SOUTH AFRICA SPECIAL

A COUNTRY, A CITY AND A SHIPYARD; WORKING TOGETHER; POISED FOR GROWTH

GREEN DEVELOPMENT

INTEGRAL BALLAST WATER TREATMENT SOLUTIONS, DAMEN’S ENERGY MANAGEMENT SYSTEM, THE ASD TUG 2810 HYBRID AND MORE
Last year I introduced our corporate magazine to you and I invited you to comment on this new annual publication – and so you did. Thank you for your many responses. Basically, we received much, humbling, praise from engineers, ministers, captains, purchasing managers – it seems to be a good read for all. There was some good criticism too. So, in DAMEN #2 we have incorporated your feedback – like we do with our vessels. I hope you will continue to give your feedback on this issue. We take it seriously.

Now back to business. The past 12-15 months can be characterised as a transitional period. In 2013 we delivered a record number of 170 vessels while reorganising our production and several yards at the same time. Our order book is full and includes several brand new designs that have made it to the market and which you will find in this magazine, alongside other developments in R&D, HSEQ and ‘going green’. I dare say Damen is not yet a ‘green company’, but we are devoting much time and energy to get there. This goes for using recyclable material and hybrid lease-cars for employees as well as for building (hybrid) vessels and delivering environmentally sound services.

In the end, however, I believe shipbuilding is a ‘peoples-business’. Hence, you will find quite a few personal (both professional and private) insights in these pages. I wish you a flourishing business and hope you will enjoy the magazine.

Kommer Damen
Q: Clearly, Damen has accomplished a great deal in 2012 and 2013; new yards have been opened and business has been booming in some of your market segments such as Security, Offshore and Yachting, but has it all been ‘plain sailing’ to use a nautical term?

René comments: “2013 was an absolute record year, our order intake was steady and we achieved 170 deliveries. However, this doesn’t mean it wasn’t without its challenges. We had to ‘fight on many fronts’ as it were – maintaining our quality engineering, getting the right stock levels, logistics etc. Our subcontractors worked with us on this and it wasn’t easy for them either. I can safely say that without our trusted suppliers we wouldn’t have realised the results that we did.”

Frank adds: “Damen is not alone in having to deal with growth pains. The Group has grappled with sales growth of current and new vessel types, corresponding hull stock levels for fast delivery times, higher customer finance demands, assimilating new and experienced talent while maintaining the company culture, enhancing organisational capability through investments in systems and process redesign, developing new production capacity both owned and with business partners and cashflow. Striking a sustainable balance between all has presented a formidable challenge and that is what the Executive Board is singularly focussed on. Personally, I think we are capable of achieving even more than we do today. Damen is performing well but there is considerable potential that we all work hard to unlock.”

Q: “Crucially, we want to be able to control the impact of this terrific growth so it is sustainable,” René says.

Q: This growth led to a big influx of new talent to Damen to ensure that it could meet its customers’ needs. How did you deal with that?

René explains: “Indeed, we have had an influx of both young and new blood and experienced hires both in the Netherlands and abroad. This meant that many people had to get used to a new environment, forming new working relationships, new ways of working and becoming part of the Damen family. We strive for ‘One Damen’ in everything we do.”

Arnout stresses: “Many of our new engineers had to face a steep learning curve for sure. But without this influx of engineering expertise we could not have taken on some of the pioneering offshore projects for instance. We now have the engineering capacity to serve our customers better, to cut down lead times, while still ensuring the high Damen quality levels.”

Q: Would you say the shipbuilding environment is changing, and if so, how is Damen adapting to this?

René says: “There is certainly more distance between the designers and engineers of the vessel and the shipbuilding location. And it is a challenge to overcome these distances and deliver results through a more geographically dispersed organisation.”
“Crucially, we want to be able to control the impact of this terrific growth so it is sustainable”

Frank adds: “As the company grows worldwide, it does require somewhat of a shift in mindset: everyone needs curiosity and more cultural awareness about the countries where we produce and where we sell our vessels. We all need to have a sustained determination and urgency to continuously improve in every aspect of our business activities.”

“We see my father Kommer still going around many vessels with his notebook looking at how things can be improved – we should all share this same drive for perfection and do that wherever we are in the world,” Arnout says.

Q: And regarding the portfolio, do you think you have the right balance?

René says: “It is important to have the right combination in our sales portfolio, not just the standard built series production that Damen is known for, but also the more specialist vessels such as those in the offshore sector that need more of a project organisation behind them.”

“Essentially, we should strive to avoid large swings in financial performance. A higher degree of predictability will allow us to attract the funding we need for growth at acceptable pricing,” Frank stresses.

“However, all the product knowledge remains in the Netherlands and Damen only builds at those locations where it can absolutely guarantee the Damen standards of quality,” Arnout stresses.

Q: Guaranteeing reliability and quality is fundamental to Damen’s values – would you say the customers are looking more towards the overall TCO – Total Cost of Ownership?

