 2810 Tug from Damen, named Portovenere. Germania was customised with extras including FiFi 1, oil recovery and escort notations and an aft winch. The second ASD 2913 will be delivered in May.

Meanwhile, in June 2016, the company ordered an ASD 2810 Tug for its new company Rimorchiatori Augusta, which has operations in several Sicilian ports. With a 60-tonne bollard pull, the Capo Boeo was fitted with FiFi 1 and upgraded towing hooks. And, hot on the heels of this order, the Italian group ordered another Damen ASD 2913 and an ASD Tug 2411.

Alberto Dellepiane, Director of Rimorchiatori Riuniti says that the company ‘always keeps its eyes open for opportunities’. At the moment, he smiles, “We want to get to celebrate our 100th anniversary in 5 years’ time – that’s our target!”

RIMORCHIATORI RIUNITI

Owned by the Delle Piane and Gavarone families, Rimorchiatori Riuniti has been operating its well-known orange tugboats in Genoa since 1922.

The Group serves the Italian ports of Genoa, Salerno, Augusta, Siracusa and Catania and in Malta, Valletta and Marsaxlokk; and on the Adriatic Sea; Ravenna, Ancona, Ortona in partnership with the Vitiello family, and Trieste with the Cattaruzza family.

With a fleet of around 100 vessels, Rimorchiatori Riuniti originally ordered its first two Damen vessels back in 1998, when it acquired two tractor tugs.

Then, in 2014 Rimorchiatori Riuniti ordered an ASD Tug 2411 and in December 2015, the company ordered a pair of very powerful 80-tonne bollard pull ASD 2913 Tugs. Rimorchiatori Riuniti took delivery of the Germania in January and she is deployed in Genoa. Germania was customised with extras including FiFi 1, oil recovery and escort notations and an aft winch. The second ASD 2913 will be delivered in May.

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OCEAN

Ocean is the latest Italian towage company to add a Damen tug to its fleet. Specialising in towage and offshore services in the northern Adriatic Sea, Ocean ordered a Stan Tug 2608 in January. The vessel will be mobilised for harbour towage duties in the port of Monfalcone when she arrives in June.

Ocean Managing Director Michela Cattaruzza Bellinello explains why the company considered a Damen vessel for its fleet expansion.

“We are very aware of Damen's high standards. And we bought a Stan Pontoon from Damen a couple of years ago and have been satisfied with the performance since then. Additionally, compared to the rest of the market, the price was very competitive and the fact that the delivery is extremely fast is very attractive.”

The relationship with Damen began when Fratelli Neri took delivery of a Damen Stan Tender 1905 in 2011 and two second-hand Stan Tugs 2608.

In 2015, the company ordered its first newbuild Damen vessel, the Luisa Neri. Joining the fleet in 2016, the Damen ASD Tug 3212 is also the first ASD Tug in the Mediterranean with a Damen render-recovery winch.

The vessel was customised with the installation of a deck crane and all equipment necessary to comply with FiFi 1 notation, oil recovery notation and Italian flag requirements.

“Additionally, compared to the rest of the market, the price was very competitive and the fact that the delivery is extremely fast is very attractive.”

The Stan Tug 2608 is an ideal vessel for harbour towage and vessel assistance roles. Its broad wheelhouse offers an all-round view of operations and an unobstructed deck creates a safe working area for the crew. At 26 metres, the Stan Tug delivers an impressive 45-tonne bollard pull.

To meet Ocean’s required specifications, Damen is making a number of modifications to the standard vessel design. These include the addition of a 600 m³ FiFi installation and an aft winch.

Ocean, which is part of the larger Ocean Team headquartered in Trieste, has 43 vessels in its fleet. Ocean performs a complete range of independent, competitive harbour towage services in four ports in the North Adriatic Sea: Monfalcone and Porto Nogaro, Trieste, Koper in Slovenia and Bar, Montenegro.

NERI

Piombino, Livorno-based Neri Group is a proud family-owned company with a long history. The company’s roots date back to the end of the 19th century when Costante Neri was one of the leading companies tasked with the duty of loading and unloading ships that arrived in the harbour of Livorno by means of small boats in the so-called ‘caravan of stevedores’.

Nowadays, Neri Group is active in Europe and West Africa with a fleet of more than 30 vessels including tugs, barges, lifting floating cranes, supply vessels and crew boats.

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Luisa Neri was put to work in the company’s homeport, which is notorious for being quite a challenging harbour to operate in. However, Luisa Neri has the power – just over 80 tonnes of bollard pull – the manoeuvrability and the right equipment to handle these difficult escorting duties.

“The extremely flexible characteristics means that this new tug is well able to fulfil her duties in a ready, efficient and safe way,” says Fratelli Neri Managing Director, Piero Neri (great grandson of Costante Neri).
On 2 February 2017, a new shipyard joined the Damen Group. Representing a timely expansion of the company’s ship repair activities, Damen Shiprepair Curaçao will focus on the local Caribbean market as well as the considerable amount of marine traffic sailing to and from the Panama Canal.

The yard’s Managing Director, Jaap de Lange, explains how the yard became part of Damen: “In fact it was a process of more than 7 years. Our first attempt was around 2010, but was blocked by a governmental change in Curaçao. We were invited again at the end of 2015 and signed a concession agreement with the Curaçao Government in 2016 for the operation of what was then known as the Curaçao Drydock Company. And then, in February of this year, we took over the management of the yard,” he explains.

“You can look at our position here as a strategic partnership with the island of Curaçao. We have taken over the operational activities of the yard including all the employees, while the island retains ownership of the infrastructure. This initial contract is for 20 years – our intention is to be here for the long-term.”

Backing up Mr De Lange’s words is the commitment to invest 40 million US dollars in the yard over the coming years. This will see the installation of a third floating dock of more than 200 metres and maybe a fourth, smaller dock for service activities. “We are, of course, looking to include training and education of local technical staff into the investment plans,” he adds.

Why Curaçao?
Damen Shiprepair Curaçao is part of Damen Shiprepair & Conversion (DSC) Division – the part of the business that offers ship repair, conversion, refit and maintenance services at 16 specialist yards located throughout the world. What is notable about the Curaçao repair yard is that it is the first to break into the Americas region.
“Our geographical location is quite special,” states Mr De Lange. “This is an area with a lot of maritime traffic. If you look at the amount of annual ship movements to and from the Panama Canal, for example, that in itself is between 10,000 and 12,000 ship movements per year. Added to that is the large amount of vessels that operate permanently in this area – the availability of a more local yard will reduce their financial burden considerably if you consider their fuel costs and sailing time for using a European yard for repairs.”

Hurricane free
Another important characteristic of the yard’s location is one that cannot be overstated: because the island of Curaçao does not lie in the Caribbean Hurricane Belt, more stable weather conditions allow for optimised planning of visiting vessels. This, in turn, keeps the downtime of the wide variety of vessels visiting the yard – oil and gas tankers, bulk carriers, dredgers, cruise ships, and naval and coast guards vessels – to a minimum.

And, of course, any new business venture also has to look at the competition: “Dock capacity – especially large dock capacity – is limited in the region. This is a major aspect, particularly bearing in mind our plans for the near future. In 3 years’ time we will have really differentiated ourselves from the competition. All in all, it’s the combination of all these features – the location in relation to the Panama Canal and the Hurricane Belt and the limited local docking facilities – that makes this yard a very important strategic asset.”

The island feeling
Operating a ship repair yard on an island does brings certain challenges however. Everything has to be shipped or flown in.

“We have good external connections though; the import of equipment, parts or other special requirements is a well-established process here. For the client this is very important. Our ability to draw from the knowledge of the rest of the Damen Group is also significant. This experience can just as well come from the ship repair and conversion division as from other areas of the company too.”

