C anesthesia and drug delivery systems. During the procedure, the nurse observes the patient’s vital signs and monitors the patient’s response to the anesthesia and the surgery. The nurse also communicates with the surgeon to ensure that the surgery is proceeding as planned. After the surgery is completed, the nurse administers pain medication and monitors the patient’s vital signs as they recover. The nurse also assists with the postoperative care, which may include wound care, administering medications, and ensuring that the patient is comfortable and pain-free. The nurse plays a key role in the patient’s recovery and ensures that they receive the best care possible.
DEAR READER,

Now that you have opened the fourth edition of our annual magazine, I hope you will have some time to browse through the many stories collected herein. In addition to articles about projects, customers, developments and ships, you will find stories that seemingly fall outside the world of shipbuilding. Examples are the article about the Royal Concertgebouw Orchestra and the interview with the acclaimed chef François Geurds.

As several markets in global shipbuilding are dependent on the oil price, many shipyards now have a somewhat grim outlook. However, due to our multiple-market approach and thanks to the effort and dedication of our workforce, we delivered a record number of 180 vessels to customers around the globe. I am sure that 2016 will be a tough year. At the same time I’m confident that our ongoing R&D efforts and drive to bring reliable products and lifetime services will see us through.

A noticeable development is that for a growing number of clients we build at a location of their choosing, even in places without a shipyard. Indeed, our Civil Construction Department has built or rebuilt several shipyards and slipways for customers worldwide. For ship owners, lowering the cost of ownership is of vital importance. That is why we have put 24/7 services, office monitoring of vessel operations and installing low-maintenance equipment at the top of our agenda.

Furthermore, we aim to provide answers to the quest for ‘green solutions’. To make that happen we are expanding our partnerships with end-clients, scientific institutions, suppliers and environmental interest groups. Together we are developing hybrid, electrical and LNG-propelled vessels, fuel savers like the ACES air lubrication system and ballast water treatment systems in order to play our part in creating a more sustainable future.

Meanwhile, we remain down to earth; just a family business trying to serve each and every client, small and large, to the best of our abilities and taking pleasure in the process. I hope you’ll find topics in this magazine that match your own interests and you can read this edition online too at magazine.damen.com. Should you have any comments on the print or online articles, or have feedback on our ships, please share them with us.

I wish you every success in 2016.

Kamper Damen
BlueTEC Texel tidal energy platform successfully launches

Taking just six months from the drawing board to realisation, the BlueTEC. Texel tidal energy platform was installed in the summer of 2015 and is operating off the island of Texel in the Netherlands. The prototype is producing electricity from the tides into the local grid.

BlueTEC Module is designed to be transported and installed all over in the world to provide clean energy in remote areas and small islands, replacing diesel generators.

The BlueTEC Texel Tidal consortium, which has developed the prototype, includes Bluewater, Damen, Niron Steal, Van Oord, Acta Marine, Vuyk Anchors, TKF, Towaco, Schottel Hydro, NCG, Tidal Testing Centre, Nylecast and the Port of Den Helder, Niron Steal, which is part of Damen, built the platform at its facility in Amsterdam.

Just before the end of 2015, the platform was fitted with a more powerful Torcato T2 turbine. At a later stage multiple Schottel Hydro turbines will also be tested on the platform.

BlueTEC Texel tidal energy platform successfully launches

Looking to continue its ongoing fleet renewal programme, global towage operator Svitzer purchased four ATD 2412 tugs. The contract continues the well established relationship between the two companies. The Azimuth Tug Drive (ATD) is a compact, heavy duty tug that boasts a bollard pull of over 65 tonnes. A top speed of 12 knots and a powerful aft winch, combined with Damen’s experience with tug design, make these vessels suitable for consistent and effective harbour towage activities.

Damen Shipyards Group, was created at a time when no work was being done in the environment, in which PPE is not shown, Any imagery featuring a production of safety in the making of this publication. Maximum attention was paid to matters reproduced without permission from Damen. Nothing in this publication may be Copyright 2016 Damen Shipyards Group

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UPDATES

Four Damen tractor tug for Svitzer

Svitzer took delivery of the first two vessels – Svitzer Maimon and Svitzer Beata – in mid-April. The second pair will be handed over in August 2016. All four tugs have been built at Damen Song Cam Shipyard in Vietnam. For Damen Svitzer Account Manager Chiel de Leeuw, this multiple vessel contract is a good indication of the two partners’ future cooperation: “As Svitzer’s single point of contact within Damen, I am looking forward to continuing this successful and enjoyable relationship.”
Damen launches Cargo Vessel Product Group

Damen has launched a new Cargo Vessel Product Group headed up by Richard Nutgeren.

Damen has been building cargo vessels for more than 35 years. The new Cargo Vessel division offers a broad range of multipurpose and general cargo vessels from 800 dwt to 30,000 dwt, including container ships, oil & gas tankers, ro-ro vessels and general cargo vessels from 800 dwt to 5,000 dwt.

With two vessels ready for delivery mid-2016, Damen’s contract with the Royal Bahamas Defence Force for four Stan Patrol 3007 vessels is in full swing. These high speed aluminium patrol vessels will be able to achieve speeds of more than 30 knots. This makes them well-suited to the task at hand: tackling illegal activities at sea. Damen High Speed Craft Managing Director Jaap Gelling notes that the design process is worthy of more attention:

“This was a very interesting project. Together with the Royal Bahamas Defence Force, we came to the conclusion that a 30-metre patrol boat would suit their needs the best. We designed the Stan Patrol 3007 in complete cooperation with them: making them the launching customer. A design that you make together with the client and for the client will always result in a better boat than when you try to do things alone. They know more about operating at sea than we do – we are just ship designers and builders.”

Although the cargo market has been a little slower in recent years, there are signs that it is improving, particularly with demand for smaller, multipurpose vessels up to 5,000 dwt and for oil and LNG tankers between 3,000 and 6,000 cubic metres. Damen indicates that the demand for smaller, multipurpose vessels will prove popular. “We have a long history of making quality cargo vessels, with low operational costs and a high second-hand value. And when we get an order, we do what we agreed, delivering them on time and in budget.”

With two vessels ready for delivery mid-2016, Damen’s contract with the Royal Bahamas Defence Force for four Stan Patrol 3007 vessels is in full swing.

The Damen Stan Tug 1907 is designed as a modern and compact tug, to operate in harbours and coastal waters. Extremely powerful, with twin Caterpillar C 32 main engines, the tug has a top speed of 2000 bhp. Retractable nozzles, 1800 mm, heavy duty bronze propellers and DMC Optimax nozzles.

During trials, the vessel achieved a free sailing speed of 11.7 knots and via the remote controlled towing hook, an outstanding 29.0-tonne bollard pull. The tug has excellent course stability and manoeuvrability, thanks to proven hull design and the steering system with double plate rudders. The tug has a fire fighting pumpset of 300 m³/hr with a 4200 ltr foam tank with one fire fighting monitor on the wheelhouse top deck.

The wheelhouse has an all-round view, with a central control stand with radar, GPS, compass, autopilot, echo sounder, two VHF sets, Navtex, AIS, EPIRB and SART. Modern accommodation for four is provided, including a dinette, galley and two double cabins.

New Damen Stan Launch Series embodies the spirit of the renowned Damen Pushy Cat

With a new Damen Stan Launch Series embodied in the full range of services available in the group’s yards, Damen is ready to offer its clients the full range of services available in the group’s yards.

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October 2015 saw the establishment of a new company within the Shiprepair & Conversion division, Damen Shiprepair Harbour & Voyage delivers a new focus on repairs to all types of vessels while they are in harbour or at sea. Customers now have additional choices when it comes to when and where they wish to undertake their repairs.

The company has full access to the human and capital resources of DCS and offers the full range of services available in the group’s yards.

Damen Shiprepair Harbour & Voyage

Our highly experienced repair teams can access vessels anywhere in the world and operate a 24/7 service. Damen Shiprepair Harbour & Voyage can be reached via one central number: +31 3000 85 82. The company also works closely with the group’s growing network of service hubs, giving customers access to personnel and equipment embedded in locations across five continents.

The new company is expanding rapidly as owners and operators appreciate the advantages of being able to access Damen expertise, experience and quality while reducing or even eliminating downtime.
yachts under construction at its yard in
already had the next two Amels 242
Before the first yacht had even left
successful new Amels design.

The 74-metre Amels 242 has proved
attracts yacht owners

The Amels 242 out for sea trials on the Dutch North Sea.

streamlined elegance

With a dedicated 250 square-metre
Owner's Deck, the Amels 242 by renowned British designer Tim
Heywood offers a private Owner's
retreat at sea. But the yacht also
transforms into an entertaining
extravaganza thanks to an
elestaged main deck party area with
bar, dance floor and 6.5-metre long
infinity swimming pool.

With InvaSave technology, ballast water
treatment options available including
the world's first mobile ballast water
discharge technology for ports – the
InvaSave. This is suitable for those
countries that may not want to retrofit
a treatment system, perhaps because
eyhose ships operate on fixed routes, or
for ports, which may need to provide
a backup in the case of emergencies
when a ship's on board treatment systems fail.

With InvaSave technology, ballast water
only needs treating at the point
treat at intake. Therefore, it facilitates
treatment capacity if required.

The InvaSave technology was tested
in various representative challenging
water qualities. The official IMO
land-based testing was successfully
completed in 2015 and final shipboard
testing will be finalised shortly.

InvaSave is on course to receive IMO
type approval by the Dutch flag state
in 2016. The first InvaSave systems will
be operational at Groningen Seaports
in 2016. The first InvaSave systems will
be operational at Groningen Seaports
in 2016. A dedicated offshore towing winch
is provided on the fore deck.

Unusually, in vessel uses and the
increasing speed of work means that
tug operations in ports are becoming
more demanding. The new generation,
multipurpose Damen ASD Tug 2812 has
been developed in light of this trend.

Operators need extremely powerful ship

Damen has several new additions
to its range of Utility Vessels under
development, which are ideally suited
for light service operations.

Currently, two 190-m3 ballast water
vessels are IMO EPA, MARPOL and Transport
Canada compliant.

on a trailer or several can be placed
on a dedicated treatment barge,
pontoon or vessel. As it is possible to
interconnect systems it's easy to scale
up treatment capacity if required.

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multipurpose Damen ASD Tug 2812 has
been developed in light of this trend.

The RHIB 1050 has a cutting edge glass
beam of 12.5 m, resulting in excellent
freeboard in combination with a
dry working deck. The new design has a full,
forecastle deck and spacious
accommodation for 6-10 crew in six
cabins. It will be introduced at the end of 2017.

The RHIB 1050: Exceeding expectations

One of the newest members of the
damen portfolio is the RHIB 1050:

The RHIB 1050 with an inboard motor can
reach speeds of 55 knots, and the
tubeboard motor vessel can do 60 knots.
With a primary market focus on security
and defense operations, the 10-metre
long vessel has a cutting edge glass
reinforced epoxy hull. This is built with a
high end vacuum inspection method to
Lloyd’s Register approval.

Since its introduction, Damen has
delivered to numerous clients:

The new range has been well received
by the market. We are in the tendering
process for substantial contracts with
the Dutch police force as well as various
other European security forces.
Optima Nozzles prove popular in diverse range of markets

Introduced in the late nineties, the Optima Nozzle has proven itself in several maritime markets. The Optima’s reputation—based on its ability to improve forward thrust—as well as having a strong reverse thrust—performance—was made in the inland waterways sector but nowadays, the Optima Nozzle is proving equally popular in the offshore market too.

Damen Marine Components (DMC), Managing Director, Steef Staal says: “Demand in the shorter sector is being driven by initiatives to save fuel and cut exhaust emissions. This has resulted in ship operators reducing their service speeds to below 15 knots. The Optima 0.4 version, cuts resistance considerably, while still providing good thrust levels.”

As well as the advantage of optimising forward and reverse thrust, the Optima has the ability to reduce noise levels and vibrations considerably. DMC is also supplying Optima Nozzles to four of the world’s largest ocean towing, anchor handling tugs. Caterpillar commissioned DMC to design, engineer and produce the nozzles and head box sets for the four sister vessels under construction in Japan for ALP Maritime Services.

The eight 5,050 mm inside diameter nozzles are the largest that DMC has manufactured with its spinning machine, using a technique that includes only a single weld. The 300-tonne bollard pull, 24,400 BHP vessels have two propulsion units, each in a CPP stern-drive and rudder configuration.

The nozzles accommodate a 5,000 mm CP propeller. Additionally, Optima Nozzles, with a 4,700 mm inside diameter, will be supplied later this year for two large, 17,000 m³ trials suction hopper dredgers under construction for Van Oord.

Damen Shiprepair & Conversion has CN Bulkers’ new acquisitions ready for operation in just eight weeks

Damen has completed the maintenance and surveys on four bulk carriers owned by CN Bulkers, a joint venture between Universal Shipping & Trading and NedNor, in just eight weeks.

The work took place at its Rotterdam yards – Damen Shiprepair Rotterdam and Damen Shipyards Van Brink Rotterdam.

Recently bought at auction, the four vessels, between 16,000 and 17,000 dwt, had been inactive for some time following the insolvency of their previous owners and had not been dry-docked since 2012.

The scope of work included five-year special surveys for the three vessels and a 15-year special survey for the fourth. Each vessel was thoroughly cleaned and repainted below the waterline, and some blasting and painting of the topsides took place.

Other work included inspection and maintenance of the valves and gearboxes, load testing of the cranes, and the lashing out of the anchors and chains. One of the bulk carriers also needed an engine overhaul and the crankshaft had to be straightened.

With at least one of the vessels already booked for a charter, keeping on schedule was an important consideration. The multi-vessel project was completed within just two months.

Part of the work also involved painting the new names – Sotra, Sanna, Senja and Silja.

Working at Damen

SELMA DE RIDDER

GLOBAL TALENT MANAGER, DAMEN SHIPYARDS
GORINCHEM, 45 YEARS OLD AND LIVES WITH MATIAS

“Working for Damen brings me back to my roots as I was born and raised in Gorinchem. I work here as a Global Talent Manager. The interview for this position four years ago was certainly a memorable moment as I found myself sitting opposite my former classmate Arnout Damen. Back then I had no idea how much the company had grown.

There is definitely an international character in my current role. My team and I develop tools for our management and HR to attract, develop and encourage (leadership) talent within Damen at a global level. We offer them and their managers the right tools, programmes and support so they can contribute to the utmost to the success of Damen. This is a nice challenge because of, among other things, the various cultures and forms of social interaction that we encounter. For example, you can easily ask a Dutch manager about his or her talents, but in Asia people are less accustomed to discussing such matters. I have learned to observe well and not judge too quickly. This comes from my father who was a KLM pilot – he gave me his open and cosmopolitan look at the world.

At home I have two little ones, and they know how to keep me busy during weekends. I love going walking or cycling with them together with my boyfriend. Combining this with a visit to a museum is a favourite of ours: the Sculptures by the Sea in Scheveningen or the Kröller-Müller Museum in the Veluwe National Park, for example. I like to read, draw or paint in my free time. Although the latter often involves a different type of painting as we live in an old house in Delft, which needs a lot of maintenance. Craftsmanship is something I appreciate and is what I see at Damen – especially the contrast between innovation and tradition. The contrast between a traditional sailing ship like Shabab Oman II and the new Service Operations Vessel is a good example.”
Given the current downturn, Damen is relatively well positioned to weather the storm through its diversified portfolio, strong balance sheet, ability to adapt production capacity to demand, conservative financial policies and innovative Research & Development programmes. The Executive Board explains what has been keeping the company busy in the past year and what its plans for the future are.

Q. Looking back on 2015, how did Damen perform given the challenges in the market?

René Berkvens, Chief Executive Officer: “Despite the fact that certain sectors of the market are struggling and that we are in a highly competitive arena, we are pleased to say that Damen has managed to achieve its financial targets of 2015. Though I should stress it has not been easy - everyone has worked very hard to reach these goals.”

“We have successfully delivered 180 vessels, with tugs, high speed craft and workboats our star performers. Additionally, we have completed over 1,500 repair, refit and conversion jobs, including work on jack-up platforms and large cruise vessels. Our strenuous efforts enabled us to realise a turnover of EUR 2.1 billion.”

Our development into production is very rewarding. Also, we saw a strong growth in Offshore Wind and the Americas.

Arnout Damen, Chief Commercial Officer: “Damen continues to prosper despite the current economic headwinds. We are very pleased to see clients returning to us for new vessels, with quality and reliability their top priorities. Our ability to offer very short delivery times also continues to be valued by customers both existing and new.”

Q. What are your expectations for 2016 as we continue to see historically low oil prices?

Arnout: “The offshore sector particularly faces many challenges, with an overriding need for lower costs. Therefore, we are moving quickly to work with owners and operators to achieve this objective, seeking to gain insights into their needs, while deepening our understanding of their key drivers and how they work with their own customers and suppliers.”

Frank Eggink, Chief Financial Officer: “As mentioned, 2015 was a satisfactory year for Damen. The 180 vessels represent an all-time high and this enabled us to meet our projected financial targets. Production value - taking into account all the operations of the Group - was also at a record high. This puts Damen in a strong position for 2016, with the company in robust financial shape thanks to its strong balance sheet and conservative policies. Given the issues facing the maritime industry, this is a good situation. The low oil and commodity prices have affected more than just the offshore sector, for example government budgets from oil producing nations, resulting in reduced demand for vessel types that are typically bought by the public sector, such as ferries and patrol boats.”
**STRATEGY | EXECUTIVE BOARD**

Q. Can you outline why you think Damen is able to survive when perhaps other yards are struggling to keep afloat?

Jan-Wim Dekker, Chief Products Officer: “In a traditional industry like shipbuilding it’s not the biggest, nor the smartest organisation that will survive, it’s the organisation that will be most adaptive to changing circumstances. So, to enable us to adapt to the wishes of our customers and environmental developments, we have to refocus our organisation once in a while and increase our agility. We have taken to the last step by means of establishing four customer-focused business units, two concentrating on standardised vessels and two on customised vessels. Each of these business units will operate as seamless production chains, of which the different parts will work closely together - Design & Proposal, Engineering, Purchasing, Production and of course, the yards.”

“Because of this we can decide what vessels to develop and how to build them in the best way. Working together in these ‘chains’ saves time and decreases production errors. Additionally, standardising and digitising all the elements in these production chains results in more time, energy and capacity to invest in customisation and innovation.”