“Yes, absolutely. At Damen our customer’s experience of a vessel has to be unsurpassed. They must be satisfied in view of the TCO,” Arnout says.

Q: And presumably that’s why the company continues to spearhead its R&D programmes so it can continue to innovate and, as a consequence, achieve a lower TCO?

Arnout emphasises: “Damen always has been very focused on product development and this has led to the pioneering Hybrid ASD Tug, the Sea Axe bow and soon the LNG-powered EcoLiner.

“The PSV 3300 and Damen Offshore Carrier (DOC) were the result of years of R&D. The DOC is a new design, but we’ve already sold two to major clients and building them as we speak. Through design and process innovations we can reduce the TCO.”

“We are always mindful of our customers’ requirements, in terms of vessel characteristics. It is vital we continue to align our standards with their needs in terms of, for example, seakeeping capabilities, operating cost and fuel efficiency, price point and swift delivery times. And this should be combined with an after-sales service, which is second to none,” René comments.

Q: As well as after-sales service, is Customer Finance an important part of the service portfolio too?

Frank says: “Financing solutions are needed by many of our customers. Currently, Damen can offer a series of financing solutions. Based on customer feedback, we have identified potential for other solutions tailored to their specific needs and we are working closely with our ‘house’ banks and other financial institutions to complement our suite. Our growth and that of our customers has been materially helped by their support and that of for example Atradius’ excellent export credit insurance programmes, for which we are grateful. Goes without saying we aim to continue to build on these close relationships in pursuit of future growth.”

Q: Reflecting on 2013, what stands out as the innovation of the year?

All three: “We are in all in agreement that it is the Walk-to-Work vessel. Damen went back to the essence of the performance requirements for this product, such as the need for staying out at sea for longer periods of time and the need for more permanent support facilities for those working further offshore than usual. We listened closely to what the market was telling us, started the design from scratch and came up with a hotel and work vessel in one. It fulfills the requirements of safety and crew comfort for projects taking place further out to sea.”

Q: In summary, would it be fair to say that 2014 is somewhat of a consolidation year after a sustained period of growth?

“You: “Damen can offer a series of financing solutions. Based on customer feedback”

Frank

René comments: “Yes, I think that is fair comment... we admit we didn’t always get it right in 2013 and there were occasions when our customers had to wait longer for vessels than we would have liked and suppliers had to wait rather longer for payment. But we took action, increased our stock and are improving management of working capital. We have undertaken many improvement initiatives to shorten engineering and production-cycle times. Additionally, large investment projects were successfully completed, such as our new Joint-Venture yard in Vietnam together with SBIC, Damen Song Cam Shipyard, a state-of-the-art facility which will eventually increase production to 80 vessels a year. We have also built a new yard in the Middle East: Damen Shipyards Sharjah, our second joint venture with Alwara Marine.”

Q: And currently, what are all three of you concentrating on?

René says: “We always want to improve on production and efficiency. We have taken the feedback from our customers on board and upgraded the quality of our logistics. Without this feedback we cannot improve, which is why Arnout, Frank and I, like to visit clients whenever we can.”

“We know what we have to do to improve and are determined to make steps in the right direction,” Frank adds. “We will continue to have a listening ear to make sure we listen to our partners and how we can make the most relevant products at the right cost point. There is a strong sense of engagement and pride in the Group – through good teamwork across the globe, we can unlock the full ‘blue’ potential.”

Arnout summarises: “We will continue our relentless focus on customers and their need for quality products and services at an attractive cost of ownership. Our services organisation is one of the key focal points and opening Service Hubs in for example Australia and South Africa is proof of that. We want to be close to our clients.

“Overall, in 2014 we will continue to work hard to further strengthen the foundation for sustained growth, this will enable us to continue to satisfy our current and new customers and outperform the competition.”
Dutch Defence Minister Jeanine Hennis-Plasschaert officially named the Karel Doorman, the new Joint Support Ship (JSS) for the Royal Netherlands Navy, on March 8 2014. The JSS is the largest vessel ever built by Damen Schelde Naval Shipbuilding (DSNS) and is expected to be commissioned into the Royal Netherlands Navy fleet in 2015. With a length of 205 metres, the Karel Doorman will also be the largest ship in the Dutch Navy.

Especially designed for maritime support, strategic transport, Replenishment at Sea, sealift and sea basing missions, the JSS has flexible modules to support worldwide operations and humanitarian aid missions. The JSS has been designed to operate both in the lower and higher levels of the force spectrum. It has a total displacement of 28,000 tonnes and a speed of 18 knots. The vessel accommodates up to 180 crew and 120 non-listed persons, such as helicopter crew and medical teams.

With 2,000 lane metres, the JSS has a helicopter deck with landing spots for operating two Chinooks simultaneously, and a hangar with a storage capacity of up to six helicopters. The ship has a holding capacity of approximately 8,000 m³ of fuel, 1,250 m³ of heli fuel, 500 m³ of potable water and 400 tonnes of ammunition.