There are more ways that Curaçao’s geographical situation influences the development of the yard. “The fact remains that this is an island with a population of just over 150,000 people,” he says. And on an island, perhaps even more so than on mainland locations, strong local relationships are vital.

“We have the support of the Curaçao Government and good contact with the Port Authorities. This cooperation is much appreciated in achieving the goal of the advancement of the yard in terms of planning applications, ISO certifications and other logistical matters.”

Demonstrating Mr De Lange’s personal commitment to this ‘island lifestyle’, he and his wife – both recently relocated to Curaçao from the Netherlands – are learning Papiamento; the predominant language spoken in this part of the Caribbean.

Multi-skills
As Managing Director of the newest member of the Damen Group, Mr De Lange’s aims for the future of the yard are well defined: “We want to develop partnerships with A-brand clients. This means that we are working towards creating a clean and safe shipyard that produces quality and reliability.” Naturally, investment will play a major role in achieving these aims. “As well as the infrastructural investments that we are planning, we are also implementing numerous organisational improvements to optimise the process model; ensuring that we deliver our work on time and on budget to the required quality standards. This aspect includes optimising the productivity of our current personnel. By training them up for other skills – so that a welder can also perform pipefitting work, for example – we will be creating a team of multi-skilled people.” We look forward to hearing more about the yard’s progress in the future.
Damen is a company that believes in investment in innovations and new technologies. A major part of this is accomplished by existing in-house departments – R&D or Design & Proposal, for instance. Also contributing to the influx of fresh ideas and ‘new blood’ is the company’s student placement programme. Here, we meet up with Justin Rietveld, a 23 year old Damen Technical Cooperation Engineer who recently completed his internship.
How long have you worked at Damen?
Two and a half years. I have been working in Gorinchem, the Netherlands, in the DTC (Damen Technical Cooperation) engineering department since August 2016, but I started here as an intern while I was studying Maritime Technology at Rotterdam Mainport University of Applied Sciences.

What was your motivation for studying Maritime Technology?
Well, from a young age I was always fascinated by vessels. My parents had a boat that we holidayed on, and also my father worked in the shipbuilding business. It was actually a very straightforward decision to choose that course because I never wanted to study anything else. I have never doubted this career path.

What was it like being a Damen intern?
I received a lot of support from the whole department. Actually, this is the same for everybody here – everyone is open for ideas and is willing to help.

For my graduation project I really wanted to design a new vessel with a new concept because this is something that I am very passionate about. So I went to the Design and Proposal team in the Offshore and Transport department and we came up with an idea to design a range of vessels for the decommissioning sector. Designing these vessels from scratch involved a lot of sharing ideas and discussions within the department. It was a great project that resulted in the Damen Decommissioning Series. I am proud of the recognition my graduation project has achieved: prizes at the Rotterdam University of Applied Sciences and the Royal Dutch Society of Maritime Technicians (KNVTS), and it was also nominated for the Dutch Maritime Design Award. But also within Damen, the department is now continuing with the project and looking at the possibilities of the concept, which is quite exciting!

Tell us more about your current job in the DTC Engineering department.
DTC provides design and engineering packages for vessels that will be built at non-Damen yards around the world. This means that every project is different. This is because we’re dealing with so many variables – different cultures from different countries, but also the technologies and facilities that yards have at their disposal varies so much. The work also involves so many types of vessels: tugs, hopper dredgers, crane barges, pontoons, high speed craft, for example. And each project has unique client-specific requirements.

You are participating in the Damen Leadership Development Programme. Tell us more about that.
In a nutshell, this is a 9-month long programme for young, eager people within the company that show potential for key positions in the future. There are fourteen of us taking part from various departments; from sales, engineering, services, design and proposal, for instance. We meet 2 or 3 days per month for intensive training. And on top of that, we get strategic assignments from the Executive Board.

These involve a mixture of disciplines – marketing, internal information and logistics to name a few. All the assignments are team projects. In fact, everything we do in the programme is done as a team. This is logical really because, after all, we don’t build vessels on our own – they are a product of teamwork.

How do you see your career progressing at Damen?
Ship design is where my passion is, but, on the other hand, engineering is also extremely rewarding. And it is definitely an advantage for a designer to have engineering experience. When I feel that I have learnt the basics, I want to move on within Damen. The trouble is that I haven’t decided yet in which direction – design or engineering. It’s a tough choice, but I am glad that Damen gives me the opportunity to fulfil my career ambitions while also being the most effective for the company.

What makes working at Damen so special?
Damen is a successful, worldwide company, which gives you the opportunity to work with colleagues and clients around the world. I really like the diversity of projects and vessels. And, because I want to grow within the company, I really like the way that personal development is stimulated. And Damen is very open-minded. You can go to anybody to ask questions or discuss ideas – the doors here are always open.

LIFE OUTSIDE DAMEN
What do you do when you are not working?
I play korfball at Dutch regional level. That means training twice a week and competitions on Saturdays. Korfball is very big in the Netherlands and Belgium, but not very well known in the rest of the world. For example, the Korfball World Championship finals are always between the Netherlands and Belgium! I also enjoy snowboarding and just hanging out with friends.
WORKING TOGETHER TO GO GREEN
Global transport is getting cleaner and more sustainable. Admittedly, when you compare different sectors, the rates of change are highly variable. But still, the signs are clearly visible. Look at the rise of electric and hybrid technologies in the automotive industry. The establishment of the Hydrogen Council – the first global initiative to investigate hydrogen as a viable fuel source – at the World Economic Forum is another example. And the potential of solar-powered aviation was demonstrated last year when the Solar Impulse aircraft completed the first ever circumnavigation of the globe using the Sun as singular power source.

There are also developments to be seen in the maritime sector. In September 2016, the International Maritime Organization (IMO) ratified the Ballast Water Management Convention. A month later they confirmed that the legislation regarding emissions of sulphur oxides, which have been enforced in the Sulphur Emissions Control Areas (SECA) of the Baltic and North Seas since 2015, will be extended globally from 2020. Furthermore, as of 2021, European SECAs will also be defined as Nitrogen Emission Control Areas (NECAs) to include nitrogen oxides emissions.

The right choice
The aim of the cooperation between DSC and Damen Green Solutions is to ease the transition towards compliance for ship owners. For example, with close to 70 different manufacturers of ballast water treatment systems on the market, selecting the most suitable one for a vessel can be a formidable task.

The approach is to help ship owners make the right decision, says Damen Green Solutions Managing Director Marcel Karsijns: “We have investigated the market thoroughly – looking into the pros and cons of all the available systems. This includes the technology, the energy consumption, the physical footprint of the system and the after-sales service. With this information, we have made sales agreements with four leading ballast water treatment systems producers.

“Smoothing the way even further is the practical synergy between Damen Green Solutions and DSC. By combining the knowledge and experience of both companies, an entire ballast water treatment system retrofit can be handled in one contract. This is the one-stop-shop that we talk about,” he continues. “Damen Green Solutions deals with the engineering, work preparation and planning and then DSC performs the project management and execution in a very efficient way – with minimal downtime. This is what they specialise in.”

Return on investment
In order to comply with SECA (and in the future, NECA) regulations, one option for ship owners is exhaust gas after-treatment systems, otherwise known as scrubbers. Once again, cooperation with a specialist manufacturer has been important. “We found a partner in AEC, part of the VDL group,” states Mr Karsijns. “They have an IMO-certified scrubber system which is very cost effective.”

According to Kees Jan Groen, Commercial Director at DSC, ship owners can look at a scrubber retrofit from a different perspective. “For the owner, a scrubber represents an investment that he will see a return on. The difference in price between HFO and MDO will determine how fast he sees that return.” DSC has developed a modular approach to scrubber installation. Their efficient configuration involves installing certain components in the ship’s funnel and others on the deck to reduce the amount of work in the engine room. “We have built up valuable experience performing scrubber retrofits. Of course, every ship is different, but we can transfer the knowledge gained from previous projects to new projects that we are planning,” states Mr Groen. “Our competitive strength comes in being able to complete complex projects in tight schedules to the highest quality.”