Frank: “In 2016 Damen anticipates sustained weak market conditions which will probably result in a reduced number of deliveries. However, far the sales of workboats, tugs, patrol vessels and yachts have held up well. In addition, with Damen serving customers in a range of different product market combinations, the portfolio approach contributes to greater resilience against market volatility.”

Arnot: “Indeed, some sectors prove to be more resilient than others. Amels, our superyacht brand, continues to prosper. The yard has a solid orderbook and its recent launch of the SeaXplorer 2810 is an example of its ability to design and build Damen designed ships.”

**“DESPITE THE FACT THAT CERTAIN MARKETS ARE STRUGGLING, MANY OF OUR ACTIVITIES REMAIN RELATIVELY STABLE”**

Q. Standardisation has always been at the core of the Damen philosophy and it is just as important now isn’t it?

Jan-Wim: “Absolutely and we are planning to extend this standardisation strategy even more. Within the near future we will template all our standardised serial ships, meaning that we have digitised every step of our shipbuilding process using our ERP system as the backbone.”

“Not only will we be creating a more strategic stock of ships that have already proven their value and effectiveness, but at the same time, we’ll also produce new designs in which we believe and of which we expect stock to become useful in the near future. It is a risk, of course, but one we’re willing to take.”

Q. Does innovation continue to be at the heart of Damen?

Jan-Wim: “The spirit to innovate permeates the entire Damen organisation. From the Sea Axe hull shape to building on site via Damen Technical Cooperation, we are always looking for ways to give our customers the products that deliver the performance they need.”

Arnot: “Yes, innovation remains at the core of the Damen ethos. We continue to invest in Research & Development that aims to anticipate and meet the needs of our customers. Extremely shallow draught workboats drawing just 120 to 150 cm is one area on which we are working. Another is composite waterbuses. We are also extending our range of composite high-speed vessels, looking to add new models of pilot boats, fast crew suppliers and interceptors. In addition, we now have licensed nine yards in the USA to locally build Damen designed ships.”

Frank: “Perhaps I can add to this that we demonstrate our commitment to a cleaner and more sustainable environment not just by how we manage our business, but also through the products that we design and build. Recent innovative environmental projects and development programmes include low emissions hybrid propulsion systems using both conventional and alternative fuels. Also both Ballast Water Treatment systems and the design and build of a Razor Shell Dredger, help, in very different ways, to reduce or prevent the spread of invasive species outside their natural environments.”

**Q. Are there any other new markets or products that you can tell readers about?**

Arnot: “Harbour and Voyage Repair is one area in which we are stepping up. We are also targeting larger vessels for repair and maintenance. With our network of European ship repair yards, we have the facilities to take on the largest vessels.”

“Aquaculture and fisheries is another sector where we are developing new designs and we have set up a Workboats department to sharpen our focus in this area. Despite the current downturn we are also putting more resources into cargo vessels in anticipation of the market recovering. The list is long, for example, we are also extending our range of RHIBs for commercial and naval applications, working on a new Utility Vessel, new Reverse Stern Drive tugs designs and a 35 m Shoalbuster.”

Q. It seems that Damen continues to improve its transparency in its role as ‘corporate citizen’. How can we actually notice this?

Frank: “For a number of years now, the Dutch government, induced by new and expanding European policies on transparency and good governance, schedules the annual Transparency Benchmark for Dutch companies. In 2015 Damen participated for the first time in this benchmark in response to societal expectations. This year Damen will again take part in the benchmark. This year we will aim for a higher position in the overall ranking, partly due to the strengthening of our compliance systems and procedures.”

**“FOR DAMEN, THE CLIENT IS ALWAYS NUMBER ONE. WE CONTINUE TO FIND WAYS TO ANTICIPATE THEIR NEEDS”**

Q. As always Damen is looking ahead, thinking longer term. What are your thoughts on the future?

Jan-Wim: “Digitising our standardised serial ships and linking all parts of the production chain will make our organisation more customer oriented. Frankly speaking, we can only do this because of the intimate feedback loop we have created all these years with our customers. Together with our customers, engineers and sales departments we will make revised, updated concepts that incorporate the market’s wishes, resulting in efficient shipbuilding. Secondly, specific yards will specialise in building a specific range of vessels, enabling them to excel in, for example, building an ASD 2810.”

**“THE PORTFOLIO APPROACH CONtributes TO GREATER RESILIENCE AGAINST MARKET VOLATILITY.”**

René: “As always Damen is looking ahead, thinking longer term. What are your thoughts on the future?

Jan-Wim: “As we know, the shipbuilding world is facing a severe oversupply of yard capacity, especially in the Far East where many large shipbuilders are hit. European shipbuilders too are feeling the impact. For example, the market for cargo vessels - both inland and seagoing - has not yet recovered.”

“However, having said that, we will continue to broaden our range of activities, explore new markets and dig deeper into existing niches. To stay close to our customers, we will further expand our commercial and service support presence. Damen now has dedicated Service Hubs in Nigeria, Australia, Curacao, the United Arab Emirates, Canada and South Africa. Other hubs are due to be established.”

Frank: “As said before, we are confident that through a combination of conservative financial policies and a strategy based on diversification, standardisation, innovation and accountability, Damen is well positioned to continue to thrive through the current period of economic turbulence.”

René: “And while, in the shorter term, we are not too optimistic when considering the oil and gas and cargo vessel industries, our many other activities remain relatively stable. We are confident and we will continue to innovate and develop our products so we can serve our customers as efficiently as possible.”
Serving a worldwide customer base

With yards and service facilities in five continents Damen can truly claim to be a global organisation, but when you take into consideration the many and varied locations to which we deliver vessels it seems that there are few harbours that Damen vessels have not visited.

2015 saw the usual range of destinations, some familiar, others less so. This map shows where the 180 vessels were built and in which region they went into operation. Warm water deliveries included Fast Crew Suppliers for Nigeria and operations in the Gulf of Guinea, while other FCSs together with a Crane Barge arrived in the Arabian Gulf. Other tropical destinations included the Bahamas and even the island of Borneo. South Korea received two Fast Ferries. In cooler waters, an ice-class ferry headed for Canada. Australia and the USA were other destinations. Whether a vessel is for the open sea or inland waterways, we deliver anywhere in the world.
“We started to invest more in the online side of the business in 2011,” he says. “With a new vision, the first step was to present the company. Here, he tells us more about the digital strategy and how it is impacting customer interactions. With the tools of rapidly advancing technologies at hand, it was very quickly realised that a digital platform had a far broader scope than a website alone. “A website is just a small item in the large arena of digital possibilities. It is a mechanism with which you can do hundreds of things, but you have to know your goals. It can serve as a service partner for your customers or it can inform journalists. It can also facilitate your company in the career market – who are your future colleagues?”

**Personalisation**

Back to the business of selling ships: “There are many different decision makers involved in the ship-buying process and they all need access to the information that is relevant to them. For example, the finance guys need to know things like the operational costs and the approximate value after 10 years. The technical departments, on the other hand, want detailed information about engines and equipment. Every target group has to be informed – you have to know your goals. It can serve as a service partner for your customers or it can inform journalists. It can also facilitate your company in the career market – who are your future colleagues?”

**Social behaviour**

In an ever-evolving world, a website is not always the only way to come into contact with customers. So, our digital strategy has grown to include diverse social media platforms. “This is a changing world and social media are very important for companies when communicating with their clients.”

**Financial transactions**

Financial transactions are also set to change: “The use of blockchain technology will be the game-changer in the future of digital transactions. As an alternative value transfer system, it will make tradable for two parties to make trusted business transfers without the need for third party interactions. This move towards a decentralised financial system will affect all our monetary activities. For Damen, there is great potential with this platform.”

**Share, learn & create**

“The way that we communicate and interact is changing. Technology has created market possibilities that were not achievable before. These give us great opportunities to get in contact with customers and find what they want. Also, they tell us what they need and where to improve. As Mr Damen says in the first article of this magazine, feedback is of the utmost importance, as only together can we share, learn and create new products.” Which leads us to Mr Smets’ concluding message: “The world is changing, and Damen is changing with it.”

**TALKING ABOUT ONLINE BUSINESS STRATEGIES**

In the last five years Damen’s digital presence has both expanded and improved. The man behind these developments is Björn Smets who is responsible for online and digital marketing across the company. Here, he tells us more about the digital strategy and how it is impacting customer interactions.

“We started to invest more in the online side of the business in 2011,” he says. “With a new vision, the first step was to present the whole group on one big platform. One corporate strategy with a uniform look and feel. The idea was to present products in a clear way to our potential clients.”

With the tools of rapidly advancing technologies at hand, it was very quickly realised that a digital platform had a far broader scope than a website alone. “A website is just a small item in the large arena of digital possibilities. It is a mechanism with which you can do hundreds of things, but you have to know your goals. It can serve as a service partner for your customers or it can inform journalists. It can also facilitate your company in the career market – who are your future colleagues?”

**Personalisation**

Back to the business of selling ships: “There are many different decision makers involved in the ship-buying process and they all need access to the information that is relevant to them. For example, the finance guys need to know things like the operational costs and the approximate value after 10 years. The technical departments, on the other hand, need detailed information about engines and equipment. Every target group has to be informed – that’s online business.”

“This content-on-demand is our next phase, moving to 2020. It’s the middle point of everything we do. We can use data to make a client’s life easier and to help them save money. The Internet of ‘Things on a ship’, for example. In the near future, sensors in components will tell technicians when they need replacing.” As the boundary between data and human content becomes diffused, communication between people and machines will increase. “Man becomes more like machine, machine becomes more like man.”

**Financial transactions**

Financial transactions are also set to change: “The use of blockchain technology will be the game-changer in the future of digital transactions. As an alternative value transfer system, it will make tradable for two parties to make trusted business transfers without the need for third party interactions. This move towards a decentralised financial system will affect all our monetary activities. For Damen, there is great potential with this platform.”

**Share, learn & create**

“The way that we communicate and interact is changing. Technology has created market possibilities that were not achievable before. These give us great opportunities to get in contact with customers and find what they want. Also, they tell us what they need and where to improve. As Mr Damen says in the first article of this magazine, feedback is of the utmost importance, as only together can we share, learn and create new products.” Which leads us to Mr Smets’ concluding message: “The world is changing, and Damen is changing with it.”

WWW.DAMEN.COM
In the space of little more than a decade, Canada has become one of our most important markets. For example, our contract with Atlantic Towing for four specialised platform supply vessels is the largest ever awarded to Damen Shipyards Gorinchem, kicking off a period of intense collaboration with the Canadian company. We are also proud to have Canadian clients operating in a wide range of markets, including Offshore Oil & Gas, Public Transport, Dredging & Marine Contracting and Defence & Security. We’re forging ever closer maritime ties between the Netherlands and Canada, investing in research partnerships and sharing shipbuilding know-how. And with the Damen flag flying at our service hub in St John’s, we are proud to be close to our Canadian clients.

Demanding offshore support: Atlantic Towing

Starting in 2017, Canada’s Atlantic Towing, part of the Irving Transportation and Logistics Division, will take delivery of four Damen PSV 5000 vessels. Atlantic Towing selected Damen’s ice-strengthened designs to meet its 10-year offshore support contract. Based out of St John’s, these vessels will operate in the challenging sub-arctic waters of the Hibernia and Hebron oil fields.

Damen designed the vessels with a special hull form for performance in the Grand Banks – an area known for sea ice, icebergs and harsh meteorological and oceanographic conditions (for example, the wreck of the RMS Titanic is nearby). All four will benefit from iceberg management tools, while one of the vessels is equipped for Inspection, Repair and Maintenance duties (100-tonne subsea crane with advanced heave compensation). As well as delivering the vessels on time and on budget, Damen is setting up a local service and maintenance centre for the four vessels in St. John’s.

Construction pontoons: McKeil-Malaspina

At the Bull Arm site, the Canadian partnership McKeil-Malaspina has supplied a flotilla of barges to support construction of the stand-alone Gravity Based Structure. When completed, the structure will be 120 metres tall. To reach that height, concrete – 132,000 cubic metres of it – is being poured into a continuously moving form, 24 hours a day, seven days a week. There were not enough Canadian flag barges available for the project, so the partnership looked further afield for cost-effective solutions that met the exacting demands for the flotilla. In 2013 the partnership took delivery of Tobias, a Stan Pontoon 12032 and the largest pontoon built so far by Damen. Tobias carries a mobile cement plant and is the largest in the flotilla, which also includes a second Damen-built barge.

Tobias, the largest Damen pontoon

- Damen Stan Pontoon 12032
- Length 120 metres
- Beam 32.2 metres
- Deadweight 20,100 tonnes
- Deck space 3,837 m², enough to fit 115 Damen Stan Launch 804 vessels

Inshore floatover installation: Kiewit Kvaerner Contractors

A number of Hebron’s topsides modules are under construction in Newfoundland, while a subcontractor in Korea is fabricating the largest module, which will be transported to Bull Arm by Dockwise’s Blue Marlin.

Following integration of the modules, a pair of mating barges will lift and carry the integrated Hebron topsides to the Gravity Based Structure (GBS) for a floatover installation (inshore mating). Last year Kiewit Kvaerner Contractors awarded Damen Shipyards Amsterdam the contract to prefabricate and install the mating barge grillage, with Damen company Niron Staal Amsterdam carrying out the steel prefabrication works.

These structures will be used to lift off, transport and transfer the topsides from the integration finger pier to the GBS at the deep water construction site at Bull Arm. The total steel tonnage for this package is approximately 2,400 tonnes. The nominal height of the grillage structures above the main deck on each mating barge is up to approx. 9 metres.

Ruud Haneevoo, Commercial Manager – Americas at Damen Shipyards, comments, “First steel was cut on 31 March; right on schedule. We are looking forward to seeing the barges arriving in the last quarter of this year. Already we are proud to be part of this magnificent Hebron project”. The complete platform will then be towed to the production site for hook-up and commissioning.
OUR NON-STOP SERVICE

Many Canadian communities separated by harsh seas and freezing winters rely on ferries as a vital societal and economic link. A benchmark for the world, Canadian ferries keep people, vehicles and freight moving from the Pacific coast to the Atlantic seaboard. So we understand the importance communities place on uninterrupted service. That’s why we offer dedicated, local after-sales and a broad range of services covering a vessel’s operational lifespan.

Ferries are an integral part of Canada’s transportation systems, and the government has set extremely high standards for safety and environmental performance. To serve this demanding market, we have invested all of our shipbuilding knowhow into designing, engineering and building great ferries that deliver great value for citizens.

Delivering quality ships on time and on budget is our promise to our clients. But our promise also means keeping these vessels working reliably and safely through their warranty period and beyond. So if machinery breaks down for any reason, our after-sales team launches into action.

“We have 24/7 warranty support and we offer training to ensure the vessels are operating efficiently right from the start,” Damen Sales Manager North America Jan van Hogerwou explains. “Should a problem arise, we make sure we get it right as fast as possible. That’s the way we do business, and we have the financial, technical and global resources to live up to our promises.”

Last October, the Government of Newfoundland and Labrador took delivery of its new Damen-built ferry in St. John’s. The 80-metre Ice Class RoPax ferry Veteran runs services in the so-called ‘Iceberg Alley’ to Fogo Island and Change Islands.

Veteran is the first of a two-vessel contract, with a design stemming from a Canadian-Danish partnership between Fleetway and Knud E. Hansen. Several Canadian companies provided engineering expertise and services for these vessels, from electrical equipment to fire-fighting systems. The sister ship Legionnaire, scheduled for delivery from Damen Shipyards Galati as this magazine goes to print, will operate the busy route from Portugal Cove to Bell Island.

Damen is setting up a maintenance centre in St. John’s, partnering with local engineers to ensure service and spare parts within driving distance of the homeport of the vessels.

Alternative fuel sources

Engineers at our dedicated Damen Research department are developing new solutions that combine safer, more sustainable technology with lower Total Cost of Ownership. We’re looking at applying our proven expertise in LNG as a fuel to ferries, as well as our hybrid technology to reduce harmful emissions and increase efficiency.
Okay, we’ll admit the Dutch didn’t get off to a great start with the temporary seizure of St. John’s by the Dutch admiral Michiel de Ruyter in 1665. But nevertheless the settlement prospered. Today St. John’s has a substantial harbour, a base for many Canadian Coast Guard icebreakers as well as a fleet of offshore support vessels. The city is the centre of the oil and gas industry in Eastern Canada. ExxonMobil Canada is headquartered in St. John’s and companies such as Chevron, Husky Energy, Suncor Energy and Statoil have major regional operations here.

**Maintenance & support**

“In St. John’s we are setting up a maintenance centre for the four Damen PSV 5000 vessels currently under construction for Atlantic Towing and the Damen-built Ice Class RoPax ferries Veteran and Legionnaire. Partnering with Damen-certified local engineers provides an economic advantage for St. John’s, while benefitting from our group’s expertise and know-how. Canadian engineers are currently at Damen Shipyards Galati to ensure they have first-hand knowledge of the vessels and onboard systems.”

“We will have trained maintenance and support engineers and spare parts available within driving distance of the homeport of these vessels,” says Damen Manager North America Jan van Hogerwou. “This service hub is the start of Damen’s presence in Newfoundland, which Damen hopes to grow in order to become a substantial economic motor, taking into account vessel replacement projects that have to be launched.”

Damen is also learning from Canadian expertise, particularly experience in operating vessels in extremely challenging Arctic conditions. Damen is a leading partner in developing a new Arctic Research Centre in St John’s, looking at factors from engine manufacturing to safety and environmental regulations.

**Liberation & bond**

Together with Memorial University in St. John’s, we have facilitated a student (exchange) programme for naval engineers, allowing Canadians to study in the Netherlands, and Dutch students to study in St. John’s.

The scholarships are part of activities organised to mark the 70 years since Canadian forces liberated the Netherlands from Nazi occupation in the final months of the Second World War. The Dutch remember those Canadian heroes fondly, leading not only to enduring military ties between the two allies, but also to the post-war period of significant Dutch emigration to Canada.

More than a million Canadians have roots back to the Netherlands. That legacy is also reflected in the names of the recently delivered Damen ferries Veteran and Legionnaire. The Canadian army regularly participates in the International Four Days Marches in Nijmegen, the Netherlands, marking the bond created since the liberation.

“We’re building ever closer maritime ties between the Netherlands and Canada. So with the Damen flag flying at our service hubs in St John’s, we are proud to be close to our Canadian clients, providing local benefits and sharing shipbuilding know-how.”
Meanwhile in Canada, Saam Smit Towage is looking at new opportunities. The company has had a strong presence in Canada, particularly along the British Columbia Coast since 2000 when it acquired the marine assets, including the tug and barge operations, of Rivtow Marine Inc.