In order to reduce vulnerability, the vessel will be outfitted with signature reduction measures, ballistic protection, blast resistant constructions, redundant and shock resistant systems, a gas citadel and extensive firefighting systems.

The manning requirement is low as the vessel is designed with a layout optimised for day-to-day operations and the automation level for this vessel is high.

PSV 3300

The Damen PSV 3300 features a radical design rethink, with a wave piercing bow, slender hull lines and diesel electric propulsion with azimuth stern drives, combining to optimise seakeeping and fuel efficiency.

The PSV 3300 is part of an entire new range of Damen PSV’s. With an 80.1 m length, the PSV has a deck load of 1,500 tonnes. The new type can be used to transport crew and equipment to and from offshore platforms but it also offers fire-fighting and oil pollution recovery capability.

Equipped with azimuth thrusters and dynamic positioning (DP2), the design is distinguished by slender hull lines to meet challenging conditions, minimise fuel consumption and to enhance crew comfort. The vessel also has newly designed anti-roll tanks and an optimised superstructure. The PSV 3300 is one of five PSV types available from Damen ranging from 1,500 dwt to 6,500 dwt.

SPOTLIGHT ON: ROWAN VIKING

The Rowan Viking is one of the largest rigs of the Keppel Fels ‘N’ class drilling rigs. The rig has to be prepared for a job in the deep Norwegian waters for which it needs a leg extension. The legs are lengthened with 10 metres to an impressive 180 metres at the quayside of Damen Shipyapri Vlissingen. The project is supervised by Damen Shiprepair and Conversion’s special task force ‘Offshore & Conversion’. Thanks to the method chosen by the task force, a lot of work can be carried out simultaneously, drastically shortening the turnaround time.
NEW DESIGN

Not only do they save fuel, the ASD Tug 2810 Hybrid saves on maintenance costs and spares because the main engine has considerably fewer running hours.

Additionally, there is an option for a battery pack, so full electric sailing is possible and solar panels are also installed for the emergency batteries. With the two battery packs of 120 kWh each, it is possible to shut down all the engines during station keeping, manoeuvring and free sailing at low speeds. The generator set engine of the diesel electric propulsion system will no longer run idle or at low loads, making the vessel even more environmentally friendly.

As well as the Damen ASD Tug 2810, a Hybrid version is possible for the ASD Tug 3212 and 2411 and for Stan Tugs.

The ASD Tug 2810 Hybrid embodies extensive Damen research. In 2012, the three-year ‘E3’ project was completed, whereby Damen and its partners monitored a conventional ASD Tug 2810 operating in the port of Rotterdam. During the monitoring campaign the E3 team found that the average load profile showed that tugs are running inefficiently for most of the time. For up to 80% of the day they can be free sailing, station keeping – running idle essentially – making them less environmentally friendly and leading to higher operational costs.

Damen’s Research Department has also made a computer simulation model to analyse various propulsion trains. Damen can use this simulation model to calculate the exact savings that are possible from the Hybrid in each individual case, based on the tug’s operating profile and running hours.

‘Smart customisation’ of the standard series is possible with options such as a crane and aft winch enabling the vessel to be suitable for towing but also offshore assistance and extra nautical equipment to fit in with the relevant flag state requirements.

The Hybrid has already been recognised in the Netherlands when it won the prestigious Green Award from the Dutch national newspaper, De Telegraaf.

For Coen particularly, the launch of the Hybrid is a poignant moment as he celebrates being 25 years as Product Director Tugs of Damen and 40 years in the business. “It is great to celebrate with this kind of product! For Damen, we have the Hybrid and we are working on the introduction of the LNG type, it is such an exciting period.”

Several months before its official launch at ITS in June, the Damen ASD Tug 2810 Hybrid is proving a success as the first order is rapidly followed by three more.

The first Hybrid order came in February 2013 when Damen announced that Jakes Towage & Salvage in Amsterdam would be the launching customer. Then the Defence Material Organisation of the Royal Netherlands Navy (RNLN) has also opted for the ASD Tug 2810 Hybrid, in a response to current and future developments in emissions reduction and environmentally friendly shipping. And as Damen Magazine went to press, an order for one more Hybrid tug was also expected.

Damen is pioneering in this field and unique in the shipbuilding world as it is the only shipyard building hybrid tugs for stock. Coen Boudesteijn, Damen Product Director Tugs comments: “We are still on our own developing the Hybrid as a standard. Damen has been working for years on developing both the compact Hybrid and now a compact LNG ship-docking module. Damen has a distinct vision.”