Room for both low and high tech
Making a vessel ‘greener’ can involve low-tech solutions too. “Getting a vessel into drydock to clean the propeller, and then clean and repaint the hull with antifouling can yield instant results in terms of fuel consumption,” notes Mr Groen, “What’s more, we offer this type of service based on a fixed number of days and a fixed price.”

How does Mr Karsijns see Damen further contributing to the implementation of sustainable technologies? “Our involvement includes investigations of solar power, alternative fuels and even more efficient electric technologies. This is small scale at the moment, but there are some very important steps to make. When all the flags are green you can proceed. The key point is that you have to think at least 10 years ahead – otherwise you cannot develop these new markets.”
“I AM A DAMEN MAN WITH A TUGBOAT HEART.”

After 40 years with Damen, Coen Boudesteijn, the well-known Product Director Tugs and Workboats, officially retired in January. For this farewell interview it was going to be a tough challenge to get this modest man to talk about himself. However, there was one way – and that was to mention tugs!
Coen’s working life has been completely dedicated to the development of tugs and he readily admits he is a keen ‘tug spotter’ given any opportunity. “It is in my bones. The fact that I have been able to work for 40 years in only tugs has been very special. Many people are with the same company for decades but in different roles. I have always been in tugs; it has been a privilege. And my personal saying is continuity leads to quality.”

Graduating as a naval architect in Dordrecht, Coen began his career at Dutch shipbuilder IHC, where he was in the design department. He stayed with the company for 5 years but always had an eye on getting a job at Damen. “Kommer Damen started in 1969 with just five people. He was building vessels for stock, which was revolutionary at that time. I was really fascinated by Kommer’s vision for producing a series of vessels. Developing ‘standards’ for vessels - whether they are patrol boats, ferries, superyachts or tugs - it is the same philosophy.”

After his first attempt failed, Coen applied again for a vacancy at Damen Shipyards Hardinxveld, which was the predecessor of the Gorinchem headquarters. Even at the interview, he knew this was the company where he wanted to be. Smiling and with a glint in his eye, he says: “Straight after the interview I was taken on a trip on the River Merwede with a Stan Tug 1 – this was a very special experience and sums up Damen! I was 25 years old, on this 16 metre tugboat with twin engines going full speed ahead, crash stop, turning manoeuvres… I was very impressed from the beginning with the product; I wanted to build these boats. It was really a celebration from the first day and has been fun ever since.”

The drawing office was at that time based in a mixture of temporary wooden offices. “It was freezing in winter and boiling hot in the summer,” he laughs.

One thing was clear from the start, he stresses: “Damen was going to be an international company. Mr Damen was very ambitious and investing in sales (probably representing 10% of the workforce) and in qualified and dedicated shipbuilding engineers and craftsmen to build the Damen Standard Series. Glamorous offices were not a priority. It was evident the workforce (and in qualified and dedicated shipbuilding engineers and craftsmen to build the Damen Standard Series. Glamorous offices were not a priority. It was evident the world was our market.”

In Coen’s opinion the success of Damen is based on the ability to develop a true world standard for every sector. “The 20 Standard Tug Series of today are suitable for all ports, in all weathers and they take into account local rules and regulations. Safety has always been my number one priority, resulting in the Standard Series having large beams and GM values above 2 metres, making them very safe and stable work platforms.”

**AIM FOR PERFECTION**

The Damen goal is always ambitious, he says: to go for perfection. “A great boat starts on the drawing table. When you think there are probably hundreds of thousands of decisions that go into the making of any vessel. There is the design and engineering, but at the building yards, steelworkers, welders, fitters, electricians, grinders, painters, carpenters, service engineers… each person puts his soul into it. They are proud to build a top product – a Damen vessel. We all work together and do our utmost to make it a success.”

For Coen, it is all about the detail. “Damen embodies a culture of excellent craftsmanship.”

Every tiny detail should be thought about. Each new generation of a standard tug is the result of constant product development, he stresses. “Fuel efficient and safe. Damen ship handling tugs are designed for high static, as well as dynamic bollard pull, with excellent manoeuvrability and course stability. At the same time, it has to be production friendly, corrosion friendly, maintenance friendly… and last but not least, it has to be about ‘cost price down and quality up’.

“I remember the old days, when owners would spend the whole summer painting their boats but now there is a minimum crew and little time for maintenance. Therefore, it is vital that vessels are designed ergonomically, with paint friendly details and no sharp edges. The deck and superstructure of modern ASD Tugs have closed constructions, rounded corners and a high quality, durable epoxy paint system, resulting in less maintenance and easy cleaning.”

**ALL IN THE DETAILS**

“Damen thinks about efficient lay-outs and systems – how to make operations easier, how to improve performance, to reduce fuel consumption… It is all about details. For example, by deploying a 2.5 inch fuel filling pipe, instead of a 1.5 inch one; it will then take 1 hour to fill the fuel tank rather than 3.

“There are so many small details, it is a constant process of making small steps, small improvements. And this is as a result of feedback from our customers, as well as from our yards and the Damen service engineers. We are always communicating and do the evaluation with discipline in the monthly Tugs standardisation meeting where we discuss structural improvements.

“We appreciate comments about how can we improve. We go for perfection, but of course, there is always another step to take.”

**PERSONAL FAVOURITES**

And in a question, which is like asking someone to choose between their children; does Coen have any favourite tugs? For sure, he has a soft spot for both the Stan Tug 1205 and the ASD Tug 2810.

The Stan Tug 1205 has an 8-tonne bollard pull and 440 kW of installed power. “It is a very efficient, small tug, compact with a 5.3 metre beam, user-friendly. I think it is a favourite from the compact tug generation because it was developed right from the Stan Tug 1, when I started here. And yet Damen still builds them today! It represents a relatively low investment level but it offers great value for money. She has excellent
Coen’s other favourite is from the renowned family of ASDs – the ASD Tug 2810.

“We started with the development of true shiphandling tugs in the 1990s and the traditional rudder propeller tug metamorphosised into the ASD.” In fact, it is not widely known, but the Damen product team actually came up with the name Azimuth Stern Drive (ASD), Coen points out.

The whole Tugs team took probably 2 years to develop the first Damen standard ASD Tug 3110 in 1993. “This was an important milestone for the industry.” Coen admits the first operators thought that ASDs were too technical and expensive, but since those early days hundreds have been built. One special memory is when the ASDs were officially introduced in the Port of Rotterdam. “We gave a demo of the ASD 2411 – it was very special. I do think I have experienced success in my career to have seen the development from conventional to ASD tugs.”

The ASD 2810 is his particular favourite. She has an excellent view from the central steering position, low superstructure and wheelhouse, heavy rubber fendering and a double drum towing winch, he says. “Production started in 2002 and the 2810 is now the most popular Damen ASD with more than 200 built. The ASD 2810 heralded new standards of efficiency, safety and comfort and reduced fuel consumption and emissions considerably.”

SHARING KNOWLEDGE
Other highlights in his career are the annual visits to shows such as ITS and Tugnology. “I have loved going to the conferences with my team and meeting up with all our customers. We give papers at the conferences and share our knowledge with the industry. Ultimately, we want to take the Damen Tugs Series to a higher level; safer, more efficient, more comfortable and less required maintenance - as well as winning the best prizes.

“I remember travelling with the Damen team to ITS in Halifax in 1990. Here you could start to see the transition for Damen when it developed into more of a shiphandling tug builder than a workboat builder largely focused on the dredging market. And now our shiphandling tugs – which are a true world standard - are seen from Panama to St Petersburg!”