Saam Smit Towage Canada now has a mixture of 21 conventional and ASD Tugs operating along the BC Coast, where the company provides harbour towage and escort services in seven ports. The company carries out ship assistance, harbour towage and tanker escorts and employs around 110 people.

In Canada too, Saam Smit Towage has several Damen tugs including three ASD Tugs 3111 and two ASD Tugs 2810. In the more exposed ports the ASD Tugs are deployed as they are more suitable for seagoing work.

**Fleet Renewal Programme**

Frans Tjallingii, General Manager of Saam Smit Towage Canada is very familiar with Damen Tugs from his previous role in SMIT Gabon (which is now part of Boskalis’ joint venture Smit Lamnalco).

“We know we can expect good service and quality from Damen. Meanwhile in Canada, Saam Smit Towage is marine assets, including the tug and barge has had a strong presence in Canada, particularly along the British Columbia looking at new opportunities. The company EYES OPPORTUNITIES IN CANADA SAAM SMIT TOWAGE operations, of Rivtow Marine Inc. Gabon (which is now part of Boskalis’ joint venture Smit Lamnalco).

Frans comments that the company carries out a continuous modernisation and fleet renewal programme and is always looking for expansion possibilities. “We evaluate what we need to do to serve our customers best and in fact we have just added two new tugs.”

“There is a big focus on safety and the environment in this pristine environment. People are very aware of the impact of marine navigation and there is a lot of debate about tanker escorting, for example. We track the impact our activities have on the environment and we are always looking to improve this performance.”

Saam Smit Towage Canada has ISO 9001/14001 and OHSAS 18001 certification. “We are working with our crews and shore staff to do things safely and better, year on year.”

**The Energy market**

Frans comments: “2015 had lower revenues than 2014, there was, and is, a lot of pressure on energy related commodities, as well as the difficulties faced by our customers due to the overcapacity in the freight markets. Volumes remained relatively stable except for coal. I don’t think the bottom of the energy market has been reached yet.”

“But having said that, compared to other locations, Canada is a relatively stable market. If the different LNG terminal proponents can make their business plan work with expected commodity prices, there is a lot of potential here and we are confident of our competitive position.”

In the past 10 years Damen has delivered 250 vessels to American customers and almost 900 since 1970. Area Director Americas, Sander van Oord, gives an update.

Working in his role of Area Director Americas, Sander van Oord heads a team active in one of the world’s most varied regions. “The continent comprises some of the biggest countries in the world – think 200 million+ people – as well as some of the smallest countries with a population in the ten thousands.” He begins: “The Americas are home to some of the richest and poorest countries and offer a wide variety of cultures and economies. It’s a great place to work and I feel privileged to have spent the last 18 years there.”

A critical factor, especially for a shipbuilder, is the fact that the North and South American continents, including the Caribbean, encompass both polar circles and the equator. You will find Damen vessels sailing in arctic seas slotted with icebergs and pushing laden barges along tropical rivers. “This geographical diversity has significant implications to our clients’ requirements, and therefore, to our products. Here, especially it’s vital to really listen to what our customers need, be creative and find suitable solutions.”

**Strong bonds**

This diversity also includes how business is conducted. “In countries where local construction is important, Damen vessels are built under license, together with partner yards. This is a substantial market for us – for example, in the USA more than 200 vessels have been built under license since the mid-1990s. For several Latin American customers we built a yard before we started on the ship itself – the knowledge transfer in these processes is considerable and often gives us the edge over our competition.”

Cultural differences lead to different ways to doing business across the region. “Wherever you are though,” states Mr Van Oord, “Building up strong personal relationships is always priority number one.”

**Team effort**

Damen’s Americas team has grown significantly in recent years. “I am very proud of our team, not only in terms of scale, but also with regards to cohesion, eagerness and the positive vibe. Like in most countries we serve, success is about people. We now have personnel, either in local offices or Service Hubs, in Brazil, Cuba, Argentina, Canada, Mexico, Venezuela and Trinidad. Moreover, we are considering setting up additional local offices in Houston and Mexico.”

With Damen’s broad portfolio of products and services reflecting the diversity of the American continent, Mr Van Oord expects this growing presence will give the company’s customers even greater access to comprehensive solutions for the entire lifetime of their vessels. “A one-stop-shop is what we’ll focus on for the coming years.”

**A REGION FULL OF DIVERSITY**

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**A REGION FULL OF DIVERSITY**
INNOVATION | REMOTE MONITORING

DAMEN AT THE FOREFRONT OF REMOTE MONITORING DEVELOPMENTS

- Condition Based Maintenance
- Remote Software Updates
- Fewer visits from engineers
- Training about possible efficiencies
- Long-term information about use of vessel
- Information for design improvement

Damen is a frontrunner in remote access and monitoring developments with remote applications one of the major areas of focus of a group-wide Research & Development programme.

Even though the maritime industry has largely been slower than other sectors in adopting remote capabilities, Damen has been working on these initiatives for many years.

A wide range of vessel types already have remote access such as the Cutter Suction Dredgers and the Hybrid ASD Tug 2810, and there are currently pilots going on with the Damen ASD Tug 2913 and the Fast Crew Supplier 2610. For the dredgers, Damen has remote access to the most essential operational data, such as diesel engine and dredge process information including vacuum and pressure levels, and several alarms. For the ASD tugs, remote monitoring supplies information about the batteries, propulsion and the distribution of power needed.

"Remote access and monitoring has tremendous benefits for our customers," stresses Olivier Marcus, Product Director Dredging. "Ultimately it improves the Total Cost of Ownership for the owner."

Drawing on examples from the automotive industry, where it is getting increasingly common for some cars to alert the driver about maintenance issues, he adds: "Rather than going for a maintenance check after so many miles, the car tells you that filters need replacing for example. Any issues can immediately be dealt with, rather than letting problems escalate.

"Condition based maintenance is one of the main benefits of remote monitoring. It allows the operator to have more reliable, efficient vessels, with increased uptime and decreased maintenance costs."

Remote monitoring also helps Damen improve its products, Peter van Terwisga, Director Group Research, stresses. "Of course Damen has a huge data set from more than 5,000 vessels we have built over the decades. But this data is limited because we don’t have the long-term information about exactly how the vessel is being used in the real operational context."

Jaap de Lange, Director Damen Services, agrees: "When Damen has this operational data the operators and Damen can see how the vessel is performing and what the availability of the system is. This can then be fed back to the relevant Product Group and used to adjust our designs and services to ensure vessels have even higher availability in the future."

With this crucial data, customers can perhaps make changes in the way their vessels operate to improve efficiency and in the longer term, remote access may also lead to a decrease in crew levels, he adds.

"There is a general trend to decrease crewing numbers. If owners have a good onshore organisation monitoring the systems on board their fleet, there may be possibilities to save on engineers aboard."

Additionally, if Damen or the customer can see that systems need to reboot, settings need to change, or that there is a new software release, these issues can largely be solved remotely, rather than having to send an engineer to the ship. "This represents considerable savings and allows the operator to act promptly."

In the medium-term, data collected remotely can also be used to help train crews about efficiencies they can make. "We can help customers get a better performance from their vessels," Olivier points out.

And they all agree that — again like the automotive industry — it won’t be too long before owners can check on the status of their vessel’s performance just by glancing at their mobile phones.

"Above all, we want to help our customers improve their efficiency, reduce their costs, and improve the availability of their vessels. Remote monitoring is one way we can do this."
The wealth of experience built up by operating more than 30 ship and repair yards around the world means that Damen’s knowledge doesn’t stop at ship fabrication – it also includes the development, design and construction of shipyard facilities. The branch of the organisation responsible for these operations is Damen Civil. Offering customers shipyard construction and infrastructure support reflects Damen’s philosophy of maintaining long term cooperative relationships with clients, says Civil and Modular Constructions Director Marcel Karsijns.

How did Damen Civil commence activities?
"It started about 15 years ago when clients came to us for help with certain small projects. However, we started to have a more focused approach offering civil engineering solutions about 7 years ago. A shipyard is far more than civil works though – we can offer a comprehensive package that includes everything the client needs. The added value for the client is that we are backed up by years of shipbuilding know-how."

Was launching this subsidiary the logical step for Damen?
"It is logical that we use our own knowledge of shipbuilding and repair processes to optimise and upgrade our own and our clients’ yards. Having all that knowledge in-house also means that we can handle the whole project. There’s no need for expensive external consultancy, for example. But I wouldn’t say that it was the logical step, but just one of the many logical steps that Damen has taken over the years."

You can be involved in an advisory role or a full turnkey package. How important is this flexibility to the client?
"The more flexible you are, the better the relationship you can build up with your client. We look at the bigger picture while focusing on the details as well. For example, if we sell a ferry then we have the capacity to offer more. We can also take care of the entire ship-shore interface – addressing how the vessel berths and how the passengers are transferred. The important point is that we are the consultant and the executor at the same time. This relationship continues after the construction of the yard into the service, maintenance and repair phases."

How does Damen Civil fit in the company’s portfolio?
"Naturally, the experience that we gain improves the processes and technologies in our own shipyards. More importantly, the combination of Damen Civil with Damen Technical Cooperation means that we can offer optimal realisation of shipbuilding facilities – in terms of both infrastructure and vessel design. On completion of the vessel, the yard is ready to provide service and maintenance of the fleet, representing the start of a long period of cooperation with the client."

How important is local content in this process?
"If you look at the SIGMA frigate that was recently delivered to the Indonesian Navy – this was a Damen vessel built at a local yard. However, getting the yard infrastructure ready beforehand was crucial for the success of the project. In general we see more and more governments requiring their military vessels to be built in their own country, which also provides education, training and sustainable employment. We transfer a lot of civil knowledge to the local workforce – this is very valuable for the future prospects of local economy."

How is the principle of standardisation used?
"We try to standardise components as much as possible – it brings the same benefits to constructing a shipyard as it does when you build ships. This gives us better purchasing power which brings savings that we pass on to our customers. Of course, local circumstances will always vary – that’s why we carry out preliminary studies. It’s necessary that our designs are flexible in that respect to accomplish the optimal realisation and design of shipyard facilities. That’s how Damen Civil really fits in with the company’s strategy of being a maritime mobility provider."
The European offshore wind sector is undoubtedly expanding – just look at the increasing size and capacity of turbines. The wind farms themselves are also getting bigger and moving farther from shore. To top all that, market needs are advancing past the construction and installation phase into operations and maintenance (O&M) activities. Having identified a sustainable business model that encompasses O&M, Bibby Marine Services needed a vessel that was up to the job. Looking for an alternative to a Platform Supply Vessel (PSV)-based solution, the company approached Damen for a bespoke design to give them the competitive edge.
"SEAKEEPING AND THE STABILITY OF THE VESSEL IN SEVERE SEA STATES ARE PARAMOUNT"

“We first contacted Damen just under a year ago – they have had this design for the SOV Operations Vessel (SOV), on the other hand, is a tailor-made solution to meet the very specific needs of operators in the offshore wind industry. Bibby Marine Services will be in prime position to offer the market the services it requires. Mr Blaikie concludes: “We believe in this market, we believe in the vessel and we believe in our own capabilities to satisfy the demands of the customer.”

Window of operations

The SOV’s design phase multiple parameters were tested at the MARIN research institute. The results from its deep water tank were excellent. When faced with 2.5-metre waves approaching from the side, the amount of roll is negligible, says Mr Blaikie. “Seakeeping capabilities and the stability of the vessel in severe sea states are of paramount importance. This is because the technicians who are employed to maintain the wind turbines are not generally maritime people. The level of comfort they experience can have direct implications on their productivity.”

The design takes into account the need to keep vertical accelerations and noise levels to an absolute minimum, while maintaining high levels of on board comfort. “All these factors have been designed into the vessel to ensure that they are able to do their job.”

Productivity is also linked to accessibility: if you are not able to transfer personnel, then no work will get done. It is therefore vital to maintain access – and valuable uptime – in severe sea states. Designed for central and southern North Sea conditions, the SOV has an 80% window of operability in her sights. “We want to push the limits as much as possible while ensuring that it is done safely. We believe that 80% is an achievable target. For safe transferal of technicians, the industry benchmark is 2.5 metre wave heights. However, the MARIN results indicate that we should be able to go up to 3 metres.”

The human factor

No matter how much time and energy go into the design and testing phases, there is always the ‘human factor’ to take into account. The design, however, endeavours to address the inherent unpredictability of human movements and behaviour. The work flow is designed to minimise manual handling and is divided into clean zones and dirty zones. “And most importantly, we have worked with Damen to incorporate a ‘no steps, no stairs’ policy into the design – because the technicians will be wearing immersion suits and PPE backpacks. They will be transporting equipment and spare parts onto the turbine platforms so you have to make it as safe and efficient as possible.”

Construction cooperation

Regarding the actual transfer of technical personnel to a turbine – this will occur by means of a motion compensated ‘Walk to Work’ gangway. “This is an integral part of what the vessel does. It’s good to see more companies coming into this market to provide both the owner of the vessel and the charterer with a greater choice of gangway system. That is something that has to be encouraged.”

Construction is well underway at Damen’s yard in Galati, Romania. With the keel laying ceremony taking place in March 2016, delivery is planned for mid-2017. Cooperation between shipper and shipbuilder will be close. “Our own project manager will be visiting the yard on a regular basis and our on-site team will be there for the whole construction process and the sea trials.”

With the growing O&M requirements of the offshore wind industry, Bibby Marine Services will be in prime position to offer the market the services it requires. Mr Blaikie concludes: “We believe in this market, we believe in the vessel and we believe in our own capabilities to satisfy the demands of the customer.”

There are several boxes to tick when looking for a vessel design that is suitable for O&M activities for the offshore wind sector. Seakeeping, fuel efficiency, comfortable accommodation and effective transfer of personnel – all of these aspects have to be at their absolute optimum. This will ensure productive and safe operations of a vessel designed to stay at sea for a number of weeks without returning to port.

There are a number of other designs on the market at the moment, some of these are conversions of PSVs or other vessels that have been adapted for this new role,” explains Bibby Marine Services CEO Stephen Blaikie. Damen’s Service Operations Vessel (SOV), on the other hand, has been designed from scratch. The result, he says, “is a vessel made to meet the very specific needs of operators in the offshore wind industry.

Quality remembered

“We first contacted Damen just under a year ago – they have had this design for the SOV for a couple of years now. We brought fresh ideas to the table and they were responsive in looking at them.” These discussions lead to the two companies signing a contract to build the first ever SOV – to be called Bibby WaveMaster I. On the subject of price, Mr Blaikie’s opinions are clear: “Damen is not the cheapest, but there’s the old saying that guiding philosophy we have felt that the relationship was there,” he says. “The two companies have a lot in common in terms of values. We want to push the limits as much as possible while ensuring that it is done safely.

However, the MARIN results indicate that we should be able to go up to 3 metres.”

The human factor

No matter how much time and energy go into the design and testing phases, there is always the ‘human factor’ to take into account. The design, however, endeavours to address the inherent unpredictability of human movements and behaviour. The work flow is designed to minimise manual handling and is divided into clean zones and dirty zones. “And most importantly, we have worked with Damen to incorporate a ‘no steps, no stairs’ policy into the design – because the technicians will be wearing immersion suits and PPE backpacks. They will be transporting equipment and spare parts onto the turbine platforms so you have to make it as safe and efficient as possible.”
WHAT WOULD HAPPEN IF YOU APPLIED MODERN SHIPBUILDING PROCESSES TO HIGH-END SUPERYACHTS? THE AMELS’ LIMITED EDITIONS APPROACH RAISED EYEBROWS WHEN IT WAS UNVEILED AT THE MONACO YACHT SHOW IN 2005. BUT A DECADE LATER, AMELS HAS NOW BEGUN ITS 30TH LIMITED EDITIONS YACHT – TOPPING THE SUCCESS STORY OF A ‘DISRUPTIVE INNOVATION’ THAT HAS REWRITTEN THE PLAYBOOK.

By 2005, Damen’s shipbuilding philosophy was already well proven in other maritime industries, but not in high-end yacht building. Yet Kommer Damen was convinced that superyacht owners would also see the benefit of proven technical platforms of the absolute highest quality, delivered faster while providing extensive customisation possibilities.

As Amels Managing Director Rob Luijendijk recalls, it was an entirely new approach for an industry dominated by fully custom built projects lasting 4 to 5 years. Instead, Amels invested in a comprehensive up-front engineering programme, benefitting from Damen’s Research and Innovation expertise in CFD analysis and tank testing, to create a high performance, stable and comfortable hull.

But for this new approach to work, Amels realised they also needed an absolutely stunning and timeless exterior design. “Legendary British designer Tim Heywood is the undisputed master behind many of the world’s most prestigious yachts over 100 metres,” Rob continues. “So we weren’t sure what he would think when we approached him to work on this unusual concept for the first Limited Editions, the 52-metre AMELS 171. Nobody had done anything like it before, and certainly not with a designer of Tim’s stature.”

The Limited Editions concept arrived and owners responded. The industry looked on in wonder as sale after sale confirmed how the Limited Editions approach was shaking up high-end yacht building. What’s more, with every build on time and on budget with impeccable quality, very satisfied owners returned to Amels for their next, larger yacht. As a result, the range has evolved into six Tim Heywood designs up to 83 metres.

“I think the Limited Editions range has had a very large impact on the industry. The idea of building with modern production processes has definitely spread more widely thought of as the highest level of yacht ownership because of Amels’ success, others took an inspiration step to do this.”

The Amels yard in Vlissingen has grown into the largest superyacht facility in the Netherlands and currently has 20 Limited Editions projects underway. Last year Amels began its 30th project, the first build of the all-new Amels 188 design.

“We’re immensely proud of the Limited Editions range,” Rob continues. “But we also know that we must continue breaking new ground as the market adapts. Our innovations must drive new solutions so that our clients can continue to enjoy the yachting experience at the very highest level.”

YACHTING | LIMITED EDITIONS

COOL, CALM AND... DISRUPTIVE

“Other shipyards have seen the success and that’s also changed the industry.”