Depending on the operating profile of a customer’s tug, the ASD 2810 Hybrid, which has a combination of diesel-direct and diesel-electric propulsion, or purely electric with battery options, facilitates average fuel savings of up to 30% and cuts local emissions by up to 40%. Damen recognises that with fuel costs going up all of the time, fuel efficiency is even more important to its customers. “The Hybrid tugs save 30% and this is even more relevant as fuel costs show no signs of decreasing!” The tug has a bollard pull of 60 tonnes.

Coen says: “These tugs are both economic and environmentally friendly. They do represent a higher initial investment but this is paid back in a relatively short time.” For Damen it was also vital that it could offer an attractive cost price, being very mindful that this tug has to cut fuel and emissions, but at the same time, it has to be positioned at an attractive price for the market. “Being green has to be commercially attractive too.”

Not only do they save fuel, the ASD Tug 2810 Hybrid saves on maintenance costs and spares because the main engine has considerably fewer running hours.

Additionally, there is an option for a battery pack, so full electric sailing is possible and solar panels are also installed for the emergency batteries. With the two battery packs of 120 kWh each, it is possible to shut down all the engines during station keeping, manoeuvring and free sailing at low speeds. The generator set engine of the diesel electric propulsion system will no longer run idle or at low loads, making the vessel even more environmentally friendly.

As well as the Damen ASD Tug 2810, a Hybrid version is possible for the ASD Tug 3212 and 2411 and for Stan Tugs.

The ASD Tug 2810 Hybrid embodies extensive Damen research. In 2012, the three-year ‘E3’ project was completed, whereby Damen and its partners monitored a conventional ASD Tug 2810 operating in the port of Rotterdam. During the monitoring campaign the E3 team found that the average load profile showed that tugs are running inefficiently for most of the time. For up to 80% of the day they can be free sailing, station keeping – running idle essentially – making them less environmentally friendly and leading to higher operational costs.

Damen’s Research Department has also made a computer simulation model to analyse various propulsion trains. Damen can use this simulation model to calculate the exact savings that are possible from the Hybrid in each individual case, based on the tug’s operating profile and running hours.

‘Smart customisation’ of the standard series is possible with options such as a crane and aft winch enabling the vessel to be suitable for towing but also offshore assistance and extra nautical equipment to fit in with the relevant flag state requirements.

The Hybrid has already been recognised in the Netherlands when it won the prestigious Green Award from the Dutch national newspaper, De Telegraaf.

For Coen particularly, the launch of the Hybrid is a poignant moment as he celebrates being 25 years as Product Director Tugs of Damen and 40 years in the business. “It is great to celebrate with this kind of product! For Damen, we have the Hybrid and we are working on the introduction of the LNG type, it is such an exciting period.”

THE DAMEN ASD TUG 2810 HYBRID TAKES OFF

“These tugs are both economic and environmentally friendly”
NEW COMPACT SERIES
INTRODUCING THE REVERSE STERN DRIVE TUG

Yet another development from Damen’s Tug Department is the new Compact Series, which will be launched in the next few years. The new brand - the Reverse Stern Drive Tug (RSD) - is essentially an ASD and tractor tug in one – being able to sail ahead and astern, with the same bow height forward and aft.

Currently, the Series comprises the RSD 2210, which will have a 50 t BP, RSD 2512 (70 t BP) and RSD 2914 (90 t BP). Damen will start on the designs, detailed engineering and production drawings in 2014.

Coen stresses: “This Compact Series is absolutely designed for SHIP HANDLING, it is dedicated for harbours. It is not about coastal towing, offshore buoy handling – it is a 100% ship handling module!”

Damen of course, has built a name in compact tugs over the decades, starting in the seventies with the 16 m length Stan Tug 1 with a 10 t BP, which was designed by Chairman Kommer Damen. This is still successful as a 16 tonnes bollard pull tug today… with over 400 tugs built!

The new RSD provides improved working and sailing capacities. “It is a cost efficient tool for handling containers and bulk carriers in harbours. The RSD is powerful, compact, has a low cost price and is very reliable. All accommodation is above the main deck and it has modern control and information systems and new cooling systems so it is more environmentally friendly. Summed up - it is the next step forward, it is more multifunctional.”

This RSD has full power astern and ahead. Previously the similar vessel type ASD 2411 had a square aft so water comes over but now this is more bow shaped. “This is ideal for forward and aft but also in waves, a big improvement for a ship handling tug. Some harbours prefer ASD tugs and others, tractor tugs but they now always have bow ahead, because on the RSD there are effectively two bows. The RSD has perfect sailing capacities. It has a great performance steering aft, for corrections of 30 degrees – a perfect ship handling module!”

“This latest Series and all our tugs have been developed by our tug team, an experienced crew with many people having 25 years’ service. They are tugs, we think tugs. For RSD, we have continuity of workers so the ensures quality and innovation. The tug team, together with the sales team, helped develop Damen Shipyards as a worldwide market leader and builder of first class ASD tugs and other ship handling tug designs.”

REVOLUTIONARY NEW COMPACT LNG TUG COMING TO YOUR PORTS SOON!