BUILDING SUCCESS TOGETHER
The biannual Tugs team events ‘Handling the future ’ are also fondly remembered, particularly the summer BBQ. “We make trips along the river. It is very motivating, and you can see that the whole team is always fascinated in new developments coming up.” Monthly Tugs standardisation meetings, as well as the monthly speeches from the Damen family are other special memories for him.

Coen also enjoyed his annual audit visits to the specialist tugs’ production yards in the Netherlands, Romania, China and Vietnam. “Together with the management we would do an evaluation and would look for ways where we could make improvements or efficiencies. Then the next year you would see those improvements put in place and the progression. Everyone – no matter where they are in the world – is fully motivated. They know the perfect yard leads to the perfect Damen Tug Series.”

Reflecting on his career, Coen says: “Damen has 9,000 people in the organisation today and our Standards are seen from Auckland to Cape Town. “We are all motivated. I am proud of the products and of the Damen family. I consider myself very lucky to have had a 40-year career at Damen when I look back and see the success we have all made together. We’re going with our time and innovating with the HYBRID and CNG and a wheelhouse with remote monitoring on the smartphone. Stan Tugs and ASD Tugs are of a better quality than the customer could have imagined and help ensure their success too!

“Every day of the past 40 years at Damen was a party! Working with colleagues who, like me, put their soul into the Damen Tugs Series. We share the same passion, dedication and we strive for perfection. We have worked hard and done it together.”

Coen concludes: “I am a Damen man with a tugboat heart.”
To reflect Damen's global scope, this ‘Working at Damen’ article hears from two of the company’s international specialists. First of all from Portugal-born Hipolito dos Santos, whose shipbuilding career has spanned more than five decades. And then Vojislav Zivkovic, who, in his 20 years with Damen, has worked in Turkey, Vietnam and Romania as well as in his home country of Serbia.

Enjoying the challenges
“Start working in a shipyard in Lisbon,” says Mr. Dos Santos. Over the years, he has worked in China, Qatar, Indonesia, Thailand and Dubai. “I now work for Damen Technical Cooperation at Ha Long Shipyard in Vietnam – a job I have been doing for just over 3 years. We build various vessels here – ferries, tugs, PSVs and fishery vessels to standard Damen designs – for local customers and on behalf of Damen. I have a coordination role in piping production from the fabrication stage, to installation, testing and assisting the commissioning of piping systems on the vessels built here.”

Talking about his current workplace, he says: “I feel lucky to be working in this part of the world. It’s a very nice place to live – warm with friendly people – and in the middle of a UNESCO World Heritage Centre. I should have found this job many years ago,” he notes. “It is so interesting in terms of opportunities. Yes, there are a lot of challenges, but, after all, these are actually the salt of life.” Mr. Dos Santos’ current function will be his last before retiring in summer 2017. “For more than three quarters of my life I have been working in ship production. So, after 50 years of active work, I am going to have to find a way to keep myself busy!”

Shipbuilders to the core
“Wherever they need me, I will go,” Mr. Zivkovic says. “When people ask me what’s it like to work for Damen, I tell them that it is a very serious company – an honest company.”

The geographical diversity of where he has worked is mirrored in the responsibilities that he has taken on. After studying mechanical engineering, and specialising in naval architecture, he has been Technical Surveyor, Head of Quality Control and Outfitting Manager. He currently works at Damen Shipyard Antalya in Turkey, where his broad range of knowledge and skills come to the fore. “A major part of my job is to advise the yard here on the subject of steel and aluminium construction – providing technical support.”

Mr Zivkovic keeps fit by running and going to the gym. Sport, however, is not the only way he uses his downtime. “Physics and mathematics are also hobbies of mine,” he adds. “Keeping the mind as strong as the body.”
With a Gross Tonnage of 2,827, Here Comes the Sun is the largest Amels yacht to date and one of the largest yachts ever built in the Netherlands. Early in 2017, the yacht departed Damen’s Dutch luxury yacht builder to meet her happy owners in the Mediterranean. “This is the top level of superyacht construction,” says Director of Operations Hans van Triet at the bustling Amels yard in Vlissingen. “It shows what we can do at Amels, but it also a great confirmation of Kommer Damen’s vision of 21" Century yacht building and the benefits of cooperation within Damen.”
A quarter of a century ago, fully custom-built yachts dominated the large superyacht new construction market. Like its competitors, Amels was then exclusively building full custom yachts. However, a decade after Kommer Damen acquired Amels in 1991, he introduced a new way to build superyachts with the absolute top quality and finish.

Mirroring the Damen standard in commercial shipbuilding, his approach was to combine the highest quality Amels craftsmanship with Damen’s scale of operations – whilst still providing the client with the maximum level of customisation possible. This business model of premium semi-custom production gave rise to the Amels Limited Editions range of yachts. “The fast delivery of a Limited Editions yacht and the total package without starting from scratch have had a very large impact on the industry,” Amels Director of Operations Hans van Triet says. “The idea of building with modern production processes has definitely become more widely thought of at the highest level of yacht ownership because of Amels.”

Today more than 30 Limited Editions yachts have been delivered or are in build. The starting model in the range, the 55-metre AMELS 180, is the most successful yacht ever in its class with more than 20 builds. Amels regularly delivers three or more yachts a year. And that’s not including the additional development of the busy Amels Refit department.

Today, Amels is the largest superyacht facility in the Netherlands. It’s not uncommon to have a workforce of up to 1,100 at the yard working on up to 10 projects at once. Hans and the Amels project management team, Amels inhouse engineering department and the Amels production team are responsible for keeping this operation running smoothly and efficiently. Right from the beginning, Hans confirms, the synergy of Damen talent and resources has contributed to the success of Amels – from research and development to steel hull building.

“Whether it’s CFD analysis or tank testing, our in-house Amels design and engineering departments can make use of Damen’s R&D facilities and specific expertise within Damen. We have applied that knowhow in our yacht designs, for example in reducing sound and vibration.”

On the hull building side, Amels has had a long and successful cooperation with Damen Shipyards Gdynia. The yard in Poland has completed the steel construction for iconic Amels yachts, including the first Limited Editions yacht Deniki and avant-garde designs like the first AMELS 199 Event. Amels engineering and production staff have close contact with the yard during the initial hull construction and the transport to the Amels yard in Holland. Amels carefully manages the entire process, resulting in an impressive track record for on-time and on-budget deliveries – and happy clients.

“In 2014 an existing client with a 65-metre Amels yacht came to us looking for an even larger yacht – larger than we had in the Amels Limited Editions range at that time. So together with the client and designer Tim Heywood, the Amels team set about creating the design that would become Here Comes the Sun. It is already a big yacht at 83 metres, but if you look at the Gross Tonnage, it has a very large interior volume with a lot of luxury spaces and complex systems on board.”

For Here Comes the Sun, the cooperation with Damen Shipyards Gdynia continued. The Polish yard was responsible for the aluminium construction for the 140-tonne superstructure. However, for the exceptionally large 800-tonne steel hull, Amels went to the group’s largest steel yard, Damen Shipyards Galati in Romania. As a result, three Damen yards were working in parallel on one of Damen’s most challenging new build constructions – a unique and highly complex project requiring seamless communication and uncompromising precision.

In January 2015, nearly a year after the keel-laying in Romania, the two huge components met for the first time at the Amels yard in Vlissingen, where the marriage of steel and aluminium took place.

“The result was perfect,” Hans reports. “Here Comes the Sun is a credit to everyone on the Amels team, but also a great example of leveraging the scale of the group to create a ship of the highest quality with the highest value for the client.

The cooperation with Damen Shipyards Galati was mutually very successful and we continued in the hull building of other large Amels yachts as well as with Damen Shipyards Gdynia.”

In 2005, AMELS relocated all its superyacht building activities to Damen’s naval shipyard in Vlissingen. This new location removed any infrastructure limitations in Amels growth, thanks to its wide naval shipbuilding sea lock and direct access to the North Sea shipping routes. Amels has made significant investments to upgrade and expand the historic yard, including fully climate-controlled drydocks.