British Superyacht Designer Tim Heywood

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Leading a new generation of engineering best practice

Amels was ahead of the game as the first Dutch yacht builder to meet IMO Tier III emission limits in early 2016. The new 57.70-metre AMELS 188 (pictured) currently under construction is also the first in the Limited Editions range with:

- Hybrid Power switchboard with peak shaving (battery bank)
- Generator set configuration with Amels Smart Power Management (SPM)
- Amels Heat Recovery system

The yacht also hosts many other sustainable features such as LED lighting and thoroughly calculated insulation.

“We looked at how our clients intend to operate their yacht in the real world to determine real efficiency gains,” says Amels Design Manager Hans Konings. “We’ve built up a very good picture of operating profiles through fleet voyage monitoring and used that data to model different technology solutions. Our approach demonstrates not only a reduced ecological footprint, but also potential operating cost savings of €100,000 or more a year. It’s faster return on investment and lower Total Cost of Ownership. The numbers stack up and that’s what our clients want to hear.”

www.amels-holland.com
We are proud to present you with a selection of the 180 vessels we delivered in 2015 – an all-time record. These ships comprise of newbuilds from Damen yards, deliveries from stock and vessels built under licence.
RECENT DELIVERIES

13 Nine Pontoon arriving in the Port of Rotterdam
14 Fast Crew Supplier 2610 SeaStep 2 & Seawrap 4
15 Slow Pilot 1612 EP II & J3
16 Stan Launch 804 Holy Boat
17 Fast Crew Supplier 5619 Opala
18 Stan Tug 2608 Jade
19 ASD Tug 2810 ICE Ural (left, 2015) & Kuzbass (right, 2012)
20 Crane Barge 4920 Sarah 10
21 Shoalbuster 2308 Al Marfa 1
22 Multi Cat 2712 Green Isle
Recent Deliveries

24 Platform Supply Vessel 3300 Mamola Defender
25 Stan Tanker 6312 Manning
26 Fast Crew Supplier 5009 SVS Cornwallis
27 Azimuth Tractor Drive 2909 Imvubu
28 ASD Tug 2411 Venus
29 Stan Tug 3011 Dian Kingdom
30 Offshore Support Vessel 8316 Besant

Working at Damen

Piotr Sabaturo
Sales Engineer, Damen Marine Components Gdansk
32 Years Old and Single

Thinks: to learn something new every day
Chooses: the AHTS 200 as his favourite ship

“My father is a retired coast guard, meaning that I came into contact with the shipping world from an early age. Yet it was never my dream to stand at the helm as a captain; I wanted to learn more about how the industry works. After majoring in a Marine Market course at the Technical University of Gdansk, I started an internship at the Damen yard in my hometown when I was 26. While studying, you learn a lot, but work itself is even more instructive – every day I learn something new. I never had any doubts when I was offered a permanent position at the yard to become a member of the Damen family.

The relationships with my colleagues is important – after all, we do spend a lot of time together in the workplace. I offer a helping hand to anyone who asks for it. As well as talking about work-related matters, we also have wide-ranging conversations – our political discussions can get especially lively. When one of our colleagues goes on holiday we sometimes pull a practical joke to surprise them on their return. For example, we once sowed grass in someone’s computer keyboard – they came back to a small lawn!

During the week I like to spend my evenings at home with a book or movie on the sofa – Stephen King’s books and Sergio Leone’s spaghetti westerns are my favourites. My weekends are busier: playing football in an amateur league or watching an exciting match in the stadium. Unfortunately, cooking is not in my blood. Therefore, if possible, I eat out to discover new world cuisines. That’s unless there is a dinner with family or friends in my agenda, with board games for dessert. Even then, my work plays a part: as a child I liked to play Battleships whereas now I love playing strategic board games like Settlers of Catan.”

Photo: Krzysztof Bureniusz

42 43
After delivering 180 vessels in 2015, we’re not sitting still! Currently we’re working on more than 100 ships around the world, either at our own yards or those of the customers’ choosing.
UNDER CONSTRUCTION

11 Service Operations Vessel (Walk to Work vessel)
12 Stan tug 1606
13 Multi Cat 2712
14 ASD Tug 5114
15 Fast Ferry 4212
16 Cutter Suction Dredger 500
17 Stan Pilot 1505 FRP
18 ASD Tug 2310
19 Stan Pontoon 8916
20 Interceptor 1503
21 Platform Supply Vessel 5000
Damen Shiprepair & Conversion undertakes over 1,500 projects every year. The scope of work varies greatly from short, scheduled maintenance work to complete conversions and covers all sectors of the maritime industry.
IN THE SHIPBUILDING BUSINESS SINCE 1948, AND PART OF DAMEN SHIPYARDS GROUP SINCE 1984, DAMEN MAASKANT SHIPYARDS STELLENDAM HAS ITS ROOTS IN THE FISHERIES INDUSTRY. THE YARD’S ACTIVITIES INCLUDE NEW BUILDING AND VESSEL REFITS IN ADDITION TO DEVELOPING SPECIALIST EQUIPMENT SUCH AS WINCHES.

While the yard delivered an array of new build designs last year, the common theme throughout was one of committed client focus. “The year’s highlights include 7-Stars,” says Damen Maaskant Shipyards Stellendam Director Frits van Dongen. “This was the final delivery of a five-vessel order of seismic research vessels for Rederij Groen – a company with which we have a very close and productive relationship.”

Design modifications
“The next contract involved the complete modification of a Stan Launch into a custom-made mooring launch. This was followed closely by the Merel-G, a Damen FCS 2610 adapted for offshore oil and gas standby capabilities – in fact, the vessel represents the first time that this has been done.”

Rounding off the year was a very special vessel indeed: the YE-118 Noordland. This cutting edge shellfish dredger is designed to harvest razor shells – a challenging procedure due to the animal’s buried position in the seabed and its extremely brittle shell. “The Noordland really is a good example of the tailor-made solutions we specialise in. You cannot build a vessel like that without having very close cooperation with the client as well as the fishing industry.”

Defining the team
Maaskant’s 2015 portfolio signifies the importance of an open mind when it comes to ship design: “We work together with our customers to make their ideas a reality. The solutions we deliver come from close cooperation between client and yard. In this process, listening is just as important as talking. There are many so-called innovations on the market these days, but the real proof of the pudding is in the eating.”

With Damen Maaskant in the spotlight, it’s difficult not to talk about the people-power present at the yard. “There’s great stability here,” states Mr Van Dongen. “A large proportion of the team has been here for more than 25 years, but they are not stuck in the mud by any means. There’s new guys coming in – some of whom are third generation employees. And we also offer training programmes and skills development. That’s the way we keep moving forward.”
A conversation with François Geurds, Michelin star chef with three businesses, and Michel Radjiman, known for being a gourmet as well as for selling boats for Damen Trading. These businesses are more similar than you might think.
I STILL HIRE STAFF MYSELF BECAUSE I HAVE TO SEE THE FIRE IN THEIR EYES

François Geurds

Age: 40, “but actually forever 30”
Is: Chef and owner of three restaurants in Rotterdam: FG (2*), FG Food Labs (1*) and FG Noodle Bar.
Favourite dish at home: Salads.
Is proud of: “My staff. Without them, I am nothing.”

Michel Radjiman

Age: 42
Is: Senior Sales Manager at Damen Trading in Gorinchem since 1997.
Favourite dish at home: Indonesian rice table.
Is proud of: “The sale of the Stena Discovery ferry in South America. That was a very special deal.”

A Michelin star chef and a keen domestic cook, how did you both learn to cook?

François Geurds: “My mother is from Aruba and my father is a Dutch farmer. Potatoes, vegetables, cows, horses – I learned to cook everything from A to Z. The decisive factor was my mother’s Aruban influence – she cooked all day.”

Michel Radjiman: “There was always something on the stove, I recognize that. Cooking played an important role in my upbringing. My mother is Dutch, but my father Javanese-Surinamese.”

François: “The South American food culture is so different. Eating is something that you enjoy with family and friends. Everyone around a big table.”

Michel: “Different indeed – those Dutch parties were everyone sits in a circle in the living room…”

François: “… eating potato salad.”

Michel: “At a party at our house, the first place you go is the kitchen. And the first question you hear is always: ‘Have you eaten?’ And then you’ll be given a plate of food.”

Isn’t there a big difference between home cooking and Michelin star cooking?

François: “The standards are slightly modified, but the foundation is, and always will be, a passion and love for food. The Dutch are beginning to understand it, very slowly.”

Michel: “You can really see the change, just look at all the ingredients available. Twenty years ago, you really had to look hard to find certain spices. Today, ginger and lemon grass are found in any supermarket. For my work I travel, of course, all over the world and I really like grabbing a bite of street food.”

François: “I had this idea in mind when I started my noodle bar. It’s not about the money, sometimes you just don’t want to eat food at Michelin star level. I find it important to show that you can cook at different levels. Or FG Food Labs, for example. Here you sit on stools at the bar. It’s not tapas, but high-level cooking. It was a dream to accomplish this – good food in a very relaxed atmosphere, but with zero compromise on quality. We earned a star within half a year!”

Your first restaurant, FG, with two Michelin stars, is just down the road from the Port of Rotterdam. Was that a conscious choice?

François: “The location is very pretty – right on the water! The port epitomises Rotterdam. What’s more, I love the no-nonsense mentality that you find in Rotterdam. They really make it happen.”

Michel: “Indeed, they tell it like it is! We also like to grab the bull by the horns. There are only three of us at Damen Trading, but the advantage is that we can gear up faster. I’m really proud of what we have achieved with our small team in this company.”

A kind of ‘Asterix amongst the Romans’?

François: “Ha ha, yes. Standing bravely in the midst of our 9,000 colleagues worldwide.”

Michel: “Wow! The team here is now 70 strong. I still do the hiring because I have to see the fire in their eyes. Education is less important than willpower.”

Michel: “Exactly. We sell an average of 15 to 20 boats per year, but we still want to reach the 20. I think that you have to be stubborn to be successful. Especially if someone says to me, ‘You’ll never sell that boat’. Then we move up a gear and keep going till we succeed.”

François: “Ha ha, that’s very recognisable. If someone says to me that I won’t achieve something, I’m going to do all I can to make it work.”

Do obstacles determine the degree of success?

François: “I just want to make the most beautiful things for my guests. I do things for pleasure – because I like to – not as a form of opposition.”

Michel: “The best thing is when customers leave with a smile. Last week I sold a ship, and I was standing there with the buyer, the seller and the notary and everyone was happy. That’s why I am in the business.”

François: “And yet, a comment from someone who is not satisfied can keep you awake at night more than all the compliments put together.”

Michel: “I sometimes tell a customer that they shouldn’t buy a certain vessel. It’s important to be open and honest, and sometimes to go against the grain, to keep a good relationship.”

François: “We were the first to use olive oil in a dessert. Everyone thought I was crazy, now you see it everywhere.”

Michel: “You are trying to distinguish yourself from the rest. Sometimes you can get strange looks – people thinking ‘what’s he up to now?’ That happens here too. We are a bit of the odd-one-out in the organisation, which of course focuses on building new vessels. Those second-hand boats – where’s the business in that? But I see it as a form of customer loyalty. I try to make customers aware of Damen and the services we provide, so they will think of us if they ever need a new ship. People often don’t make that connection.”

François: “It’s the same with table linen. We were the first Michelin star restaurant without tablecloths, but it’s all about efficiency. I had drawers built into the tables for the cutlery. That saves a lot of time, so you can pay more attention to your guests. Other restaurants copy us, but they don’t understand the essence of why they are doing it.”

How do you make sure that you stay the best in your field?

François: “Always keep looking for ways to make things better. In terms of taste but also about processes. You must dare to invest.”

Michel: “When the Internet came on the scene in the late 90s, we fully intended to be the first in the group to create a website. We got a lot of comments. Things like, ‘How are you going to sell a ship with that?’ But now it is valued that we did so much at the time. You must strive continually to improve yourself. And don’t forget the personal touch. I still go to see every single customer. Clambering onto their ship in my overalls, flashlight in hand, making my own notes. You need to know exactly what is going on.”

François: “For that very reason, all my restaurants have open kitchens – so you have direct contact. The guests come for you. It’s a people’s business.”

Michel: “Sure, customers come back because they have been treated well in the past. Then they say, ‘I could go to someone else, but you deserve it.”

François: “Also typical Rotterdam.”

Michel: “Whether it’s a guest who comes to eat at one of your restaurants or a B2B customer who buys a boat with us, that personal touch is definitely very important.”
Do we need foot ferries anymore? The Maas is now criss-crossed by jam-packed commuter motorways and high-speed railway bridges. Dredged and widened, the river is an industrial thoroughfare for inland waterway tankers and bulk cargo ships.

It was a different story just after World War 2. The two youngest sons of the Mulders family, farmers on the river bank opposite Cuijk, rowed their boat back and forth, day and night, through ice and storms. Like hundreds of other boatmen around this “land of rivers”, the brothers Jan and Gerrit Mulders connected their local community and became a vital post-war lifeline for workers rebuilding the Dutch economy.

Precursor to Damen Finance
Progress, particularly for Jan who had lost his right arm in the war, was a motorised foot ferry. The small local shipyard run by the Damen brothers stepped up, helping to finance the new build. In many ways, a first for Damen, explains Dina Damen, sister of Chairman Kommer Damen.

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Crossing the river
Day after day, one of the Mulders boatmen, usually Gerrit, steered the Zeldenrust back and forth over the Maas. For two decades, the ferry lived up to its name (meaning ‘seldom rest’), carrying townspeople, factory workers, farmers, priests, travellers, football teams, firemen – anybody who rang the large bell on the opposite bank to call for Mr Mulders. During floods, the Zeldenrust rescued families and even moved dairy cows. But in 1968, the Mulders stopped. Progress was building bridges for the age of the automobile.

The Zeldenrust disappeared, but it was not forgotten. In 2013 a group of volunteers started a project to restore the boat. Incredibly, the hull was not only the rusting hull stored at a depot, but also parts scattered across the country including the original engine and wheelhouse.

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Training tomorrow's shipbuilders
Damen invests in its future shipbuilders through a wide range of internships, training programmes and production apprenticeships. For example, for over 45 years, Damen Shipyards Gorinchem's apprentice school has taught generations of shipbuilders. In fact, under the supervision of Kees aan de Wiel (a former Damen apprentice himself), it was four young Damen apprentices who restored the hull of the Zeldenrust.

They did a fantastic job,” he reports. “It really became a labour of love for them, they were incredibly enthusiastic and driven. They spent six months working on the hull before it was handed back to the Cuijk volunteers for outfitting.”

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“In 1947, such a vessel was a considerable investment. The Mulder’s weren’t a big customer with a fleet of vessels, yet their foot ferry was an important contributor to the community and economy. The Zeldenrust was the first time Damen helped to finance construction in effect becoming a precursor to today’s Damen Finance. It was also the first foot ferry that Damen built.”

Restoring a community link
By this time, progress had seen the small Damen yard grow into a multinational group with clients all over the world. But Damen has remained a family-owned company that has never lost sight of its maritime heritage. Dina, and Kommer Damen’s wife Josien, manage a wide range of cultural and community initiatives in areas where the company is active.

“When we found the Zeldenrust project, there wasn’t a moment’s hesitation,” comments Dina Damen on the company’s role in the restoration project. “The Zeldenrust was not just Damen yard number 177. After delivery to the Mulders’, the foot ferry became much more than the sum of its steel and timber. It became a cherished community link. That’s something that Damen is very proud of and it still drives us today. We want to build the very best passenger and vehicle vessels to link communities today and tomorrow.”

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In October 2015, the Damen apprentices joined the festivities in Cuijk as the bell rang and the Zeldenrust crossed the river again after nearly half a century. A credit to all who worked to restore her, she is now chartered for special occasions and once again treasured by the community.

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The past year has been a successful one with a wide range of projects keeping our yards busy. This can be attributed to a range of factors, not least the high quality standards that we set ourselves and the investment that we have made in recruiting and training the best project managers. Our customers also benefit from the purchasing power that the group has thanks to its size and the emphasis that we place on safety, where we are determined to make the yards of DSC among the safest places to work anywhere in the industry. The DSC global sales network, providing our customers with local service wherever they may be, has also played an important role in supporting existing clients and winning new ones.

We continue to develop new ways of providing repair and maintenance services that minimise vessel downtime. One of these is our recently-established Harcour and Voyage Repairs department, which aims to deliver almost any repair, anytime, to wherever a vessel may be using mobile repair teams drawing on the resources of our yards and service hubs.

Environmental footprint
Our commitment to sustainability is also key to our working practices. Our customers expect us to minimise our environmental footprint as a matter of course, and we owe it to our local communities to be a good neighbour. This commitment to the environment extends to the products that we sell. We have developed our own ballast water treatment solutions for retrofits which we offer alongside other, third-party solutions. We are also active in fitting CO₂ scrubbers to larger vessels, with recent contracts including installations on board four large RoRo ferries.

Over 1,500 projects in 12 months
Over the last year, the 1,500 or so projects on which we have worked have included a wide range of vessels and projects. These include some of the largest ships in the world such as the 317-metre container vessel Emma Maersk and the Norwegian Epic, at 329-metres the sixth largest cruise ship. The FPSO Petrojarl 1 is also nearing completion of a 16-month EPC redeployment upgrade at Damen Shiprepair Rotterdam. Ferries, tugs, research vessels, crane ships, heavy-lift vessels, bulk carriers and a RNZN submarine support ship, the HMNZS Mercury, are just some of the other classes of vessel that passed through our 14 yards in 2015-16.

Ambitions
Our ambitions for the future include building on the experience that we have developed recently in the maintenance and repair of cruise ships. In addition to the Norwegian Epic project we have also carried out extensive works on four more cruise ships. This experience combined with our high quality and conveniently located shipyards, which have some of the largest dry docks in Europe, puts us in a strong position to present a strong case to cruise ship owners and operators. We also aim to win more work on LNG carriers. Damen Shiprepair Brest has particular expertise in this area and dry docks up to 420 by 80 metres. With LNG expected to have a bright future as a clean fuel, and with only a limited number of yards in Europe capable of undertaking such projects, we are optimistic regarding our prospects.

DSC is not all about servicing the largest vessels. We are also very active in the fishing boat sector and our smaller yards provide services to inland and coastal vessels, workboats, yachts and other ship types up to around 120 metres in length. They tend to have a more local focus, but by sharing in the purchasing power of the group they can offer very competitive pricing.

We look with confidence to the year ahead, and plan to continue expanding the group via acquisitions and partnerships in strategic locations around the world. In the meantime, we look forward to welcoming customers old and new, large and small, to our network of yards.
that are hallmarks of Damen Shiprepair and with clients from the earliest stages of design and engineering right through to procurement, installation and commissioning. With yards in convenient locations and a highly experienced workforce we guarantee excellent quality, fast turnaround times and competitive pricing.