In addition to the Damen ASD Tug 2810 Hybrid, a new natural gas tug is in the pipeline, after years of development.

As governments are more concerned about looking to reduce emissions in cities and ports, natural gas is a great alternative and now a viable option because the industry is now ready, stresses Coen.

“In the coming decade there will be many changes in the engine room. We are now seeing the possibilities; there is the development of reliable products and suppliers such as MTU, which are coming with really high quality, modern high-speed natural gas engines. There are really good possibilities for the coming years.”

Damen is currently working on a prototype new hybrid tug, with an LNG or CNG gas installation and MTU gas engines. As MTU now has the LNG 16V-4000 Series 100% gas engine available, it is ‘full steam ahead’, with Damen starting work on the LNG tug in early 2014 and the prototype ready in 2016, for its official launch at ITS.

The Hybrid natural gas tug is part of Damen’s new Compact harbour tug series (see separate story). This tug is being developed in close cooperation with tug operators and in particular Svitzer, which is the pilot customer for the prototype.

Coen explains: “We now have a very specialised way of doing the natural gas propulsion and the storage system is quite revolutionary. Sometimes with LNG, the infrastructure is problematic but we have developed a solution: Rather than having to have a LNG tank on board, which has to be integrated into the whole hull design, Damen will instead use a simple shore container or bunker barge CNG supply system. This is easy to mobilise, transport and supply and is a very attractive option cost wise.”

The new Hybrid natural gas tug will be price competitive and as it is combined with MTU 4000 engines with 1600 RPM, it has an excellent engine for ship handling, with quick acceleration possible. “The performance of our new natural gas tug will be comparable to the performance of our standard diesel tugs.”

For ship handling tugs 90% of them have these types of engines, running at 1600 rpm with diesel fuel. “We now have these modern, high-speed engines for natural gas. With a reasonable cost price and with these engines, the growth of natural gas can only be accelerated.”

The vessel will have state-of-the-art manoeuvrability, excellent handling - all the benefits of Damen products - and it is clean and efficient, emphasises Coen.
THE DAMEN FAST INSPECTION REPAIR & MAINTENANCE (FIRM) VESSEL

Is a new development, which underpins our aim to create a new line of innovative offshore vessels. This vessel is specifically designed to achieve high mobilisation speeds in combination with a high functionality level with respect to repair & maintenance activities. A dedicated roll reduction system will facilitate optimised seakeeping behaviour at zero-speed, while the Sea Axe bow reduces the vertical accelerations and increases comfort at high speeds.

Damen has worked extensively on the hull development matching high-speed requirements, yet fulfilling operational requirements as well. Special attention has been given to zero-speed performance in order to provide a stable working platform. Typical IRM features are included such as an AHC crane and a 30-tonne module Launch & Recovery system using a moonpool. Furthermore, two Work Class ROVs are included, as well as an inspection ROV and ample accommodation for up to 100 people. There is also the option of fitting a motion compensated helideck, oil recovery spread and dive support system.

WIND FARM SERVICE VESSEL - SLEEP IN COMFORT, WALK TO WORK

Damen’s ‘Walk-2-Work’ vessel has been designed to provide motion compensated transfers for personnel and equipment, while facilitating optimum logistic flows for carrying out maintenance and repairs for the offshore and offshore wind industry, as well as for unmanned offshore installations.

The Wind Farm Service Vessel provides in field accommodation and a large work deck for engineers involved in all phases of wind farm projects. With accommodation for 45 maintenance personnel plus 15 crew, the new vessel features an efficient work and storage space, a number of sheltered workshops, along with well-appointed accommodation facilities.

With excellent seakeeping ability and low power consumption, the Walk-2-Work vessel will be able to remain at sea for a month. The telescopic, motion-compensated gangway and the DP system allow maintenance personnel to quickly and safely walk to and from the turbine in a range of weather conditions, including waves of up to three metres. The DP performances are tuned to the Baltic, Irish and North Sea areas. Standby, Emergency Rescue/Response and Recovery duties can also be performed.

The vessel has a maximum speed of 25 knots, with a range of 700 nm, depending on the sea state. The very slender Twin Axe hulls guarantee unparalleled seakeeping behaviour and – as a bonus – have very low resistance, resulting in great fuel economy.

Vessels are built in series under Bureau Veritas Class and can be customised to the requirements of various national authorities. The 20 m long and 8 m wide vessel offers accommodation for a crew of four and up to 12 passengers. With ample working and storage space on deck it is possible to load various types of cargo.

NEW FCS 2008 TWIN AXE ON STOCK

Damen Shipyards Den Helder is building four new 20 m Twin Axe Fast Crew Suppliers. The Damen FCS 2008, which is specifically designed for nearshore wind farms, has superior seakeeping ability like its big brother the FCS 2610, which has become the offshore wind industry standard since its introduction in 2011.