The Amels yard
IF YOU WANT TO UNDERSTAND NOT ONLY THE SPIRIT OF EXPLORATION BUT ALSO ITS OPERATIONAL DEMANDS, THERE MAY WELL BE NOBODY BETTER ON EARTH TO ASK THAN ROB MCCALLUM AND HIS EYOS EXPEDITION COLLEAGUES. THAT’S PRECISELY WHAT DAMEN DID.
Imagine being surrounded by penguins as the sun rises over Gold Harbour in the South Atlantic Ocean. Or flying a helicopter over the remote active volcanoes of the Kamchatka Peninsula. For most of us, such a voyage would be the adventure of a lifetime. But for Rob McCallum, co-founder of EYOS Expeditions, organising these voyages has provided him with a lifetime of adventure.

Rob, growing up in the wilds of Papua New Guinea, was bitten early by the adventure bug. As a teenager he was already flying planes. Over the decades that followed he travelled the world extensively. He has circumnavigated Antarctica on an icebreaker and dived among the rich marine life of Micronesia. He has piloted aircraft over the interior mountains of Papua New Guinea and tracked polar bears over ice floes on the Northeast Passage. He celebrated his 40th birthday at a depth of almost 4,000 metres at the wheelhouse of the RMS Titanic.

“I’m an operative,” he says, shrugging off the suggestion that he is a living superhero. “Learning to fly and dive and that sort of thing is inherent in the role. They are just the skills I needed to get where I wanted to go.”

However, running an expedition is not all fun and games. Rob explains that his primary job is ensuring the safety of the clients and risk management; expeditions require a considerable amount of planning, management and responsibility to ensure success. Rob has designed and managed commercial submarines operations and was the coordinator for the Papua New Guinea test programme for filmmaker James Cameron’s record-setting dive to the Marianas Trench. He oversaw design and construction of research vessel and yacht Alucia at a shipyard in America.

“At EYOS Expeditions, we have decades of experience taking individuals to the most remote and spectacular destinations on Earth,” Rob says. “In very simple terms, there are two key ingredients to every successful expedition. The first is a client with a genuine sense of curiosity and wonder. The second is the sea.”

Of course, luxury expedition clients also want to experience these places in 7-star comfort and undertake all kinds of activities such as diving, flying, heli-skiing and wildlife-watching with their closest family and friends.

“Most of our clients are very successful people who want to explore our planet. They see it as a privilege to see these parts of the world and they really immerse themselves in the experience. Without exception, it’s a pleasure to provide expedition services for these individuals. They are genuinely curious and caring about our world and typically become powerful ambassadors for sustainability and protection of natural wonders.”

Exploring such extreme destinations in safety, style and comfort presents its own operational challenges, Rob explains, but there’s no doubt about the best way to get there.

“Almost by definition, the world’s most pristine places can only be accessed by sea. There are no airports, no roads, there’s really no significant infrastructure of any kind. So you need the sea to get there. And when you get there, you need a platform to run the mission. You need the tools to make complex things happen in remote places – that’s the underlying mission of any expedition vessel.”

Together as a team, the experts at EYOS Expeditions have completed thousands of expedition voyages. Along the way, they have pushed dozens of different kinds of vessels to the edge of their capability, including Rob’s ‘trip of all trips’: the circumnavigation of Antarctica. The voyage of 16,000 nautical miles with an icebreaker and two helicopters took 72 days. Recently, Rob helped a client to break a world record for the most southerly navigation by reaching 78°43.997´S and 163°41.421´W at the Bay of Whales in Antarctica’s Ross Sea.

“At EYOS Expeditions we have a lot of experience with expedition vessels. We know what works and what doesn’t work. Very few vessels are actually designed to do exploration. Most so-called explorer yachts are operating outside their design specifications. So for true luxury expeditions, we’ve often had to compromise with converted commercial vessels. That’s still a long way from a purpose-built expedition yacht with real capability. That’s why we were so excited when Damen approached us in 2015.”

In between their expeditions over the globe, Rob and his colleagues have spent many weeks in Gorinchem together with Damen’s design, naval architecture and engineering experts. The winning collaboration of a highly experienced expedition operator with a highly capable shipbuilder has resulted in the Damen SeaXplorer range of luxury expedition yachts and the Damen Expedition Cruise vessel. Damen sold the first SeaXplorer yacht in 2016, which is now under construction and will be delivered in late 2019.

“I think Damen’s SeaXplorer is the best expedition yacht ever designed. It’s really ground-breaking and I think it says a lot about Damen as a company and how they are prepared to innovate and develop such a project. In 10 years I think we’ll look back and say this is the catalyst that changed the luxury expedition market.”

Luxury expeditions are a growing niche in the shipbuilding market that Damen can certainly claim leadership in. However, to all of us who would love to see more of the world but are still saving for our first expedition vessel, don’t despair.

“My philosophy is to stay curious wherever you are,” Rob says. “There is always an adventure waiting for you if you have a sense of wonder about the world. That is the spirit of exploration.”
It doesn’t often make the headlines, but the importance of the aquaculture industry, otherwise known as fish farming, is evident every time we go into the supermarket. Producing over 100 million tonnes of fish, shellfish and aquatic plants a year, it accounts for around half the annual global fish consumption and has a value in excess of 150 billion euro a year. It is also one of the fastest growing of all food production sectors.

Damen first began a detailed study into the vessel requirements of the aquaculture sector 4 years ago. At the same time, it also recognised that there was wider demand for working vessels that in size fall between its unrivalled ranges of workboats and the larger offshore support vessels. Smaller operators in particular were looking for assets that, while being capable of taking on specialist roles, could also quickly be adapted for different assignments should market conditions change.

Damen Sales Manager Norway Remko Hottentot says: “The result of these two complementary research programmes is the Damen Utility Vessel range. Currently made up of eight vessel types from 25 to 65 metres, they all share common attributes such as efficient hull forms for reduced slamming and excellent seakeeping, high quality build and outfitting, large accommodation and working areas, and spacious aft decks.”

A wide range of options mean that clients can specify operational capabilities, such as lower-end maintenance for offshore energy installations, diving support, survey work or environmental protection.

However, the basic designs and core capabilities mean that conversion from one role to another can be achieved quickly and cost-effectively, a valuable attribute in an unpredictable market.

First UV 4312 heads for Norway

“As part of the development process Damen has taken, and continues to take, time to consult with the Norwegian aquaculture industry, Europe’s largest and oldest with nearly 50 years’ experience. Of particular importance to them and to Northern
Europe’s other fish farmers is the issue of sea lice on farmed salmon. In large enough numbers these can kill fish, and so treating the fish regularly is an important part of the farming process. This requires vessels capable of mounting sizeable assemblies of equipment on deck, and with easy access to the water,” continues Mr Hottentot.

The Damen UV 4312 utility vessel ordered by VOLT Service AS of Norway in January 2017 will be able to deliver that and more. With low freeboard and easy access to the waterline on both sides, the height difference experienced by the fish during pumping and delousing is kept to a minimum, making the experience for the valuable salmon much less stressful and so reducing losses. It also has a large hold and removable railings for hose-handling operations.

The diesel-electric configuration ensures an efficient, flexible power supply for the 750 kW propulsion installation and ample energy for driving the deck equipment when alongside the fish pens. Additional equipment requested by the client includes third and fourth cranes, DP1, increased bow thruster power and an ozone generator. All these can easily be accommodated within the basic design, and the result is a vessel that combines specific capabilities with the layout and equipment it needs to undertake a wide range of other support duties.