REFIT
At Damen we recognise that over their lifetimes vessels need to refreshed and updated to meet the expectations of their end customers. We have unrivaled experience in refits for vessels ranging from cruise ships and superyachts to FPSOs, dredgers and offshore support vessels. We provide a fully integrated service, working closely with the group’s growing network of service hubs, giving customers access to personnel and equipment embedded in locations across five continents.

REPAIR
With 13 dedicated repair yards in key locations across Europe, the Middle East, Africa and Asia, the quality and experience that are hallmarks of Damen Shiprepair and Conversion are never far away. Our short lead times, customer-focused approach and project management skills ensure minimum downtime with vessels on their way as quickly as possible. Our harbour and voyage repair service can reduce that downtime still further, or eliminate it altogether. Our facilities are comprehensively equipped and we maintain relationships with specialist suppliers of all types that ensures that we can offer a one-stop-shop to vessels of every class. With dry docks up to 420 metres in length, we can take even the largest vessels.

MAINTENANCE
Regular maintenance is vital to the reliable operation of every vessel, as well as to ensure regulatory compliance. Damen Shiprepair works with clients to fill their maintenance needs in the way that suits them best, whether the demand is for one-off projects or lifetime service packages that take complete responsibility for all the maintenance requirements. Our experience allows us to undertake the most challenging assignments in the shortest time possible, while achieving the highest standards of safety and quality. With Damen as their maintenance partner, owners can be sure that their vessels will operate at maximum efficiency and give many years of dependable service.

CONVERSION
With our highly skilled project teams, extensive engineering and design expertise, and decades of experience in both newbuilds and refits, Damen is the ideal partner for even the most complex conversions. Over the years we have successfully completed vessel lengthenings, converted ships into pipe and cable layers, and transformed drilling rigs into offshore accommodation platforms. With first-class facilities and some of the biggest dry docks in Europe we are ready to accept the largest and most challenging projects. Safety, quality, craftsmanship and a commitment to transparency and effective communications between all the partners involved lies at the core of every project we undertake.

SERVICE HUBS
Now in its second year of operation, the Damen Service Hub network is on its way to achieving its objective of enhancing customer service in regions where there are concentrations of Damen vessels, but no easily accessible Damen shipyard. The hubs allow owners and operators to obtain local support and services quickly and easily, ensuring minimal downtime. Typical activities include warranty support, repairs and the delivery of parts. Eleven hubs across five continents are now either up and running or in the process of setting up. Each consists of a dedicated team of Damen personnel that has access to the full resources of Damen Shiprepair & Conversion to complete the required services, regardless of the scope of work.

WWW.DAMENSHIPREPAIR.COM

WHEN THE GOING GETS TOUGH, CALL DAMEN

In October 2015 Damen Shiprepair & Conversion (DSC) set up a new company to focus on repairs on vessels while they are in harbour or at sea. This extends the Damen mission of being ready to support their customers wherever they may be.

The result is additional choices available to owners and operators when it comes to when and where they wish to undertake their repairs. The company has full access to the human and capital resources of DSC and offers the full range of services available in the group’s yards, including our new Glass Reinforced Epoxy piping product. Third-party expertise can also be brought on board for particularly specialized operations.

Our highly experienced repair teams can access vessels anywhere in the world and operate a 24/7 service. In addition to the resources available at DSC’s 15 repair yards, the company works closely with the group’s growing network of service hubs, giving customers access to personnel and equipment embedded in locations across five continents.

Clients can draw on additional resources in and around the port of Rotterdam, where Damen Harbour & Voyage Repair operates a small fleet of dedicated vessels including two workboats, a tug and a number of pontoons. This allows even faster response and turnaround times.

The service is available to all, whatever the origins of their vessels, and the new company is expanding rapidly as owners and operators appreciate the advantages of being able to access Damen expertise, experience and quality while their vessels are in harbour or underway.

The convenience and efficiency that comes from reducing or even eliminating downtime is highly valued, as is the ability to achieve that while taking advantage of the skills and resources of one of the most experienced ship repair groups in the industry.
Damen Trading is the department within Damen Marine Services responsible for buying and selling second-hand vessels. Offering realistic trade-in opportunities to clients looking to purchase a new Damen vessel is an important part of their work. When selling a vessel, Damen Trading has global exposure. In addition to committed client focus, the team is also backed up by Damen’s own sales network. “We let the sales teams know what vessels we have on our books,” says Sales Manager Michel Radjiman. “So clients have access to market coverage that is far greater than any other broker.”

When buying a second-hand vessel, customers have access to the other services that Damen offers. “Modifications and conversions – if you need extra equipment, like cranes or additional towing gear, installed on your second-hand vessel, then we can take care of that too.” With over 500 vessels passing through their hands since 1986, the team has built up valuable experience. Unlike many brokers, Damen Trading also handles vessel transport and delivery. “Everything that the organisation provides with new vessels, we can offer with second hand boats. It’s like one big puzzle that falls into place.”

MEREDITH DIJKSTRA
PRODUCT PORTFOLIO MANAGER, DAMEN SHIPYARDS
GORINCHEN, 35 YEARS OLD, MARRIED TO JAN AND MOTHER OF TWAN AND PIPPIN (8)

THinks: the feeling of ‘we’ at Damen is unique
Chooses: any vessel with a Sea Axe design as her favourite

“I’m crazy about boats – and that’s because of my grandfather. He took me to see the Port of Rotterdam a lot when I was a child. We were often lucky enough to go on board and have a look around – the fact that we were a curious little girl and a friendly old man probably made it easier. Through my eyes, all ships were large and impressive. And that is a feeling that never went away – I decided to study naval architecture and started working for Damen more than ten years ago.

‘Far too big’. That was my first thought when I started at the company, although at that time there were only around 600 of us. In the meantime, Damen has grown even bigger and I have completely reversed my opinion. It’s the feeling of ‘we’ that makes working here so special. It is like a family. As Product Portfolio Manager I am responsible for the standard ship types below 24 metres LPP. This comprises the design, standardisation and detailing, but not for the Yard Numbers themselves – for which the Project Managers are responsible. However, when a new ship type in my portfolio is developed, I am very much involved in the ‘first of series’ Yard Number.

It is a dynamic position as I am involved in the entire process as well as working together with many different people. It’s a great feeling when the whole team embarks on a new project that culminates months later with the launch of a new ship type and a happy customer.

My home life at weekends and during the holidays is just like my job; energetic and adventurous. I am a mother of two boys. They are identical twins who love sports and getting out and about – skiing or camping are their favourites. Although we regularly go to the theatre as well – it’s wonderful to see how children can get so involved with the story. I also love baking cakes and cooking with all the family – our door is always open to family and friends. Approachability and teamwork play a huge role, both at home and at work.”
The SeaXplorer range quickly took the world by storm following the introduction at the Monaco Yacht Show in September 2015. Hundreds of global publications picked up the story, from CNN to Forbes to Chinese dailies.

“Ultra-wealthy individuals increasingly seek once-in-a-lifetime experiences in spectacular and remote destinations such as Antarctica, Papua New Guinea and the Amazon,” Mark says. “Often these clients are new to high-end yachting and looking for something different to the traditional Mediterranean and Caribbean destinations.”

However, real expeditions require a level of capability that you just can’t find in traditional superyachts and explorer designs. Owners and charter clients have typically been forced to compromise with conversions of old commercial workboats and retired navy ships.

“Over the last few years we’ve had a number of yachting clients approaching us with ideas to develop existing Damen platforms into truly capable expedition yachts. We quickly realised that it meant making too many compromises. So we took a more entrepreneurial approach. That’s when we began detailed design and naval architecture for three purpose-built expedition yachts of 65, 90 and 100 metres.”

A true expedition vessel with global capabilities has to be equally effective in ice conditions, tropical conditions, a rough seaway and sometimes even in severe weather. To develop this crossover of ruggedised professional capability with high-end yachting comfort and quality, Damen went right back to the drawing board.

The unique synergy of Damen’s professional shipbuilding knowhow with Amels’ intimate understanding of the high-end yachting experience provided an immediate advantage.

“What we didn’t have at Damen was the operational knowhow that comes from organising expeditions. So we approached the expert guides at Eyos Expeditions, who are really at the forefront of the growing private superyacht expedition market.”

Eyos Expeditions provided invaluable operational design input, based on decades of experience organising private superyacht expeditions. Completing the partnership, Azure Yacht Design and Naval Architecture created the seamless, instantly recognisable SeaXplorer design.

With this unique partnership in place, the Damen SeaXplorer is perfectly positioned to provide clients with the very best expedition yachting solutions. Based in Gorinchem, about 50 design, engineering and operations experts are working on the SeaXplorer and Yacht Support product ranges, while the Amels team handles sales and marketing.
When Saam Smit Towage Panama Inc. was considering purchasing another tug to serve its clients in the post-Panamax era, it chose the new Damen ASD Tug 2913. A powerful vessel was essential given the new challenges in the Atlantic waters.

Saam Smit Towage is a joint venture between Royal Boskalis Westminster N.V. from the Netherlands (Boskalis) and Sociedad Matriz Saam S.A. from Chile (Saam), currently operating in four countries, Mexico, Panama, Brazil and Canada. It was established in 2014, after Boskalis acquired Saam in 2010.

Saam Smit Towage is no stranger to Damen vessels and this is particularly the case in Panama. In fact, it is believed to be unique in the world because all of its 11-strong fleet are Damen vessels. The company has a presence in ports on both the Pacific and Atlantic sides of the Panama Canal.

“WE NEED A TUG WITH MORE POWER FOR THE NEO-PANAMAX SHIPS”

The tug was bought directly from Damen stock and is already equipped for LNG applications and has FF/1. Fast delivery times were another reason Saam Smit Towage chose a Damen vessel.

“Damen facilitates a very quick delivery but there was also very strong demand for this new type of tug. I think when we originally started mulling over the idea there were eight 80-tonne tugs being prepared for stock but only one available when we actually ordered.”

Walter van der Dussen, General Manager, Saam Smit Towage Panama Inc., explains that the new Damen ASD 2913 Tug, which arrives in April, is destined to serve the Atlantic operation.

“We need a tug on the Atlantic with more power for the neo-panamax ships entering the breakwaters at Manzanillo International Terminal and Colon Container Terminal. These vessels need to get through them at a certain speed and there are strong currents in the area, so the larger and more powerful Damen ASD Tug 2913 is essentially being used as a brake, to take the speed off as vessels enter the harbour.”

“THERE ARE SEVERAL JETTIES VERY CLOSE TOGETHER, THEREFORE A MORE COMPACT TUG IS NECESSARY.”

The tug arrives an existing vessel will move to Saam Smit Towage Mexico to replace an older conventional tug.

There are always opportunities for growth, although we realise the maritime industry is dealing with overcapacity and diminishing freight rates. We do have a strong position in the markets we are in. But there is also increasing pressure from competition. So we need to continue to offer a strong and reliable service to our customers in order to counter that pressure and be the preferred towage operator.”

The Damen ASD Tug 2913 is the most compact tug within its class. This makes it much easier on the technical management side, as well as for the crews to train and operate.

“WE NEED A STRONG AND RELIABLE SERVICE TO BE THE PREFERRED TOWAGE OPERATOR.”

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“We have a lot of respect for chairman Mr Kommer Damen and the quality of his vessels. Mr Damen visited Panama and was walking around our tugs with his notebook, asking the captains what the company can do better and reporting back with their feedback. This attention to detail is very important to Damen and I like to think we are the same!”

Smit Harbour Towage started to standardise in Panama in early 2000 when it deployed Damen vessels. Initially, the company was awarded concessions in Cristobal and the Port of Balboa. Overall about 25 crew are employed in Panama.

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INNOVATION | COMPOSITES

COMPOSITE VESSELS

Are fibre reinforced polymers the holy grail of fast vessel construction?

“If the game is high speed, then the smaller the boat, the more difficult it is to keep it light,” states Jaap Gelling, Damen’s Product Director of High Speed Craft. “As the design gets smaller and smaller – 15 metres for example – steel is unsuitable because for practical reasons it is not possible to keep the ship light. The shell plating simply needs a minimum thickness, to weld for example, making the ship heavier than would be necessary for strength only.”

One option is to build with aluminium. “You can build fine vessels with aluminium. It has the strength and the stiffness,” he explains. “But for really high speed there is only one enemy and that is weight. So the construction material should be light. However if you want to build even lighter, then aluminium is just not the right material any more. For example, building a vessel as fast as the Damen Interceptor 1102 is simply not possible with aluminium.”

Furthermore, it is a very sensitive material: corrosion of all kinds are a hazard for an aluminium boat in sea water. “If you leave your steel tools in the bottom of an aluminium boat, and if there is sea water around, then the steel will start eating away at the hull of your boat.”

Lighter = Faster

The solution to the weight issue is to build with composite materials. “Composites are fibre reinforced polymers – combinations of glass fibres, resins and foams. With this material you can build a boat that is stronger and lighter than its aluminium counterpart. And composite materials do not corrode.”

The critical point, however, is the lightness. In the realm of the high speed craft, where weight-to-strength ratios are sacred, composite vessels are simply faster. “It’s all about the speed. Look at the Interceptor 1102. It can do more than 55 knots.”

One idea, three vessels

For other vessel designs other factors play a role. “Then it’s more about making the vessel stronger and less sensitive for maintenance. We also build lifeboats, small Fast Crew Suppliers, Pilot and Patrol vessels from composites.” The last three designs show the adaptability of composite materials. “These vessels have the same hull, same engine and same water-jet, but they differ significantly in terms of superstructure and engine ratings,” continues Mr Gelling.

“A Fast Crew Supplier needs 100% engine capacity for most of the time, while a Patrol Vessel sails at less than of half engine capacity more than 80% of the time.”

Not your typical shipyard

When building for speed, different shipbuilding materials are suited for different vessel dimensions. “With composites, the bigger you build, the less weight advantage you have. If you go above 25 metres then aluminium is the logical choice. And above 40 metres, steel is the best.”

A world away from the more traditional steel-centric shipyards, composite vessel production procedures are more similar to a laboratory than a shipyard, concludes Mr Gelling. “The chemical process determines the quality of construction so with our own yard and our people we have control over quality and procedures.”

The Antalya yard also works towards optimising composite structures and developing production techniques with its own engineering team. “To emphasise the benefits of composite materials, we have implemented a resin infusion process for the majority of our composite production,” says Mr Pas. “This results in less weight and consistent soundness of the finished product.” And, when the name of the game is speed, it is this consistent high quality that wins time and time again.

“A KEY ADVANTAGE OF COMPOSITE MATERIALS IS THAT THEY DO NOT CORRODE“
ECONOMIC INCENTIVES
HOW DAMEN’S FINANCIAL SERVICES SMOOTH THE WAY TO VESSEL OWNERSHIP

Opening communications with Damen’s customer finance team means that there is just one point of contact, however. “We can provide all the financial services required,” begins Damen Finance Manager Stephen Maduro.

“We strive to give clients an indicative quote in terms of pricing and conditions within two working days. We have standardised packages which we use in the majority of cases – the advantage of this is that all parties are familiar with what we can deliver. Not only in the quality of our vessels but also in the quality of our financing.”

Peace of mind
“The start of any project begins with a build contract,” continues Mr Maduro. “Then, in most situations, we insure the contract with the Dutch export credit agency Atradius, an insurer which supports exports on behalf of the Dutch Ministry of Finance.” The funding for this financial set-up comes from an investor, be that a bank or other financial organisation. More often than not, financing the construction of a vessel with Damen is more attractive than when financed directly via a bank. “This has to do with the export credit insurance and because, at the end of the day, we don’t want to make money on financing services. Our incentives lie in the desire to see a client’s vessel in the water.”

Damen is not unique in offering financial support to its customers. What is unprecedented, though, is the sheer scope and knowledge of the sales organisation that has been providing services to clients for over 40 years says Regional Director Spain Reinier van Herel: “It is this experience that allows us to say to customers: ‘You do what you do best – whether that’s mooring vessels, transporting goods from A to B or operating in remote areas – and we’ll take care of the rest’. Looking at it this way, we do not sell boats. We are assisting customers achieve their goals.”

How important was it that Damen can offer both shipbuilding and finance experience?
We have a long standing relationship with Damen on the ship-building front. Now we have added another facet to that relationship by utilising their financing option. This added value from Damen was helpful to P&O Repasa as it provided a single window for vessel procurement.

Does working with Damen’s Customer Finance team streamline the financing process?
The documentation and direct access to their Customer Finance team, in particular Stephen Maduro, worked well for us in terms of meeting the timelines and sorting out issues. The turnaround from their team was quick.

How does Damen’s finance support fit in with P&O Repasa’s plans for future growth?
Damen offers attractive interest rates which are comparable to bank finance. The company offers good vessel financing options at market rates. This supports our overall strategy to provide superior customer service at competitive prices.

How close was your relationship with the Damen Customer Finance team?
The Damen Customer Finance Team was professional in their approach. They supported our internal finance team throughout the vessel acquisition, were in constant communications with their sales team and were proactive and solution-oriented, which streamlined the acquisition process.

DAMEN CUSTOMER FINANCE AND P&O REPASA

From the customer’s viewpoint
In Q4 2015, P&O Repasa took delivery of a Fast Supply Vessel named Red Eagle. P&O Repasa uses Red Eagle to transport personnel, fuel, water and equipment to oil platforms off the coast of Equatorial Guinea.

When investigating options to finance the purchase, and to facilitate expansion in the West African region, the company found what it was looking for by talking to Damen’s Customer Finance team. Here, P&O Maritime Group Finance Director Prasad Narayan answers a few questions about the financial aspect of the contract.

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Did you know?
That Damen’s Customer Finance facilitated the financing over 60 vessels in 2015. Supporting clients to the tune of over € 500 million.
The benefits of temporary vessel ownership
Damen Marine Services started life back in 1974 providing charters to customers with an immediate need for a workboat. With their ‘frontrunner’, clients could get on with the job, not wasting a single day’s work. Since then, horizons have broadened in terms of vessels owned, markets served and charter options offered.

Today, Damen Marine Services complements the sales department by introducing clients to the company’s portfolio. Highlighting the advantages of temporary vessel ownership is Damen Marine Services Managing Director Rik van Prooijen.