The FCS 2008 has been developed to make the transfer of personnel to offshore platforms or wind turbines safer and more comfortable. Besides this, the Twin Axe hull form also stretches the operability of the vessel way beyond the limits of the more conventional competition. The vessel has a maximum speed of 25 knots, with a range of 700 nm, depending on the sea state. The very slender Twin Axe hulls guarantee unparalleled seakeeping behaviour and – as a bonus – have very low resistance, resulting in great fuel economy.

Vessels are built in series under Bureau Veritas Class and can be customised to the requirements of various national authorities. The 20 m long and 8 m wide vessel offers accommodation for a crew of four and up to 12 passengers. With ample working and storage space on deck it is possible to load various types of cargo.

NEW DESIGN

MULTIPURPOSE POWER

The new Damen Offshore Support Tug (OST) range complements the successful ASD Tug range with several larger, offshore focused designs. The first in the series is the 100-120 tonne bollard pull OST 5415, which offers multi-role support capabilities such as towing over the bow and stern, anchor handling, fire-fighting, hose handling and safety standby.
And even today, just three years after the revolution, there are plenty of developments and expansion plans whether this concerns port authorities, the Libyan Navy or entrepreneurial private companies.

Tarek Aboukhlal, Damen Regional Director Africa, who is Libyan, has been a regular visitor to Damen customers for the last 25 years. Damen has traditionally had a specialist team in Libya and it not only sells vessels to the country, it plays a vital role in training Libyan seafarers and engineers, as well as carrying out maintenance and rehabilitation activities and providing spare parts.

Propects for the market are looking promising for the future with several oil terminals, shipyards and ports upgrading and modernising, Tarek says. “The momentum is growing. Business is booming particularly in the oil and gas sectors. Libya has always been one of our most busy countries in Africa. With some 2,000 km of coastline, there is very steady business there.”

90+ Damen vessels
He estimates that Damen probably has 90 vessels in Libya at the moment. And indeed Tarek is proud that Damen managed to get the first new vessel into Libya again after the revolution was over. Being built for SMS, the Stan Tug 2909 tug had been on its way from the shipyard for delivery but it had to be stopped when trouble flared up. But straight after everything had calmed down, the vessel was safely delivered.

Currently, Damen is working on several orders for Libya. In July 2013, Damen delivered a Damen Stan Tug 2608 to the Libyan Ports Company (LPCo), and the sister vessels will be delivered in April and May this year.

Long-term relationships
LPCo is a long-standing client of the Group and operates a fleet of 30+ different Damen vessels. And in 2013 LPCo signed a service agreement, which included maintenance, a spare parts package and training. Damen usually has a team in Libya purely dedicated to LPCo, as well as engineers for other clients – a way of working also adopted in other countries.

Training
Training is also an important part of the contract with the Libyan Naval Forces, LPCo, Azawia Oil Refining Company and other clients. Damen will soon be providing a full training programme for 16 trainees for four months for the Libyan Naval Forces, most of which will take place in the Netherlands. This will cover all technical and maintenance training.

Service Hub
Additionally, the Libya Services Team is currently busy with maintenance and rehabilitation projects for Harouge, Waha and NASCO. As well as the presence of several project managers and its service team, Damen is set to start its ‘hub project’ very soon, whereby it is establishing a maintenance workshop in Tripoli with its local agent Nile Shipping Agency Company.

Tarek comments: “Libya is more open – a modern and democratic country – and wants quality products from the West. They know the Damen name and our good reputation: high product quality, good services, maintenance support and after-sales assistance. Above all, we build fantastic relationships with our clients – they are our friends too.”

Positive developments
Tarek emphasises that there are very positive signs from the market. The Azawia Oil Refining Company was the first client that ordered two Stan Tugs 1605 straight after the revolution in 2012; a few months later the Libyan Naval Forces ordered the patrol vessels, closely followed by LPCo’s order.

Recently, Sirte Oil Company ordered an ASD 2810 Tug with 5,000 HP power. The new tug will be used to handle oil tankers both in and outside the harbours amongst other future projects.

In 2012/13 Damen also trained more than 80 people for the Libyan Naval Forces in the Netherlands and Libya, who are largely working on the eight SPA 1605 vessels.

“Typically we deliver training, spare parts and carry out the delivery/commissioning and services.”

Libya has always been a very busy and important market, with Damen active in the country since 1975.
The Offshore Support Vessel Relume recently moored alongside at ship repair and conversion yard Damen Shiprepair Rotterdam. With her second special survey due later in 2014 her owner, MENAS Marine Services Ltd (MMSL) has, after extensive research and detailed discussions with charterers and contractors, decided that it is also time to upgrade the vessel.

**A long-term relationship built on trust**

The Relume, which has a record of successful operations in the North Sea area, was designed and built by Damen, entering service in 2004. Over the ten years since delivery Damen Shiprepair & Conversion has undertaken her dry-dockings and surveys. In its role as ‘total service provider’ for the vessel, Damen was asked to create the upgrade plan for the Relume, and in December 2013 MMSL and Damen signed the contract for a turn-key project.