"AS PART OF THE DEVELOPMENT PROCESS DAMEN HAS TAKEN, AND CONTINUES TO TAKE, TIME TO CONSULT WITH THE NORWEGIAN AQUACULTURE INDUSTRY"

Other operators in salmon producing countries such as the UK and Chile could also benefit from the UV 4312. Of course, the aquaculture industry will continue to need other types of vessels to support its varied operations. Damen continues to offer and sell other utility vessels, Multi Cats, tugs, pontoons, crew transfer vessels and live fish carriers to the industry.

However the Utility Vessel range is intended to provide both the aquaculture industry and the wider inshore/offshore support services sector with a new class of vessel that delivers capability, flexibility and economy at a time when these attributes are valued as never before.
At the end of January 2017, the Société de Transport Lagunaire (STL), a subsidiary of Groupe SNEDAI, began its ferry operations in Abidjan, the economic capital of the Ivory Coast in West Africa. STL is one of two new companies awarded licenses to provide water-based public transport in the city. The award is part of a much wider government programme to reduce congestion and improve air quality by upgrading the transport infrastructure of Abidjan, which, with a population of nearly 5 million people, is the largest French-speaking city in Africa. STL’s stated mission is to transport people and goods safely in accordance with international standards in order to improve the mobility of the population of Abidjan.

A city built on water
Abidjan is ideal for water-based transport with the 100 kilometre long Ébrié lagoon running east-west through the city and beyond in both directions. This waterway has long been a vital part of the city’s economic life, but up until the start of this year, the public transport element had consisted of a government-run monopoly, the Société de transport Abidjan (SOTRA), that had been operating a basic service for nearly 40 years.

However, with the population of Abidjan doubling in just the past five years alone it was no longer considered fit-for-purpose and much of its infrastructure was in urgent need of replacement. So, in January this year the old network was finally closed and the private-public partnership of STL began operations.
Work on the city’s new infrastructure has been going on for 6 years now. New roads and bridges have been built, along with housing and commercial developments. Work is well advanced and the entire programme is expected to be completed by 2020. The new ferry network is intended to make a significant contribution to reducing for many both the time and cost of travelling to and from the city centre, as well as reducing pollution and contributing to the development of tourism around the lagoon. It should also take some of the strain off the improved road network.

**Sixteen vessels in 6 months**

The first phase of the new ferry network involves the introduction of sixteen new, shallow-draught, passenger ferries, to be delivered during the first half of 2017. These have been designed by Damen and are being built at Damen Shipyards Kozle, in Poland. The vessels are 18-metres in length and have been specified in accordance with the standards of the International Association of Classification Societies.

Each will be powered by two Volvo D5 engines and capable of transporting up to 130 passengers at a time, at speeds of up to 10 knots. As well as a high level of security and comfort, specific requirements defined by STL included fuel economy, a maximum air draught of 4 metres and a water draught of 1 metre.

The official launch of the service took place on 29th December 2016 with the presentation of the first two boats to the Abidjan Government, represented by the then Prime Minister Daniel Kablan Duncan together with the Transport Minister Gaoussou Touré. Accompanied by David Fofana, Deputy Managing Director of STL, the official party took a short trip on one of the ferries to sample the experience soon to be enjoyed by many Abidjanis.

**Open for business**

Commercial operations got underway in mid-January 2017 with the arrival of four more vessels, allowing the start of a viable service around the city centre. Nine routes with ten stops across four zones are planned in total, with the routes ranging from 2.5 to over 12 kilometres in length, and the sixteen ferries will ultimately carry around 30,000 commuters a day with journey times averaging 10 minutes. The remaining ten Damen ferries will be delivered in three batches at eight-week intervals with the last arriving in June. By 2020, STL expects to have 45 ferries of various types in operation providing a range of services to meet an assortment of commercial and leisure needs.

Damen has also supplied STL with eight, 24 x 4 metre mooring pontoons which have been used to construct four ferry stations complete with ticket offices. Delivered in just 10 weeks, they are equipped with fenders, hand rails, lifebuoys and anti-slip ramps, and are also suitable for overnight mooring.

When asked why STL had chosen Damen for the design and supply of their new ferries, David Fofana cited the quality of the vessels, the short delivery times and the smooth overall process, as well as the after-sales support and training that the Damen Shipyards Group will be providing. As well as providing a new, modern form of public transport to the city of Abidjan, STL also expects to have created 500 new jobs by 2019.
Damen’s Training Department is at the heart of the company. The expert team are involved right from the start of the vessel’s design & proposal phase. They prepare tailor-made courses for each client, depending on their requirements, ranging from vessel familiarisation courses to full, Integrated Logistic Support (ILS) programmes.

Joost Haafkens, Project Manager Services comments: “Each training course is customised for the client - no programme is ever the same.” The courses can also take place wherever the client wishes - at Damen’s headquarters in the Netherlands, at their own premises, or at one of the many other shipyards in the group.

The familiarisation course for both the nautical and technical crew is the most popular and this typically ranges from 2 to 4 weeks. Coen van der Woerd, Project Engineer, explains that here Damen works very closely with the OEMs to provide an integrated training package.

Damen has its own Training Captains, who are carrying out trials and deliveries, so they are ideally placed to conduct vessel familiarisation courses. “We always make sure we have the right trainer for the job, they know all the characteristics of that particular vessel inside out.”

Coen adds: “The familiarisation course gives them a head start, helps them get to know their way around the new vessel. For example, pre-checks, how to start up and operate the systems; sailing, maintenance, troubleshooting…”

Safety first
Karel Slangen, Project Manager, says: “Our courses are very practical, and safety always comes first. Safety leads in every training. The highly qualified teacher creates a safe zone and we start with the basics; fire drills, setting up a fire hose, operating fire dampers.”

Initially, it can be somewhat daunting for trainees, they admit. “At first we can see that perhaps they are a bit worried about the new vessel. When considering that they may be used to a conventional tug from the sixties and now they are faced with a brand new, powerful ASD tug, which is operated with a touchscreen, or if they are going to be the crew of a high-speed Damen Interceptor capable of travelling at speeds of 55 knots per hour, this apprehension is understandable.

Ready and motivated
“They know they are entirely responsible. But we help to take away that initial hesitation and you see them become more empowered with their new knowledge. You see eyes change to excitement and they are ready and motivated. It is great to see this change as they know they are now capable of sailing their own vessel safely and efficiently.”

Some recent examples of courses are those for the Vietnam Coast Guard, where a crew of 40 participated in a 6-week programme concerning the nautical and technical systems for four Offshore Patrol Vessels 2400.

And twelve electrical technicians from the Jamaica Defence Force (JDF) were attending a course about the Coast Guard’s two new Stan Patrol 4207 vessels. The new Damen vessels will be used to patrol the Exclusive Economic Zone, which is in excess of 200 nautical miles from the shore.
Practical work & theory
The 2-week course includes training at Damen HQ and a week at a technical college ROVC, as well as specialist courses at suppliers, such as Caterpillar and Gebhard Electro.

The Damen training packages can be very extensive. For example, the team arranged a specifically designed 3-month training programme for the United Arab Emirates Coast Guard for its two Damen OPV 6711 vessels, which actually involved 40 different courses from the complete propulsion line to operating the helicopter refuelling system.

Trained crew = more uptime
And a more unusual course involves the crew of a new Sail Training Vessel. Here Damen works with the crew of the tall ship Stad Amsterdam and Enkhuizen Maritime School. This involves an intensive maintenance course where the crew works with specialists on the maintenance of rigging and sails. And ultimately, the staff and crew are capable of sailing and operating a full-rigged clipper. Karel comments: “We understand uptime is vital for owners. They want their vessels in operation, earning money. And for sure, a properly trained crew results in more uptime.

“If the crew understands how to use spares correctly; not to be wasteful but to replace equipment and parts at the correct time this ultimately extends the lifetime of the vessel and reduces overall lifecycle costs. A motivated, knowledgeable crew will do things sooner – they have the knowledge needed.”