What maritime sectors are you involved in? From day one, we’ve been involved in the dredging industry and, as the time went on, we expanded into oil and gas. We are always on the lookout for new markets – you can see this dynamism in our fleet.

How is the fleet structured? Our backbone is workboats – Shoalbusters, Multi Cats, Tugs and Fast Crew Suppliers. We offer vessels with operational support, bareboat vessels and vessels under a lease purchase scheme. On top of this, we also have two 60-metre Stan Pontoons, which we rent out as auxiliary equipment.

Has the ‘frontrunner’ arrangement changed since the early days? As well as offering clients a ‘frontrunner’ vessel, while their new build is under construction, this concept is ideal for other purposes too.

Our FCS 2610 is a good example of this. We offer it without crew, on a bareboat basis, to operators whose own vessels are undergoing maintenance or repairs.

How does a lease purchase agreement come into play? Together with Damen’s customer finance department, we can help out with the financing to help grow a customer’s business. In this situation we have very little involvement in day-to-day operations – the client knows how to do that best. At the end of the lease period the customer is the owner of the vessel.

And what about the time charters? This is a total package that includes crew, service and maintenance – the time scale for which could be anything between one day and 18 months. We have reduced this side of the business over the last few years – after all, we don’t want to become a competitor to our own customers. We now have a small fleet with experienced crews – a structure that also helps clients break into new markets.

When does a lease purchase agreement come into play? Yes, in the past we have acted as a launching customer for new designs. The Shoalbuster, for example, is just one of these success stories. Being a launching customer has its advantages – with our operational knowledge we can look at areas for improvement on a new design. We are also involved in testing new technologies.

Can you tell us more about your Research & Development activities? We facilitate a company-wide research programme on remote monitoring: this will optimise the after-sales care that Damen Services provides. And we also collect information on operational profiles. For example, if you know how a vessel behaves in practice, you can optimise the hull shape, power configuration – the whole design. This fits perfectly into our long term goals of working together with our customers to create more efficient and advanced vessels.

The DMS Fleet
Available for chartering or sale

“We are always on the lookout for new markets – you can see this dynamism in our fleet.”
Subsea services provider DeepOcean awarded the long-term contract to the Maersk Connector’s owner and operator Maersk Supply Service. The vessel was designed and engineered by Damen Shipyards Gorinchem and built at Damen Shipyards Galati. Based on Damen’s DOC 8500 platform, 138 metres in length with a beam of 27.5 metres, the design of the vessel has been customised and meets the challenges of reducing offshore renewables costs.

“We’ve already been awarded three UK and North Sea contracts for Maersk Connector, so we’ve very satisfied," reported DeepOcean Commercial Director Pierre Boyde at the handover. “The working relationship has been productive and Damen has delivered a state-of-the-art cable installation vessel. Maersk Connector is fine-tuned around DeepOcean’s experience of installing and trenching more than 1,000 kilometres of power cable and backed up with Maersk Supply Service’s high pedigree of superior marine operations.”

The vessel is the latest addition to the 50-plus strong Maersk offshore support vessel fleet. Søren Karas, Chief Commercial Officer of Maersk Supply Service, praised the constructive working relationship between the three parties.

“Maersk Connector is the result of a successful tri-party cooperation between a quality yard, an experienced subsea service provider and a leading vessel owner and marine operator. Throughout the process there was close communication between all parties, focused on finding solutions. Maersk Supply Service is very happy with the outcome resulting from this cooperation; the vessel has been delivered on time, on budget and the quality is good.”

We are excited to embark on this long term cooperation with DeepOcean supporting their subsea operations.”

So far the vessel has been contracted to undertake marine works for three DeepOcean contracts: the Walney Extension Project, the Nemo Link® interconnector and the Bligh Bank Phase II Offshore Wind Farm. In combination with new survey, trenching and installation equipment, much of which has been awarded to UK manufacturers, Maersk Connector enables DeepOcean to deliver more efficient, cost-effective and safer cable installation.

Contributing to production efficiency, the vessel is capable of taking the ground with its seven point mooring system. This eliminates the need for a separate shallow water cable lay vessel and minimises the number of cable joints required. The bespoke 7,000-tonne carousel system accommodates bundled installation of high specification cables with no requirement to coil the cables.

“THE DOC 8500 HAS BEEN DEVELOPED AS A FLEXIBLE PLATFORM FOR BOTH TRANSPORT AND INSTALLATION WORK OFFSHORE”

Norwegian Waterfalls and Belgian Seabreeze

New subsea cable connections between North Sea countries, such as the Nemo Link® interconnector between the UK and Belgium, are contributing to Europe’s interconnected power system. Once limited by national borders, the new grid allows countries to handle surpluses and shortfalls, with a greater mix of renewables and less reliance on fossil fuel imports. With these cable connections, we have more energy security and we’re moving towards an efficient, integrated European electricity market.
In January of last year Damen Shipyards Group and Swedish defence and security company Saab announced their cooperation in exploring future opportunities in the international submarine market. The companies have signed an exclusive agreement to work together in pursuit of the potential Walrus-class submarine replacement programme for the Netherlands.

What is the added value of this Dutch-Swedish alliance?

"Saab Kockums and Sweden are looking for a limited number of strategic partners in the submarine area", explains Gunnar Wieslander, President of Saab Kockums. "The Netherlands has an excellent submarine service and Damen Schelde Naval Shipbuilding is the preeminent naval shipbuilder in the Netherlands. Saab Kockums and Damen have complementary capabilities and we are looking forward to a long-lasting partnership."

"Our aim is the return of Damen to the submarine market", adds Hein van Ameijden, managing director of Damen Schelde Naval Shipbuilding (DSNS). "Although, even today, a surprisingly big submarine industrial base is present in Holland, it was clear to us we need a strong international partner in order to do the complete engineering package for a new submarine within a reasonable timeframe. From day one, Saab Kockums was our partner of choice. The synergies between the two of us were so obvious that it took us little time to come to an agreement on our partnership. Our near-term goal is to win the Walrus-class replacement programme, but the ultimate objective is to become partners in the global submarine market. What Damen brings to the table, apart from our specifically Dutch submarine know-how, is a worldwide presence and an unsurpassed experience in shipbuilding at third-party shipyards."

Does this mean no other Dutch partners will be involved in the development of the new submarines?

Van Ameijden: “Certainly not. On the contrary! The big success of the current Walrus-class submarines is largely due to the involvement of the Dutch ‘triple helix’ (Royal Netherlands Navy, industry and maritime knowledge institutes) during the design and building process. This knowledge base is still very active and, for example, nowadays delivers cutting edge solutions in the current midlife modernisation and refit programme of the Walrus-class. This is conducted by an array of mainly Dutch companies. In the Walrus replacement programme, we want to maximise involvement of Dutch industry in order to strengthen our national maritime sector, which can only lead to more joint successes in the future ahead. Moreover it will increase employment of highly skilled people in the Netherlands, solidify the development of strategic know-how and, last but not least, will be a big boost for the Dutch economy.”

Can you already describe the characteristics of the perfect diesel-electric submarine, that’s due to set sail for the Royal Netherlands Navy in 2025?

"First of all, these are very early days", states Van Ameijden. "We will have to await the official first set of requirements by the Ministry of Defence." Wieslander: "In general, the perfect submarine is designed to covertly collect intelligence and if required fight and win. It is undetectable and future proof, while affordable. We will combine modular and flexible design with our Stirling air independent propulsion systems, the unique Flexible Payload Lock, and our skills in signature management and life cycle management. This will make the new submarines state-of-the-art and easily adaptable to changing technologies and military requirements. Our two navies could benefit from this cooperation in many aspects, not only during the building of the boats, but also during the whole life cycle.” "I expect platform automation, endurance, overall performance and cost to be aspects that will set it apart from all other conventional submarines on the market", concludes Van Ameijden.
Looking back at the long history of Damen Marine Components (DMC), which celebrated its 150th anniversary in 2015, DMC Managing Director Steef Staal describes decades of ‘adventures and successes’, thanks to Damen’s willingness to invest in innovative products and cutting edge equipment.

And even though the plunge in oil prices has led to a slowdown in offshore activity Steef is confident DMC will see its further expansion plans realised. “There is no doubt these extremely low oil prices are having an impact on our regular clients, they are suffering and this is having a knock-on effect on our turnover.

“But we have a good team, able to develop new products and find new clients to enable us to remain profitable. We will certainly keep investing in new production methods for nozzles, winches and rudders allowing us to stay lean and mean.”

DMC has grown from a small shipyard established in Gorinchem in the Netherlands in 1865 to become the largest nozzle builder in the world today. Steef has been at the helm of the operation for a decade and been with the Damen Shipyards for some 40 years.

When he considers the achievements that have made him proud he says undoubtedly the fact that the company managed to set up a second plant in China last year, and that it has upgraded the whole facility in Gorinchem, as well as opening a second production site in Poland, are the highlights. DMC has grown from a small shipyard established in Gorinchem in the Netherlands in 1865 to become the largest nozzle builder in the world today. Steef has been at the helm of the operation for a decade and been with the Damen Shipyards for some 40 years.

Steef stresses: “Additionally, we have increased turnover substantially, nearly six-fold.” Two recent milestones for the company were the 150th anniversary and then opening a second, large production facility in China. In November, Damen Marine Components (DMC) designs and develops several types of winches to optimise vessel performance. Recently, DMC has developed a highly sophisticated towing winch in cooperation with Damen Shipyards Maaskant and Damen Shipyards Gorinchem. The company also builds hydraulically driven Tender Recovery Winches, Damen ASD Tugs and several types of winches are equipped with these winches. Several new types are also being developed, including towing, anchor and mooring winches for dredgers, tugs and other vessels.

NIRON STAAL
Niron Staal is a specialised steel construction and machining company, located in the port of Amsterdam thereby guaranteeing deepwater access. The company carries out a wide range of activities from large-scale, heavy construction work to smaller scale, precision machining at extremely low tolerances. Niron Staal has a dedicated facility for welding high tensile steel materials and has vast experience in crafting structures and tools for offshore applications and cranes components using S690 grade steel. Niron Staal is ISO 9001:2008 certified and works according to EN 3834.

DAMEN SCHELDE GEARS
Damen Schelde Gears (DDG) has more than 90 years’ experience in the design and production of main propulsion gears for naval and merchant marine applications. More than 335 vessels have been equipped with propulsion gears designed and engineered by the company. DDG specialises in the provision of support, consultancy and problem solving for all the technical and commercial aspects of gears and other rotating equipment. The company supplies spare parts, ranging from simple instrumentation components to complete gear wheels, bearing sets and shafts.

DAMEN WINCH TECHNOLOGY
Damen Marine Components (DMC) designs and develops several types of winches to optimise vessel performance. Recently, DMC has developed a highly sophisticated towing winch in cooperation with Damen Shipyards Maaskant and Damen Shipyards Gorinchem. The company also builds hydraulically driven Tender Recovery Winches. Damen ASD Tugs and several types of winches are equipped with these winches. Several new types are also being developed, including towing, anchor and mooring winches for dredgers, tugs and other vessels.

DAMEN SCHELDE MARINE SERVICES
Damen Schelde Marine Services (DSMS) specialises in the manufacture and supply of diesel engine parts, primarily for the merchant marine sector. A wide variety of spares are directly available from stock for worldwide delivery within 24 hours. Over the years, the company has developed a sophisticated software program, which enables DSMS to quote 24/7 through its network of offices and agencies. DSMS has documented 9,000 vessels in its comprehensive ERP system, together with their engine types, pneumatic systems, turbo chargers, compressors and purifiers.

THE DAMEN ANCHOR & CHAIN FACTORY
The Damen Anchor & Chain Factory has been recognised in the market as representing quality and consistency in the manufacture of anchors, anchor chains and accessories. As well as anchors and chains, the Damen Anchor & Chain Factory has the capability to produce fully certified, custom-built towing chains. Advanced manufacturing facilities and a highly qualified workforce enable the company to carry out repairs and modifications safely and efficiently.
Jan Raes (1959) has been managing director of the Royal Concertgebouw Orchestra since 2008. He studied at the University of Ghent and the Antwerp Conservatory, where he earned a Soloist degree in flute. After his musical career, which included solo performances, chamber music concerts and recordings, he held posts as artistic director of the Antwerp Conservatory, intendant of the Royal Flemish Philharmonic, managing director of the Rotterdam Philharmonic Orchestra and the Gergiev Festival. In his spare time Jan Raes likes to play tennis and walk in the mountains. He is also co-author of the book ‘Iconic: What Businesses can learn from the Concertgebouw Orchestra, a Top Restaurant and a Rugby Team’. On 15 April 2014, the hereditary title of Baron was conferred on him.

"ART MUST BE URGENT"

Motto of Jan Raes, director of the Royal Concertgebouw Orchestra

When talking to Jan Raes, you can be anything but not captured by his enthusiastic stories about the Orchestra and its long history. Here sits a passionate man with a heart for music, culture and people. Even after a two-hour interview anecdotes keep on flowing from his mouth.

What can you tell us about the history of the Royal Concertgebouw Orchestra?"When in the 19th century German composer Johannes Brahms visited the Netherlands as a guest conductor, he remarked that the food was quite good, but that the orchestras were quite weak. This was reason enough to build a new concert hall in Amsterdam, for which the funds were raised by citizens of Amsterdam. In 1888 it became the home of the Concertgebouw Orchestra. Building and orchestra formed one entity. This lasted up to 1953, when orchestra and hall became two separate entities, in order for the hall to be put to more intensive use. During the orchestra’s first concert on 3 November 1888 it played one of Brahms’ compositions."

What made the orchestra so international right from the start?"Willem Mengelberg, who became chief conductor in 1895, was befriended by many well-known composers, such as Gustav Mahler, Richard Strauss and Igor Stravinsky. As early as 1895 the orchestra made its first tour abroad, to Brussels."

What are the specific factors that make for the success of the orchestra even after so many years?"Well, in the first place there is of course the Concertgebouw building itself with its unique acoustics. The shoebox style model of the Main Hall with its decorations and the organ make for a very diversified movement of sound, which is incomparable. Other concert halls that have this particular model and are famous for their acoustics are the Musikverein in Vienna and the Symphony Hall in Boston. Different successful models are the Philharmonic Hall in Berlin and Suntory Hall in Tokyo. At the moment some very good music halls are being constructed all over Asia."

"In the second place the orchestra is composed of a selection of the best international musicians, who have been carefully selected."

"Third, the Royal Concertgebouw Orchestra has a tradition of excellent chief conductors staying in position for many years. Mengelberg even stayed for fifty years. Up to now there have only been six chief conductors in the orchestra’s history. This has allowed for the orchestra to develop its specific and unique sound."

This year the seventh conductor will take up position, Italian maestro Daniele Gatti, who has an eye for both tradition and innovation. The chief conductors are selected by members of the orchestra, after having worked with them as guest conductors for several years. Gatti for example made his debut with the orchestra in 2004."
Furthermore, the orchestra has an acclaimed tradition of playing, amongst others, Mahler and Bruckner. The foundation for this tradition was laid by chief conductors Mengelberg and Eduard van Beinum in the early part of the 20th century. Audiences keep returning to enjoy these classics.

What does it take to stay on the ball?

“You cannot rely on tradition alone. There is the need to keep on innovating and reaching young audiences and audiences abroad. The orchestra has always played contemporary music from contemporary composers and continues to do so. Today’s composers are also invited to conduct their pieces, like for example George Benjamin and Tomas Adès."

Three times in a season on a Saturday evening we have the Essentials programme, which offers one iconic piece of music, which is introduced by a presenter and followed by drinks afterwards.

“This entices a younger audience to cross the threshold and become involved with classical music. Already, our Entrée club, for people up to 30, counts 8,000 members. In 2013 we organised a world tour on six continents, visiting New York, Tokyo, China, Berlin, South America, Russia, South Africa and Australia.

“This was a unique experience, the first orchestra ever to do so, and it brought many new friends to the orchestra.”

What do ‘friends’ mean to the orchestra?

“The orchestra has many circles of friends, for example in the United States, the United Kingdom, Belgium, France and Switzerland, who support various projects. A special circle of friends in the UK is the Dutch Masters Foundation. This is how I got acquainted with Rose Damen, who co-founded the London branch. It is a collaboration between the Mauritshuis, NDT (the world-renowned Dutch contemporary dance group, ed.), both based in The Hague, and the Royal Concertgebouw Orchestra in Amsterdam. All three are connected to Damen. It is a passionate group of friends who organise various events throughout the year at beautiful locations. They always try to combine music, dance and visual art which leads to unexpected and magical combinations.”

This kind of interdisciplinarity is also something we try to achieve in Amsterdam, when we for example collaborate with museums. Another thing the Foundation does is support the Concertgebouw Orchestra Academy, which each year educates seven exceptionally talented young musicians. When on tour we meet many of these friends, and some of them even travel along with us.”

What are the plans for the near future?

“One of the big upcoming projects is ‘RCO meets Europe’. Over the course of two years the orchestra will play in all 28 countries of the European Union, starting in August 2016. The orchestra will play one concert in every country with young talent, ‘Side by Side’.”

“Polyphony originated in Europe, both on a musical and a social level. And the concept of touring through Europe has been in existence since Mozart’s days. The music of Mozart would not have been that rich if he had not travelled so extensively. This tour also serves as a call to the Netherlands and to the European Union to put culture higher on the agenda.

“Art, in all its various guises, is urgent and necessary. We have invited Syrian refugees to our concerts as a way to console them and give them hope for the future. For the same reasons we play chamber music in refugee centres throughout the country. Music does not have any boundaries or religious divisions and has the ability to humanise. In the end, we want to play as good as we can.”

“One of our strongpoints is the exceptional quality of the orchestra, but it is also our urge to innovate, educate and initiate that keeps us at the forefront”
"We delivered the first FCS 5009 in 2007 to Mexican offshore service provider Naviera Integral," opens Mr Gelling. "We had a good idea of what the market wanted, but developing the design with the launching customer only made it better. After all, they are the ones who know exactly what they want."

Soon realising that the FCS 5009 had more potential than solely as a Fast Crew Supplier, the High Speed Craft product group started looking at other roles in which the vessel could perform well. "Due to the sheer amount of space available, it was relatively easy to modify for different duties."

Multi-tasking
One application was as a Safety Standby Vessel: "We sold a number of these to ENSAAD [the operating company of ADNOC, the Abu Dhabi National Oil Company] for this purpose. This involved configuring the main deck to include cabins to accommodate crews at sea for extended periods. In terms of equipment, we added davits and FiFi 1 equipment on the aft deck in addition to DP1." For similar reasons, the design is suitable for oil recovery duties: "Here, quick response time is vital."