Damen Shiprepair & Conversion Commercial Manager Bas Loohuis observed that the open and mutually supportive relationship between the two organisations had generated such a high degree of trust that work began on the basis of just a verbal agreement and an outline scope written on a napkin. Due to the delivery times for some of the equipment it was decided to execute the program in two phases. The first, which was completed in February 2014, involved a thorough inspection of the vessel including an inclination test, the overhaul of the Wärtsilä diesel engines, the extension of the mezzanine deck, and the upgrading of the communications systems.

The second phase will take place later in 2014 and will comprise the fitting of a new Cargotec offshore crane and the conversion of two storage tanks into an auxiliary engine room for the generation of additional power for use by client equipment operating from the working deck. The two Rolls Royce bow thrusters will also be upgraded along with the Kongsberg DP system, and the additional berths will be installed along with the improved office space.

An MMSL representative commented that: “The Relume has been a very successful vessel in the offshore market, ably supported by Damen. Obviously, with a decade of service behind her, her specification has fallen behind more recent vessels. These improvements will enhance her appeal to charterers and contractors, especially those already familiar with her past performance.”

With the upgrade program complete, the vessel will be ready for her next decade of offshore support as a highly capable and flexible OSV. Then her name Relume, which means to make bright again, will be truly fitting.
"I always start my working day at the yard in Changde with a cup of Dutch coffee. When our colleagues from Gorinchem come to visit, they always bring me a supply, which I very much appreciate. I had to get used to everything at first – not just the coffee but also the fact that the Dutch are more straightforward than the Chinese. I'm better at that now too. I simply say whether or not I like something.

I never really considered going into shipbuilding when I was younger. I got a job with Damen right after I graduated from Hua Zhong Science and Technology University in 1996, and my passion for this industry has grown year by year.

There’s no doubt it’s a man’s world, but there is always room for a woman who is genuinely interested. Many women in China are independent and very busy building their careers. My background in welding technology gave me an advantage. I’m proud to say that I’ve now become a true shipbuilder.

My ideal day off? I’m interested in a lot of different things – I’m a typical Gemini – but my favourite pastime is to swim and eat out with friends. I also like to get a group together to go to KTV, a Chinese karaoke bar. However, it’s not all fun and games here. We have a serious air pollution problem here in China. I’m worried about the environment and I try to do my share to help, for example by not driving but taking the bus or walking. It’s not about what you can do, but about what you want to do.”
DAMEN SHIPYARDS SHARJAH, UAE

Damen recently opened its first Service Hub in Australia. Damen Services Brisbane Pty Ltd serves Australia, New Zealand and the Pacific. Headed up by Peter Ryan, the new hub handles all warranty, maintenance issues and it provides training courses, as well having a spare parts store onsite. The Australian office is also building up business relationships with local simulator companies to further extend maritime training possibilities.

Damen was keen to be on the east coast of the country because this is a very busy area with many interesting projects going on and the company’s business in New Zealand and the Pacific Islands is also expanding significantly. There are some 70 Damen vessels operating in the region currently, with more to come.

DAMEN SONG CAM SHIPYARD

Damen Song Cam Shipyard, a brand new joint venture yard, which is one of the largest in the Group and one that represents Damen’s first owned yard in Vietnam, was opened in March 2014.

DSCS is state-of-the-art, bringing a western shipyard designed to meet European health, safety and environmental standards into a Vietnamese environment. It will be producing around 40 ships a year in the first phase.

With direct access to open sea, the new yard is based on a 43-hectare site, of which 500 m is directly alongside the River Cam. The yard has a 120 m long x 85 m wide outfitting hall, plus extensive paint and carpentry workshops. A Rolls-Royce Syncrolift® shiplift, with a platform of 60 m long x 24 m wide, is also on site. The paint shop is air-conditioned, which is very important given the humidity of the climate.

Around 300 people currently work at Damen Song Cam Shipyard, which will slowly rise to 800 at the end of phase 1, enabling the yard to handle 40 vessels annually. After that, phase 2 and 3 will bring extra facilities, making the yard suitable for building up to 50 hulls and outfitting a further 80 vessels annually. By then, more than 2500 people will be working at Damen’s largest production facility.

Damen Shipyards Sharjah FZE officially opened in early 2014. The Albwardy Marine Engineering owned and managed yard (Albwardy Marine Engineering is a joint venture between Damen Shipyards Group and Albwardy Investment) brings Damen newbuild and Albwardy Marine repair expertise and capabilities to customers in the Middle East and beyond. The yard is conveniently located in the Sharjah Hamriyah Free Zone and has direct access to the sea and meets the highest standards of modern ship construction and repair.