As well as these courses, Damen offers extensive simulator training on its own simulator, which specialises in ASD Tugs and Fast Crew Suppliers, and it also works with VSTEP to provide a NAUTIS full mission bridge simulator. Additionally, Damen is developing its e-learning and virtual reality programmes.

As Joost points out: “We always have the mantra that wherever there is water, there is Damen, but now we also add, wherever there is Damen, there is also a training programme!”

A selection of the main courses:
- Vessel familiarisation
- Technical & operational training
- Vessel maintenance
- Navigation & communication
- Sailing & manoeuvring
- Safety & environment
- ASD Tugmaster training
- Shipbuilding
- Shakedown training
- Launch & Recovery training

As well as in-house training Damen Services also offers:
- Certified training and simulator courses
- Multilevel safety and fire fighting training programmes
- Certified operation and maintenance courses at the leading OEMs

Gary Hanson, a Marine Technician (JDF), commented on the course: “It is very informative. When we go back home we will be able to manage the vessels more effectively and we can pass this knowledge on to our juniors.

“The topics covered by the Damen course are very much in line with what we have to do on a daily basis. It is also a nice balance between practical work and theory. Additionally, for many of us it is our first time in Europe and the whole package including hotels, transport, flights, weekend tours is very well put together.”
Due to its long history of seafaring, the Netherlands has an unrivalled network of research institutes and technical universities that have specialist expertise in maritime technology. Over the years, the Damen Shipyards Group has worked with many of these on a wide range of projects, and one of its most consistent counterparties has been MARIN, the Marine Research Institute Netherlands. Founded in 1929 as the Netherlands Ship Model Basin, today it is a multi-disciplinary organisation dedicated to making ships better, in the sense of cleaner, safer and smarter.
The 350-strong team at MARIN achieves its aims through a range of analytical and development procedures including the building and tank testing of scale models, software simulations including advanced CFD, actual simulators for personnel and onboard measurements on full size vessels. MARIN works with both industry and governmental counterparts around the world, contributing to projects from the earliest conceptual design stages right through to the optimisation of existing vessels. As such, it is the largest independent organisation of its kind in the world today.

MARIN’s relationship with Damen began when the shipbuilder began producing bigger vessels. It already had a strong design capability, but sought external input on how they could be further improved. That cooperation continues to this day and extends across a wide range of vessels, from naval frigates to fast crew suppliers and walk-to-work ships.

**Eco-liner**

One notable area of recent cooperation has been that of inland shipping. This unique project was born out of a European initiative to make inland vessels more efficient and so reduce fuel consumption and emissions. The result was the development of air lubrication, a Damen-patented system that involves building air chambers into the bottom of a hull, thereby reducing the wetted surface of the vessel and resulting, in this case, in a 15-25% reduction in required power.

The first Ecoliner 1145 is now in operation and, to make her even cleaner, uses four LNG-powered generators to drive her propulsion units. This revolutionary ship represents the future of inland shipping.

**Walk-to-Work**

Damen and MARIN also worked together on the walk-to-work vessel concept. The first of this class, the Service Operations Vessel (SOV) Bibby WaveMaster 1, was launched in March this year and will be ready to start servicing wind farms in the summer. MARIN worked on optimising the design and processes that allow the vessel to safely manoeuvre up close to the wind turbines and apply its DP system for safe operations alongside.

Simulating the performance of the ship in a mould testing facility and demonstrating its stability and manœuvrability enabled Damen to present the new design to the market as a proven concept. As an added bonus, MARIN has also developed a simulator that enables Damen to train the crew using the ship in delicate operations including approaching and holding position alongside wind turbines using the DP system, and also operating the crane and gangway.

**The big picture**

Elsewhere the two organisations also find themselves involved in joint industry projects that involve much larger groupings. The Safe Tug programme, for example, brought together 30 companies to investigate improving the seakeeping of tugs. Using models and simulations, investigations were made into improving safety via design optimisation. A greater understanding of the issues faced by users was also a welcome result. Damen has since incorporated many of the findings in its latest tug designs.

Another area of mutual activity is within the Netherlands’ so-called Golden Triangle of government, research & development institutes and industry. With Damen, a major contractor for the Royal Dutch Navy, and MARIN, an independent maritime innovator of international significance, cooperation on naval projects is an ongoing theme.

Perhaps the final proof of the depth of cooperation between Damen and MARIN is the position of the former as one of the fourteen members of the MARIN Stakeholders Association. Founded in 2003, the MSA not only works with the institute to define the research and development topics for the future that will be of most value to the maritime and offshore industries, it also maintains a guarantee fund that is available to support MARIN and its resources in difficult years. It has never been used yet, but it demonstrates the long-term view of the organisation and its supporters, and the high regard in which Damen and its fellow companies hold it.
MORE THAN 200 FISHING VESSELS BUILT BY DAMEN

DAMEN AIMS TO BE THE PARTNER OF CHOICE AS THE FISHING INDUSTRY LOOKS TO RENEW AN AGING FLEET
With the majority of fishing vessels averaging at least 25 years of age, and with 50 years not even an exception, Damen is the partner when considering fleet renewal options.

Many vessels worldwide do not meet modern standards of hygiene, engineering, safety, occupational health & safety requirements, and HACCP veterinary standards. And, given the low oil prices, and the increasing demand for fish, the industry is relatively buoyant compared to other sectors, so it is the perfect time to think about fleet renewal.

Damen Manager Design & Proposal Fishery Marcel van der Zwan, says: “Damen Fishery wants to help customers and partner them in choosing new, modern equipment tailored to their exact fishing requirements, ensuring the best quality products, which in turn yield the highest prices.

“The beauty of choosing Damen is that we have vast experience and knowledge built up over our 90 years and this is backed by extensive R&D. We listen to our customers’ ideas and make sure the vessel really fits his ‘fishing world’.”

Damen can build vessels at its renowned North Sea specialist fisheries yard, Maaskant Shipyards Stellendam, or at Galati, Romania, which is suitable for larger vessels. Damen Maaskant Shipyards Stellendam is a real benchmark for beam trawlers and other North Sea fishing vessels and has been building them since 1948. China and Vietnam are also options, especially for clients in that region. Additionally, vessels can be built by Damen Technical Cooperation (DTC), whereby the whole package, including the building licences, design and materials are provided by Damen, so the customer can build wherever they prefer. Over the years, Damen has built more than 200 fishing vessels across the globe covering a wide range of fishing methods.

“The importance and benefits of a great relationship with customers becomes clear looking at the cooperation with long-standing Welsh client Kim Mould, when we jointly developed the mussel dredger Lolipop. This exceptional vessel type was groundbreaking at the time and was the basis for the oyster catcher Jacoba Prins, which won the Dutch KNVTS Ship of the Year Award in 2006. This was really innovative, being the first diesel-electric vessel in the industry and it could be operated by just two people,” says Marcel.

“The draught was truly exceptional at just 60 centimetres. It has only one generating set for all the services - everything was electrical - and this was combined with two azimuth thrusters with counter-rotating propellers. This was also the first vessel that had the ability for the automatic hauling and setting of the nets.”

Currently, there are fifteen different fishing vessels in the Damen portfolio including everything from more traditional twin riggers and shellfish dredgers, to the new generation of Sea Fishers (ranging between 20-32 metres), to state-of-the-art fishery research vessels with the latest sonar and fish-finding equipment. There have been several new additions recently developed with the Norwegian Design company, Skipsteknisk.

The very latest is the 100 metre Factory Freezer Trawler, which has been specifically designed for the Russian and Far East markets. “These vessels are operating in the Bering Sea in extremely rough conditions.” Therefore, Damen has designed a vessel with very low fuel consumption and exceptional seakeeping ability to make it as comfortable for the crew as possible. “We did a lot of R&D into the bow form and propulsion system configuration. The length and beam have a big influence on the rolling movements, so this was also carefully considered.”