The advantages of the FCS 5009 also make it ideal for security operations. "For certain security issues, like piracy, it is not necessary to utilise naval ships when a commercially built vessel can do the job just as well."

Obligatory requirements include speed and comfortable accommodation for security personnel. "It is the versatility of the design that makes it a success. We can add armour-plating to make the crew more secure and we adapt the cargo tanks for increased fuel capacity."

Input from Naviera Integral was important for the first few deliveries, but how has that initial design evolved since? "Apart from the add-ons that we have developed to give it another purpose, not much has changed since the original design," stresses Mr Gelling. "Although we have brought smart customisation to the drawing board. This involves design elements that allow us to install optional extras in the post-production phase."

This yields advantages to customers concerning both delivery times and costs. "Add these two additional benefits to the already extensive list of ‘plus points’ and the FCS 5009 becomes an even more attractive option."

"The FCS 5009 possesses is one of the reasons why the team began to eye the yachting market as a potential niche. "It has a different look to it which we thought might appeal to the yachting world. And appealing it was – the FCS 5009 concept was developed into the broader Yacht Support Vessel range, that today is marketed by Amels."
To say that Yuri van Geest is a ‘forward-thinking’ person is a slight understatement. "I am active in the space between technology, innovation and digitalisation as well as strategy and organisational models. Looking at how the business environment is becoming exponential due to globalisation and technology."

Since 2008, he has been involved with the Singularity University. This is an unprecedented melange of cutting edge scientists, think-tank innovators and future-proof business developers located in the Silicon Valley. Its mission is to ‘educate, inspire and empower leaders to apply exponential technologies to address humanity’s grand challenges’.

He is the initiator of the Singularity University in the Netherlands. Based in Eindhoven, with offices in Amsterdam and Rotterdam as well, it aims to bring the best insights in terms of science and technology to the Netherlands.

In 2014, he co-authored the multi-award winning book ‘Exponential Organizations’ with Salim Ismail, Michael S. Malone and Peter H. Diamandis. With over 200,000 copies sold in 15 different languages, this book describes how companies can accelerate growth by integrating technology into the business plan. According to McKinsey Consultants, the book is obligatory reading for all its global consultancy personnel.

In this magazine there are a number of articles demonstrating how Damen is incorporating technological advances in order to adapt to a rapidly changing world. Here, however, we step up a gear by talking to Yuri van Geest, one of the world’s leading experts on the subject of singularity (how exponential technological growth will affect the world). He introduces us to the most pertinent points of singularity and shows how he thinks that these will affect the maritime industry.
The pace of change is accelerating and it will not stop.

These technologies encompass (but are not limited to) biotech, nanotech, neurotech, solar energy, artificial intelligence, ICT, drones and robots. “These technologies are simultaneously growing at exponential rates. They are doubling in capacity every 18 months,” states Mr. Van Geest. “What we expect in the next 10 years is of the same magnitude of change that occurred over the last 50 years. The pace of change is accelerating and it will not stop.”

FROM SCARCITY TO ABUNDANCE

Crucially, this exponential growth coincides with the exponential reduction in related costs. With efficiency doubling every 2 years, solar power is a good example. “10 years ago solar energy cost $1 per kilowatt hour. Today the same amount of energy costs just 4 dollar cents. I think that in the next 20 years this is going to solve the world’s energy problems.”

Solar power is just one example though: “If you combine all those technologies you get radical solutions to global challenges such as water and food shortages, energy, healthcare and education. This will impact individuals, organisations, societies – the whole planet. Any technology is a way to transform a particular scarcity into abundance.”

ORGANISATIONAL RETHINK

In the future of the world’s maritime markets, Mr. Van Geest believes that change will come in two layers. “The first layer defines technologies that can interpret big data – Artificial Intelligence. A.I. will impact our whole lives: all products and services, all job sectors and functions. This will create opportunities as well as disruptions.”

The benefits to the shipping industry include identification of problems. “We will be able to track and diagnose issues – ultimately moving towards prevention of problems.”

A QUANTUM SHIFT: AUTOMATED TRUST

On a broader scale, they talk about the subject of the blockchain, which is expected to change the future of financial transactions as we know them. “This is a complex story of what is perhaps the most revolutionary technology. It concerns algorithmic automated trust where the trust is the underlying core of every economic transaction. It is a public ledger spread across millions of computers. It allows for more efficiency, effectiveness, speed, security, honesty and makes fraud, corruption and piracy impossible.”

“The supply chain of physical products will transform into an open source database that is more efficient and effective and without fraud.”

With decentralisation playing a significant part in the concept of the blockchain, he says this is the most significant emerging technology. “It’s not here yet, but it’s evolving in the next five years. Companies have to explore this right now otherwise they’ll be outdated.”

Which brings us to one of the most interesting matters on the subject of technology. Technologies have the capacity to help organisations move towards a productive and sustainable future. The question is how will those organisations integrate and utilise technology into their business strategies. Mr. Van Geest concludes: “If you are able to ask the right questions then technology will give you the right answers. Increasingly, we move to algorithmic organisations, robotics corporations and self-driving, automated companies. Software is eating the world.”

Even though the story’s told, the concept is still relevant today. The sum of the last two leaves on the chessboard is 2^64 - 1 = 18,446,744,073,709,551,615: the consecutive doubling of a value within a set time scale. It is an idea that has been known for millennia, as illustrated by this Indian legend:

An ancient Indian king rewarded a wise man who had invented the game of chess by telling him that he could ask for any prize he desired. The wise man requested that he have the grain of rice for the first square, two grains for the second square, four grains for the third square, and so on, doubling the number of grains on each subsequent square. The king agreed, without realizing the implications of the promise. If the agreement were to be fulfilled, the king would need 18,446,744,073,709,551,615 grains of rice weighing 461,168,602,000 tons (a pile of rice this high would be larger than Mount Everest).

Note from the editor: This article does not necessarily represent the views of Damen. It is an attempt to foster some discussions on the future of shipping and shipbuilding. The views and ideas of Mr. van Geest may perhaps serve to start a discussion with our partners on the question ‘How will technology impact our future?’
Dams and Damen DOP pumps

When we think about dredging, the most common images that come to our minds involve large scale removal, transportation and deposition of sediments. We divide the sector into four different areas: capital dredging (the Suez and Panama canals), land reclamation (the Dutch ‘Maasvlakte’ harbour expansion project or Palm Island, Dubai), maintenance dredging (maintaining the draught of a port or harbour) and mineral mining.

Over the last few years, however, a new field of dredging has emerged: one that will have an impact on the water and electricity resources of many countries around the world. This fifth sector involves dredging the reservoirs directly upriver from hydroelectric dams.

“With around 40,000 hydroelectric dams worldwide, this is a considerable market,” says Dredging Product Director Olivier Marcus. “The majority of these were built in the 1960s and 70s, and many require urgent maintenance. An example: more than 50% of the dams in Northern Africa are not operating at full capacity. This has direct implications on supplies of water for human consumption and agricultural irrigation purposes. And of course affects the electricity generating capacity of the hydroelectric turbines in the dam itself.”

Analysing the problem...

“What happens is that, with time, sediment builds up near the dam – leading to the eventual blocking of the hydroelectric turbines. Of course, there is also a lot of other material that needs to be removed. Like trees and other vegetation.”

In handling this situation there are a number of factors involved, all of which make the job of dredging the area all the more challenging.

“By definition these reservoirs are located in mountainous regions which are quite remote,” explains Mr Marcus. “So the challenges include accessibility and fuel supply – getting a vessel and its fuel to the area in question. Sometimes the location is so high – up to 3,000 metres – that even the air is too thin for diesel engines to run smoothly. Once on site, the matter of getting the vessel into the water is also an issue, because of the lack of infrastructure.”

The challenges continue once the dredging vessel is launched and ready to get to work. A reservoir behind a hydroelectric dam can be up to 60 metres deep. “These depths are necessary to achieve the height differences required for optimum hydroelectric power generation,” he continues. Dredging at such depths requires ingenuity and experience – such smart solutions are Damen’s forte.

The answer lies in Damen’s DOP pumps. “These submersible dredge pumps are extremely versatile – operators can use different heads depending on the situation and material to be dredged. For example: Harder compacted materials are dredged with a cutter head. If the reservoir has a lot of silt deposits, water jets are used to loosen the sediment, then a suction head to remove the material. This is a very multifunctional solution – especially as the various heads are easily changed. It’s a simple plug-and-play operation.”

With the DOP submersible dredge pump taking care of the dredging aspect, the next solution concerns the vessel itself. These are often modular pontoons which, demonstrating another clever move by Damen’s design teams, can be completely containerised. “The vessel and all its components – the motors, piping and winches – can fit into standard containers. So you can load everything in trucks and drive to the site. The low weight involved means that transportation and assembly is relatively straightforward. This is important because lifting capacity in these remote locations is often limited.”

Great potential

The modular aspect also has positive implications on the depths to which can be dredged. “It means that you can dredge, in principle, as deep as you like. We can increase the length of the dredging ladder and if that is not deep enough, we can lower the DOP pump on a wire to the required depth.”

In solving the problem of fuel supply logistics, it could be said that Damen’s response was blindingly obvious. “We often make all the equipment electric-powered. Why? Because when you’re working next to a hydroelectric dam, there is enough electricity available.” Moreover, unlike diesel-powered engines, an electrically-driven vessel will not be adversely affected by the low levels of oxygen present in the high mountainous air.

Given the fact that there are around 40,000 hydroelectric dams in the world, the scope of operations for the fifth dredging sector is substantial. What’s more, the human impact – in terms of water and energy supply – has immense potential.
Damen Magazine interviews Gert-Jan Oude Egberink, Manager Ballast Water Treatment of the recently established company ‘Damen Green Solutions’, which is based in a new office right by the headquarters in Gorinchem, the Netherlands.

After four years he moved to General Electric, the GE unit supplying water treatment technology and solutions to industries. “I wanted to help industries reduce their water footprint, such as those in the processing industry, refineries, steel/chemical plants, food production, power plants etc. As a territory manager I was responsible for the commercial and service operations in the Netherlands. I spent 14 years at GE and really liked leading a dedicated team of water specialists and working with the customers, providing solutions, helping them solve their issues to environmental problems.”

And then came Damen with Gert-Jan joining the company in 2013. “I noticed an advertisement for a Ballast Water Treatment manager. I knew a lot about water but admittedly, not so much about the global ballast water problem from shipping at the time. As said, I have always been fascinated by nature and the environment and I was really interested in what ballast water issues the shipping industry has. I saw the many ideas the company is spearheading and what it could offer customers. I knew this was really a job for me.

Although Gert-Jan has spent a large part of his career in the maritime and offshore industry ‘cleaning and treating water, he grew up in Oldenzaal, in the East of the Netherlands, nowhere near water, he laughs. “I was always attracted to the water and did lots of windsurfing but in the Netherlands I could hardly live further away from it but I always had a passion for nature.”

His studies reflected this passion for nature and sustainability and he chose to do a Bachelor degree in environmental technologies at the Van Hall Institute in Groningen. “I think my interest grew because the Netherlands was facing many issues surrounding soil and water pollution at the time. I knew I wanted to do something with environmental technologies and in those times there was hardly a mention of sustainability!”

Gert-Jan went on to gain a masters degree in business management from the University of Greenwich. And his first job took him straight into the oil & gas industry, where he was working for exploration and production companies on the Dutch continental shelf. The company supplied performance chemicals for the offshore sector to clean water from the platforms and optimise production processes.

“WE ARE AT THE POINT OF NO TURNING BACK - RATIFICATION IS GOING TO HAPPEN NOW”

While most were waiting for the ratification of the IMO’s Ballast Water Management Convention, Damen is being proactive, Gert-Jan stresses, looking at what the issues could be, finding solutions, building a new organisation, forming partnerships and creating new products.

“We are well prepared for the IMO Convention, which is now expected to enter force in 2017, and can serve its customers with one-stop-shop retrofit, and unique mobile port solutions.”

In 2015 a fully containerised Ballast Water Treatment (BWT) retrofitting solution named ‘BalCon’ was launched. BalCon may use Type-approved UV or electrochlorination technology from its partner BWT makers (Evoqua, Trojan Marinex and BioSea). It is particularly suited for container vessels and chemical/gas tankers with submersible pumps or vessels that only need a temporary system to bridge a short period before they are scrapped.

A cost effective IMO Type approved LoFlo system was also launched, which is suitable for smaller vessels, with limited space below and low ballast water flow rates. LoFlo can process at 30, 60 or 90 m³ an hour and uses filtration and UV technology from partner BioSea.

There is also the unique Damen developed InvaSave system, the world’s first mobile ballast water discharge unit for ports. It is suitable for owners that may not want to retrofit a treatment system, perhaps because their ships operate on fixed routes, and ports, which may need to provide a backup in the case of emergencies when a ship’s on board treatment systems fail.

*Damen started this new company because it knows that the shipping industry needs solutions to become more sustainable and that we can play a role here. At Green Solutions we work with customers, help them solve problems. Ultimately, this is good for the environment and this enables customers to save and make money!*

“No other organisation is offering ballast water port solutions, mobile alternatives, retrofitting, the repair yards… It needs an integrated approach and we have all the capabilities needed.”

Additionally, when considering the investments the company is making in developing environmental, sustainable solutions, it is showing its commitment, he says, pointing to the launch of Damen Green Solutions. A production facility is also adjacent to the new office.
BREST SETS THE PACE IN CRUISE SHIP RETROFITS AND REPAIRS

Following the success of recent retrofit projects, most notably that on the 329-metre, 4,100 passenger capacity cruise ship the Norwegian Epic, together with repair and maintenance works on board a number of other cruise ships, Damen Shiprepair & Conversion (DSC) is looking to build on this experience by developing its market share in the sector. Cruise ships bring with them many distinct challenges, not least in the broad range of amenities for their many thousands of expectant customers, intensive itineraries fixed up to a year or more ahead, and the sheer size of the largest vessels.
The Damen advantage
With fast turnaround schedules and equipped for the complex logistical requirements of cruise vessel operators, DSC is well positioned with yards near the major European cruise terminals of Amsterdam, Rotterdam and Southampton. Such locations can cut hours or even days from the total time needed for these challenging retrofit works. DSC operates 11 repair and refit yards in north-western Europe and five of these (three in the Netherlands (Rotterdam, Vlissingen and Amsterdam) and two in France (Brest and Dunkerque)), are located close to the major cruise terminals and capable of taking the largest cruise ships.

Damen Shiprepair Brest – a first among equals
Of all DSC’s repair yards, it is perhaps Damen Shiprepair Brest (DSBr) that best typifies the advantages that the group can offer operators of even the largest cruise ships. Located on the most western point of France it offers fast and easy access to the Atlantic and is around 12 hours steaming from Southampton, the UK’s leading cruise terminal.

Damen Shiprepair Brest’s capabilities were put to the test in the autumn of last year when the Norwegian Epic, the world’s sixth largest cruise ship, arrived for a three-week maintenance and refit programme.

Over that period around 3,500 personnel worked around the clock on a broad array of tasks. These included some major operations such as the replacement of both rudders and work on the stabilisers, the refurbishment of the public spaces, and the vessel’s first special survey since she was commissioned in 2010. DSBr was also responsible for managing the major logistics programme involving the movement of the ship’s lifeboats, containers and spare parts that made the fast execution of this complex and intense project possible. Despite the scope and pressures of the project, Norwegian Epic left DSBr for Southampton a day ahead of schedule.

With its track-record of successful projects and a network of yards with first-class facilities in some of the best locations, Damen Shiprepair & Conversion offers cruise ship operators a complete package that will ensure that they in turn can provide their customers with great experiences on board vessels operating at peak efficiency.

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**Damen Shiprepair Brest’s capabilities were put to the test in the autumn of last year when the Norwegian Epic, the world’s sixth largest cruise ship, arrived for a three-week maintenance and refit programme.**

**Over that period around 3,500 personnel worked around the clock on a broad array of tasks. These included some major operations such as the replacement of both rudders and work on the stabilisers, the refurbishment of the public spaces, and the vessel’s first special survey since she was commissioned in 2010.**

**DSBr was also responsible for managing the major logistics programme involving the movement of the ship’s lifeboats, containers and spare parts that made the fast execution of this complex and intense project possible. Despite the scope and pressures of the project, Norwegian Epic left DSBr for Southampton a day ahead of schedule.**

With its track-record of successful projects and a network of yards with first-class facilities in some of the best locations, Damen Shiprepair & Conversion offers cruise ship operators a complete package that will ensure that they in turn can provide their customers with great experiences on board vessels operating at peak efficiency.

**The Damen advantage**

With fast turnaround schedules and equipped for the complex logistical requirements of cruise vessel operators, DSC is well positioned with yards near the major European cruise terminals of Amsterdam, Rotterdam and Southampton.

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After many years building one-off Trailer Suction Hopper Dredgers (TSHD), Damen introduced its TSHD series into its portfolio about 10 years ago now. Since then a great deal has changed – in terms of market needs and available technologies. There has also been a lot of feedback from clients – giving the dredging product group various new ideas say Product Director Olivier Marcus and Design & Proposal Engineer Nicky Mayenburg.

SHIFTING MARKETS
TSHDs are perfect for maintenance dredging duties in ports and harbours across the world. The most notable change seen in this environment during the last ten years is the substantial increase in size, and therefore, draught of vessels. “Many ports now need to have a 24-metre draught to be accessible by the larger container ships,” informs Mr Marcus. “Besides this, numerous port authorities have started to perform their own maintenance dredging activities with their own vessels. This provides local employment and means that dredging can take place whenever necessary. The five TSHDs – for Russian and Australian markets – that we are building now illustrate this perfectly.”

DESIGNS YOU CAN COUNT ON
Looking at the list of satisfied customers, what is the key factor in the success of the series? “What our clients really want is reliability,” continues Mr Marcus. “A TSHD must be designed so that it is easy to maintain. These vessels are often operating in remote locations and operators want the possibility to carry out their own repairs as much as possible.” Clients can select maintenance-friendly options during the design phase to achieve this. “Our global service network, including service hubs, complements this.”

TO OPTIMUM EFFECT
Client feedback has pointed out the value of dredge monitoring equipment: “There are several parameters that you need to keep a close eye on to optimise the process. And because the amount of experience our customers have varies, we offer training programmes. It’s one thing to sell a good product, but it’s crucial that the operator knows how to use that product to the best effect.”