“WESTFLEET SEAFOODS DOES NOT WANT TO BID FAREWELL TO THIS BENCHMARK, SAYS GENERAL MANAGER JOHN BROWN, BUT IT DOES WANT TO EXPAND ITS FLEET”

Another recent addition is the Damen King Crab Fisher 1600. This 60.8 metre vessel is fitted with cages, has on board processing, cooking and freezing facilities, as well as a 30 m³ tank for live crabs.

The Damen Live Fish Carrier 4000, which has fish tanks of 4,000 m³, is designed for the aquaculture market. “We decided to develop this because of the trend for fish farms to go further offshore, so ocean-going vessels are more necessary.” The Fish Carrier includes vacuum loading, and pressure unloading of the live salmon. There are also on board delousing facilities. The vessel has fast loading facilities, whereby fish are loaded, stored and unloaded in a gentle manner through smooth, 500 mm hoses and pipes. Water is continuously flowing and filtered, oxygen is added and CO₂ is removed.

Damen is also able to build the very latest fishery research vessels. As Marcel points out, a major advantage of being part of the Damen Group is that there is a lot of knowledge in all parts of the company. The department Defence and Security works on the Fishery Research Vessel projects together with sister companies such as Damen Schelde Naval Shipbuilding, which has decades of experience developing vessels with an extremely low noise profile and with the highest grade of sonar equipment, suited for the research vessels.

Marcel hints that more new vessel types are on the way, but it is too early to reveal details. “But, yes we are still expanding our portfolio!”
The need for both the offshore oil & gas and renewables industries to lower their operating costs in a tough economic environment undoubtedly has its challenges for both operators and their suppliers, but it also offers opportunities. The cost of shuttling personnel and their equipment between the shore and offshore installations is one area that managers have had under the spotlight for some time.

Since the beginning of offshore E&P, helicopters have been the transport of choice. Fast and able to operate in a wide spectrum of weather conditions, they ferry personnel back and forth quickly and in all types of weather. However, they do not always offer the most appropriate solution.
Taking marine access to the next level

A number of the major offshore oil companies are pushing hard for Damen, as a specialist in the niche sector of high-speed offshore vessels, to develop new crew transfer options. As high speed vessels and crew transfer systems become more sophisticated, operators are tending to prefer Fast Crew Supply vessels and offshore structures via motion-compensated gangways. These new gangway designs can not only operate in a wide range of sea states, but the systems are also fully integrated in the ship design to offer an effective crew change solution for current and future offshore operations.

At present, the availability of off-the-shelf gangway systems that can meet the requirements of Damen’s latest generation of FCS vessels and their customers is limited. The transfer specialists are working with Damen to develop new solutions that will both meet the customers’ performance targets and be optimised for Damen’s larger FCS designs, including the 7011. In particular, Ampelmann has worked with Damen to develop a model that assesses how Damen vessel designs will behave with regard to seakeeping when different Ampelmann transfer solutions are deployed. Meanwhile SMST has a number of projects under development across the group. The results of these programmes will be optimised solutions that in due course will be offered to clients as additional options alongside the conventional alternatives.

An early success has been the recent demonstration of the latest Ampelmann motion-compensated gangway mounted on a Damen FCS 5009 that has generated a great deal of interest in the market.

Solutions at every level

This R&D programme underpins Damen’s drive to develop a marine access portfolio that will meet every level of need, from short-distance vessels designed to access smaller platforms in calm weather to larger, long distance vessels capable of operations in challenging sea-states. Damen’s new FCS 7011, now under development, will be in the latter class. Fully configurable by each client, it will be able to carry up to 150 personnel at up to 40 knots and offer a range of transfer options from baskets to motion-compensated gangways. This represents a major step forward in capability. Designed for servicing FPSOs and other large platforms well offshore, its size and range even opens up the possibility of individual vessels visiting multiple platforms on behalf of several clients, all on a single trip. This creates the potential for even larger cost savings and efficiency gains.

Marine access is a rapidly evolving sector of the offshore industry, and Damen continues to consult widely as offshore operators refine their requirements and objectives. Helicopters will still have a role in certain situations, but in the future, marine and aerial solutions will work alongside each other to provide the offshore sector with optimal solutions in terms of safety, cost and performance.

Widening the options

For critical missions and VIP visits, helicopters remain unbeatable, but operators are looking for lower cost options for scheduled activities. From its ongoing discussions with the offshore industry, Damen has identified three key themes that underpin this search: increased safety, cost reduction and enhanced efficiency. Starting with safety, the safety record of the offshore industry is under scrutiny like never before. It has always been a tough business, and a well-paid one as a result, but the tolerance of casualties is getting ever lower as the costs from lawsuits, compensation and reputational damage get ever higher. Operators are looking for ways to bring their safety incidents as close to zero as is possible.

With regard to cost reduction, marine transport is not immune to the search for economy and suppliers are looking for new and innovative ways to reduce the bills of moving personnel that they can in turn offer to their own clients as additional options.

Lastly, efficiency. Transport solutions that can move larger numbers of workers and perhaps even service more than one installation on a single round trip have the potential to deliver substantial operational efficiencies.

Taking marine access to the next level

A number of the major offshore oil companies are making huge investments in safety, cost reduction and enhanced efficiency. As companies are looking for increase speed vessels and crew transfer systems become more sophisticated, operators are tending to prefer Fast Crew Supply vessels as an alternative means of transport for increasing mission range. The oil majors are also looking ahead. The next generation of installations are now being designed on the basis that marine as well as aerial access will be utilised.

Damen has a proven track-record in the development of high-speed work and patrol vessels. Its Enlarged Vessel Concept and Sea Axe Bow have set new standards of performance and seakeeping. These in turn allow higher speeds in a wider range of conditions without sacrificing safety or comfort, and so have narrowed the performance gap with aviation.

Damen’s existing marine access portfolio already offers a range of vessels that allows customers the choice of both over-the-bow and gangway solutions, depending on their requirements. However the group is also now establishing partnerships with Ampelmann and SMST, a sister company of Huisman. These two organisations are leaders in the design and manufacture of transfer systems and both have development programmes to optimise continuous access systems that allow the uninterrupted movement of personnel between crew supply vessels and offshore structures via motion-compensated gangways. These new gangway designs can not only operate in a wide range of sea states, but the systems are also fully integrated in the ship design to offer an effective crew change solution for current and future offshore operations.

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On 20th April, Damen invited some of its contacts to Damen Shipyards Gorinchem to take a trip aboard the new Waterbus.

The slender catamaran demonstrates a number of fresh design features that make it a perfect solution for urban public transportation.

Its composite construction makes for a robust, low maintenance vessel, well suited to regular, intensive commuting operations. The Waterbus is highly manoeuvrable for added safety on busy waterways.

The design produces extremely low volumes of wash, which ensures optimum fuel efficiency and comfort for those aboard passing vessels. The waterbus provides comfort for all users. Passengers benefit from a spacious boarding platform and clear, panoramic views of their surroundings. Operators have the advantage of a simple to use joystick design.

The waterbus is available from 16-24 metres and can carry between 20 and 120 passengers. The vessel excels at versatility; multiple configurations are available covering shuttle, dinner cruising, commuting and and sightseeing operations.
POWER TO THE SMARTPHONES
Never run out of battery power again with this handy powerbank.

DESKTOP DREDGER
Scale model of a Damen CSD 500 to brighten up a working area.
Note: does not dredge, for display purposes only!

REUSABLE SHOPPING BAG
Courtesy of this stylish, recyclable bag.

KEYCHAIN
Give your keys a Dutch twist with this clogs keychain.

DAMEN CAPS
Stay cool in every sense of the word with these Damen caps.

DAMEN CLOTHING
Planning on travelling? Whether you’re going somewhere cool or somewhere warm, the Damen clothing range is the perfect solution for all extremes.

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