“...there is a direct link between the comfort of the dredge master and the productivity of the vessel – so ergonomics is also very important. Therefore we have paid a lot of attention to reduce noise and vibrations and increase comfort.”

A RANGE OF OPTIONS
“Within Damen we have developed many technical innovations over the last 10 years,” comments Mr Mayenburg. “More sustainable solutions like LNG or hybrid systems, for instance. More fuel-efficient propulsion configurations too. When considering these, the challenge for us is that we need to meet the needs of all of our clients – from the largest worldwide operating dredging companies to the smallest local operator. We have to ask what they need, what they want and what they can afford? Therefore, we offer various options on a ‘standard’ vessel – ultimately delivering the optimal design for an individual client.”

TOTAL SYSTEMS INTEGRATOR
Damen is not the only shipbuilder in the world to construct TSHDs; so what makes one of their vessels stand out from the competition? Mr Marcus: “This is a very special situation, because we have the knowledge, the designs, the components, the worldwide orientated yards and the after-sales service. Our customers benefit from this combination of dredging and shipbuilding knowledge in that the finished product demonstrates the optimal integration of equipment and vessel.” In its role of total systems integrator, Damen has a cooperative relationship with its suppliers: “This area of the Netherlands is like the Silicon Valley of shipbuilding. There’s a lot of knowledge and lot of cooperation here – this benefits the whole industry.”

CLIENTS BENEFIT
Building vessels on speculation – on a speculative basis – is a strategy for which the company is well-known. While this approach is not without risk, it does have intrinsic advantages for clients. “It is about listening to the market and anticipating our clients’ needs,” explains Mr Mayenburg. “Building vessels on speculation allows us to guarantee the shortest possible delivery times for our customers. For example, of the six TSHDs that we are currently constructing, one is on speculation. This is a 2,000m³ TSHD that is well suited to the maintenance dredging market in almost all regions. It will be ready for the market – well equipped with equipment and instrumentation – in Q3 2016.”

ORIGINS OF OUR DNA
“Damen’s foundations were actually built in the dredging industry,” says Mr Marcus. “We started off by supplying workboats to government and commercial dredging contractors. They needed equipment and they needed it fast. This lead to the company founder, Kommer Damen, to develop the idea of standardisation – building series of vessels with standard designs on speculation. The distinguished designs of the Multi Cat and Shoalbuster were first born this way, followed closely by specialist dredging vessels. It’s this combination of standardisation with the dredging know-how that is part of our DNA that has made us a leading supplier for the global dredging industry.”
Within the company there is a sense of unity. Everyone gives their best and is proud of the ships that we are building.

Wesley Biesheuvel
Shipbuilding Engineer, Damen Shipyards Gorinchem, The Netherlands – 26 years

“Damen is well-known player in the shipbuilding industry. When I was looking at scholarships and school, I heard a lot about this company and their ships. I wanted my internship to be in a foreign country and I knew that Damen was an international company, so my choice was made. It was important to me to be able to develop my skills and my experience in order to become independent. When the news came that I had been chosen to do an internship in Vietnam, I was beside myself. To begin with, I shadowed the team and reported about the integral building. In addition, I wrote a report on ways to improve the material storage and material flow.”

“During this internship I gradually learned to understand the company. The thing that struck me the most was its excellent organisation. Damen is a company that really takes care of its employees. In Vietnam, I ended up in great surroundings with caring and helpful co-workers. After my internship, I had to continue my schoolwork for one and a half years, but I knew that I had to keep in touch with Damen. The company would be my future employer and I continued working once a week in the Engineering Support department. Even when writing my thesis, I executed it for Damen, where I made a concept design for a Tractor Tug prototype.”

“As of now, I am starting to become a real ‘tugman’. My favourite ship is the ASD Tug 2611. Because the tugs are relatively small sized, this gives me the chance to work with all of the components and systems, instead of simply designing a small section of the tug. Damen feels like my second home where I have a versatile function. The company doesn’t hesitate to invest in good employees, and I am gaining more and more responsibilities. Currently I’m completing a project with two sold yard numbers. Damen puts their faith in me and I hope to prove to them that I am worthy of their trust. This is what gives me a feeling of satisfaction.”

“Within the company there is a sense of unity. Everyone gives their best and is proud of the ships that we are building. When working, or if you are on an internship, Damen will hand you a sufficient amount of chances, and because Damen grants you these opportunities the prospect of getting a job within the company is great. Finally, Damen is a stable base and a versatile company that will give you the chance to spread your wings.”

What has happened to our interns...

Alex van Ommen
Field Service Engineer, Damen Shipyards Gorinchem, The Netherlands – 30 years

“My flight was booked on a Thursday, and two days later I sat on a plane on my way to Cape Town for an internship at Damen. My main responsibilities were in the areas of engineering and project planning. During that time, I was also in my final year of my studies in Shipbuilding. It was my teacher who told me to contact Damen, and as my father went on a lot of business trips I was always intrigued by this. When Damen offered me this opportunity I was very grateful. I worked in Cape Town for half a year, and it was a great experience that sometimes felt more like a vacation than an internship. For a period of six months I only spoke English, which definitely helped me to obtain my current job. In addition, I got to know myself more and to gain work experience in an international environment.”

“The internship in Cape Town was the beginning of my international career at Damen. If I had been given the chance I would have definitely stayed there, because of the huge amount of fun I had. Unfortunately this wasn’t possible, and instead Damen offered me a traineeship in Vietnam. I didn’t have to think about my decision for a second. During my work in Vietnam I got involved with the commissioning of ships. I proved myself useful in this area, and eventually I got a job as Field Service Engineer. Currently, I reside abroad about 250 days a year, depending on where I’m needed. I travel all around the world for work.”

“Right from the beginning I felt that I was a part of the company. Of course, I had to find my own way in new surroundings, especially considering that the internship wasn’t directly linked to my profile. Fortunately, Damen gave me the opportunity to explore several options and eventually let me decide what path was the most suitable for me. You will get thrown in at the deep end, but eventually you will be able to figure it out on your own.”

“Damen is a good employer, and I enjoy my current position within the company, which offers me a lot of freedom. Naturally, I also have a fixed workload, but most of the time I can manage and subdivide the work in the ways I want to. This gives me freedom to explore. In spite of its growth, the company has also kept a personal approach. It is a great company with even greater products. What’s my favorite Damen ship? The Stan Patrol 5009! The impressive exterior of this ship always works well in photos!”

“Fortunately, Damen gave me the opportunity to explore several options and eventually let me decide what path was the most suitable for me.”
Patrick Hofman  
Production Foreman, Damen Shipyards Gorinchem, The Netherlands – 40 years

"In the early nineties I began internal training at Damen. I had just graduated from technical school and heard a classmate talking about this company. Before that, I had been aware of its existence, but I had never visited it. Over the next two years, I studied Metal Technology. This meant going to the Damen Academy four times a week and working one day in the field. In this way, I learnt several metalworking techniques, such as welding, burning and grinding. Although it has been a while, I tend to look back on this time as an intensive period that gave me valuable experiences. During the course, our trainers were skilled workers and they taught us well."

"After graduating, I was given the chance to progress through to the production department, where I became a Junior Installation Mechanic. This meant that at one moment I could be busy with the alignment of engines and at another moment I could be installing a floor or placing components onto the roof of a ship. After some time, I became a trained Installation Mechanic, and I quickly grew into this more senior position. Now, my title is Production Foreman, which entails having responsibility for a team of people and giving them guidance during certain projects. Basically, I put people to work with the right materials and drawings, and then keep an eye on things to ensure all goes well."

"The best thing about Damen is the company's success in the international market. The company is growing rapidly, but it has managed to stay a family-oriented business. In addition to this, Damen allows each employee to develop their skills and to climb up the chain, if that's what they want to do. Gradually, as you learn more and more about the products, you will be assigned certain responsibilities. Working for Damen is almost a guarantee of a bright future."

"As a mechanic, I constructed several 42-metre ships; these are impressive and fun to build. It is even more rewarding when a ship is finished. The feeling of pride overwhelms you. I sincerely believe in 'Damen pride', a feeling that everyone working here recognises. All of the employees share the same aim: creating a great ship and giving everything they have to make it succeed. When you see the end result of all this hard work, that's when you remember why you want to do it over and over again."
Once that started, it was time for a change, and that change coincided with the rise of digitisation in our industry and our organisation. That’s why in late 2014, we launched a programme known as Excellerate. Its purpose is to standardise and digitise the content of our shipbuilding process across the various disciplines by supporting chain-driven tooling and making the necessary shift to allow the shipyards to take the lead.

Customer-focused operational chains
To give the process of uniformisation and digitisation an extra boost, we took a huge step in the first quarter of 2016 by overhauling the division responsible for preparing and building new ships. The new set-up involves four customer-focused operational chains. Two of the chains are responsible for building small and larger series of standard (stock) ships and the other two specialise in more complex customisation projects for specific customers.

The Excellerate process has another advantage: it is gradually freeing up our ‘top’ people so that they can turn their attention to customisation projects and innovation. To do this, they need to have the necessary time and space. That’s why we deliberately chose to cast Excellerate in the form of a programme. For one thing, it will not disrupt the shipbuilding process that way. For another, it allows us to focus on all the steps in that process, from engineering to procurement to actual shipbuilding. It helps us to take synchronised steps, leading to faster results.

Standardisation versus variation
Variation in a process naturally costs money, in shipbuilding as elsewhere. That is a good reason to remove the steps where it isn’t necessary, i.e. from the process and the operational chains. In concrete terms, this means that we make digital templates of our standard ships, which we enter into our CAD and ERP systems. That way all the components are clear. Every discipline in the chain is linked to the ERP system, so that the template can be used to place orders directly and to start building straight away. Putting it simply, we’re creating a box of Lego parts for every ship along with strict digital instructions. Because there is little variety in the components, a logical outcome of the Excellerate standardisation exercise, we also know a lot more about each one of them, making it much easier to stock up worldwide on consignment, for example.

Lower cost prices, better quality, and shorter lead times are what Damen is after. Streamlining and serialising our standard shipbuilding work also has spin-offs for our customisation projects, especially when we use standardised components. Our procurement will be much more efficient this way, and it will also improve our services. It also makes it easier to build up stocks of standard ships, so that we can respond quickly to customers. But even if a standard ship is not in stock, our digitised serial production chains can still produce a ship much faster for a customer in this way, even if the ship is semi-customised. Besides having an easier time keeping spare parts in stock, we can also give our Service staff more precise training. Not only will this streamline our services, it will improve them too.

Smart Customisation
All this makes long-cycle production of our standard ships possible. That is advantageous for customers who purchase them and for those who want to add some custom features. The underlying basis is continuous feedback from customers about materials, spare parts and ‘sailing characteristics’. We use their input to modify and innovate the shipbuilding process and to help us select products and materials. That’s how we’ve been able to improve the quality of our ships, year after year.

The growing level of digitisation is accelerating this feedback loop. By designing our standard ships modularly in digital templates, smart customisation is becoming simpler and more streamlined. That’s why we developed the Configurator App, which allows customers to assemble their own ship in a few easy steps on an iPad. Today, our Configurator App is a unique example of innovation in our industry.

How we see the future
We are a family business that takes a long-term view of our industry. We have the latitude to see things through to maturity. That’s clear from the Excellerate programme, which has demonstrated its usefulness and necessity in relation to uniformisation and digitisation after only a year. It’s not for nothing that we set up the organisation in customer chains for standard and new ships. That way we can continue to streamline our four operational chains to meet the needs of the customer and the underlying shipbuilding process. This has given us the necessary, solid foundations for the future. We believe that our organisation has to remain flexible at all times so that it can adjust quickly to the demands of our market and our customers. Being flexible is a proviso for successful entrepreneurship. Our approach also gives us the leeway to build up relationships with our suppliers, so that we can form genuine partnerships with them.

The principle of flexibility applies across the entire maritime industry to which our organisation belongs. If the Netherlands wants to remain successful in this field, then we must join forces so that we can continue to adapt to new trends and developments and to the ever-changing political and economic landscape. Alliances with other parties are naturally also crucial, for example with dredging and offshore companies, research institutes, banks and insurers. Government too plays a vital role as a not only a partner but also as a launching customer in many different areas.

The 1970s
Kommer Damen’s approach was absolutely revolutionary in the 1970s: produce custom-made ships using standardised parts. Damen manufactured the separate standardised components, making it relatively easy to assemble the ships. It meant that the company was and still is able to build a ship quickly and to its customer’s wishes. Or, as Kommer Damen put it, “It always surprised me that this philosophy wasn’t taken up by the shipbuilding industry. It’s absolutely normal in the auto industry or in bulldozer manufacturing.” Today, we’ve come up with a new twist on that approach: we call it ‘smart customisation’. Specifically, it means that we use a Damen Sales Configurator, for example on an iPad, to show our customers the various basic ship models and available options. That way they can design their own ship virtually in real time and to their own tastes and requirements.

Behind the scenes
Until 2000, we procured the majority of hulls for our ships from outside sources. Now, however, we’re producing more and more of them in house, leading to an enormous expansion in our organisation. As a result, the work carried out at our many shipyards has become much more diverse. Now that we’ve undertaken production ourselves, the outsourcing mentality that was our mainstay for many years is no longer suitable. Today, it’s crucial to think in terms of chains. That means that Damen Headquaters in Gorinchem no longer takes the lead; instead, the shipyards do. So our approach has moved from ‘push’ to ‘pull’.

Although car manufacturing is of course a very different process from shipbuilding, Damen Shipyards Group has always regarded the automobile industry as an inspiring example. Car manufacturing is largely automated. It’s only too far in the more traditional segments of the shipbuilding industry, but behind the scenes Damen has ‘templatised’ standard vessels.

FACTS & FIGURES
Start: November 2014
Purpose: Standardise, digitalise and digitise processes, products, and tooling of our best-selling ships
Average time it takes to develop the template for existing ship models: 4 months
Number of ships with templates: 5 (per 1-5-2016)
Biggest challenge: Further reducing cost and lead times and improving overall quality by applying Excellerate to all Damen newbuild yards worldwide and by tailoring standard templates.

ON THE MOVE WITH EXCELLEERATE

Although car manufacturing is of course a very different process from shipbuilding, Damen Shipyards Group has always regarded the automobile industry as an inspiring example. Car manufacturing is largely automated. That has produced efficiency gains, but has also given it a solid basis for the necessary innovation. Car manufacturers and their suppliers work together closely, with each one having a good understanding of the entire manufacturing process and the related costing. That may be going a bit too far in the more traditional segments of the shipbuilding industry, but, in short, our organisation and Damen itself, we’ve already made considerable progress in that direction. That naturally calls for a fundamental change in our organisational processes. In other words, instead of ‘push’, with headquarters taking the lead, we’re moving towards ‘pull’, with the yards in the Group taking the lead. We’ve undertaken this process not only to continue standardising and digitising our operational processes, but also to free up time, energy, and capacity for innovation.
Aiming High

With the Rio de Janeiro 2016 Olympics just around the corner, the Dutch women’s rowing team has clear goals. Team coach Josy Verdonkschot tells us more about the sacrifices that have to be made to have a shot at Olympic glory. With Damen active in sponsoring the team, he also highlights the importance of corporate financial support for a sport that comes to our TV screens just once every four years.

Rowing is not a professional sport – almost all of the Dutch women’s rowing team are either students or recent graduates. “We have a varied squad, some of whom have already qualified for the first two events,” informs Mr Verdonkschot. “These women have chosen to put everything else in their lives on one side to train for the Olympics.”

Training body and mind

World class rowers are famed for their intensive training schedules: the Dutch women’s team are no different: “In an Olympic year our training increases to around 22 hours a week for 48 weeks a year. Yes, they are making sacrifices, but if your body is able, and if you have the will, then you can aim for the highest goals. Nothing tops that.”

Aim for Rio 2016

“The sport of rowing is quite well known within Damen: the company has an experienced team – the Damen eight – and, as of this year, a new ladies coxed four (C4+) team. Both teams will be competing in corporate events at the Damen-sponsored Rowing Regatta at Laga, the student rowing club in Delft. The event, held at the Willem-Alexander rowing course near Rotterdam, is becoming well known in the rowing world as one of the highlights of the year.

“We are a new team, with not that much experience,” says Damen Employer Branding Advisor (and ladies rowing team member) Sanne Dekker. “But that is the whole idea of this event – to get people interested and involved with the sport of rowing.” The team is currently busy training for the 500 metre race, and will have the opportunity to fine-tune their stroke during a rowing clinic offered by Laga.

A relative newcomer to the sport – Sanne gained some rowing experience whilst studying Sport Management & Marketing – her ambitions for the event are clear: “I always want to win!”

The Determination to Win

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Welcome support

Playing a vital role in the team’s training schedule is corporate sponsorship. Compared to football, for instance, rowing has fewer opportunities for exposure. “A football team is the centre of attention every week. As a rower, you are in the spotlight every four years. Therefore it is harder to obtain long term sponsorship. As team sponsor of our lightweight double sculls squad, Damen is an extremely welcome addition to our sponsorship. This financial support allows us to carry out extra training camps as major competitions approach. This is invaluable – it allows the team to focus and prepare. To work towards that peak moment.”

The Golden Triangle of Rowing Boat Design

“Designing a rowing boat is a challenge,” says Damen women’s rowing team coach Josy Verdonkschot. “An eight boat, for example, is 17 metre long and weighs around 100 kilos. Add a ballast of around 700 kilos (for a women’s team), and you have a nice design proposal!”

“Furthermore, rowing involves resistance against water. Damen is a company whose vessels face the same challenge of moving as efficiently as possible through water. If you consider possible cooperation from Delft Technical University, there is definitely potential for collaboration to optimise hull design. For me, this is the golden triangle of science, commercial sector and sport.”

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Aim for Rio 2016

“Of the fourteen Olympic rowing disciplines, six are women’s events,” informs Mr Verdonkschot. “We are concentrating on four events in Rio: the quadruple sculls, the coxless pairs, the eight and the lightweight double sculls. We have already qualified for the first two and we have an important qualification event coming up for the last two events.”

When talking about his team’s ambitions for Rio, he is realistic: “Our first goal is to get all four teams qualified. I think that we a good chance of medals for the eight and quadruple sculls. Although the lightweight double sculls have a good chance too!”

Welcome support

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Aim forRio 2016

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DARE TO DISCOVER THE BEST YEARS OF YOUR LIFE