Based on a 284,000 m² site, the facility is equipped with a 120 x 26.5 m ship-lift with a 5,200 tonnes capacity, eight dry berths, a fully enclosed blasting and painting facility, an undercover construction hall of 6,500 m² and workshops covering 7,500 m². The facility has 1,200 m of quay with a water depth of up to 9 m.

With a healthy orderbook, Damen Shipyards Sharjah has recently delivered tugs, workboats, support vessels, dredgers, landing crafts, floating docks, barges and pontoons. Damen Shipyards Sharjah is also the Damen Services hub for the Middle East region.

LATEST NEWS

AUSTRALIAN SERVICE HUB

Damen Shipyards Sharjah, UAE AUSTRALIAN SERVICE HUB

Damen recently opened its first Service Hub in Australia. Damen Services Brisbane Pty Ltd serves Australia, New Zealand and the Pacific. Headed up by Peter Ryan, the new hub handles all warranty, maintenance issues and it provides training courses, as well having a spare parts store onsite. The Australian office is also building up business relationships with local simulator companies to further extend maritime training possibilities.

Damen was keen to be on the east coast of the country because this is a very busy area with many interesting projects going on and the company’s business in New Zealand and the Pacific Islands is also expanding significantly. There are some 70 Damen vessels operating in the region currently, with more to come.
On her maiden voyage, the radically modern and luxurious yacht Event left Vlissingen (the Netherlands) and headed north to Norway’s wild coastline. A few months later the first build of the AMELS 199 design was in the Med, celebrated as the star of the Monaco Yacht Show. For AMELS CEO Rob Luijendijk, the yacht’s journey from conception to delivery has been extraordinarily memorable.

About Amels
AMELS has been part of Damen since 1991. The Vlissingen yard is the largest superyacht facility in the Netherlands and one of the top three superyacht builders in the world. Up to 600 craftsmen, co-makers, engineers and project specialists work at the yard. AMELS is at the heart of modern high-value yachtbuilding in the Netherlands—a country with a reputation across the world as the home of premium quality superyachts. The yard is expanding and currently has nine projects under construction.

In 2007 AMELS launched the LIMITED EDITIONS—five superyacht designs, all created with the Damen philosophy of comprehensive R&D followed by highly efficient builds leveraging Damen’s network of yards and smart procurement. Combined with the renowned AMELS engineering and luxurious finish, the LIMITED EDITIONS are high quality and proven platforms that offer short delivery times as well as a high level of individualised design. Visit www.amels-holland.com to discover more about AMELS. You will find interesting videos, including of the first AMELS 199, EVENT!

“After receiving the first very positive responses on Event, we realised that the AMELS 199 is a true benchmark for our company,” says Rob Luijendijk. “We proved that within this 60 metre avant garde design, AMELS is able to offer our clients an exceptionally high level of customisation.”

Event is not only a milestone for AMELS, but also illustrates the pinnacle of synergy between AMELS and Damen that helped develop such a unique and highly successful creation. In fact, award-winning British yacht designer Tim Heywood even derived the yacht’s signature curved ‘Scimitar’ sword bow from Damen’s Axe Bow concept.

In 2011 the first AMELS 199 hull was in production when she was sold. In cooperation with Imperial, the brokers who sold Event and supervised construction, the Owner delved into the design and build—stamping a very personalised touch on Event. Although construction was already under way, Tim Heywood and AMELS rose to the challenge of significantly reconfiguring the initial design.

The final design required introducing a closed stairwell all the way to the top, an enclosed lounge and screening room on the sundeck and major changes to the internal staircase to connect all levels. The Owner also required a touch-and-go helipad on the foredeck which can accommodate a twin-turbine Eurocopter EC135 or Bell 427. Not to mention an additional folding bulwark with integrated boarding ladder and finally, the Owner selected a fully customised interior by the designer Laura Sessa.

Despite the steel already having been cut and the early stages of production well under way, it was still possible for AMELS to accommodate these significant alterations, as project manager Adriaan Roose explains: “With almost 30 people working in the in-house design team, we put tens of thousands of man hours into the initial design and engineering plans for the boat. This gave us a strong design base to work from, so when it came to customising the deckhouse and helideck, it only took us an additional 5,000 hours of design time to make these changes to hull No.1.”

Tailored to her Owner’s wishes
In 2011 the first AMELS 199 hull was in production when she was sold. In cooperation with Imperial, the brokers who sold Event and supervised construction, the Owner delved into the design and build—stamping a very personalised touch on Event. Although construction was already under way, Tim Heywood and AMELS rose to the challenge of significantly reconfiguring the initial design.

The final design required introducing a closed stairwell all the way to the top, an enclosed lounge and screening room on the sundeck and major changes to the internal staircase to connect all levels. The Owner also required a touch-and-go helipad on the foredeck which can accommodate a twin-turbine Eurocopter EC135 or Bell 427. Not to mention an additional folding bulwark with integrated boarding ladder and finally, the Owner selected a fully customised interior by the designer Laura Sessa.

Despite the steel already having been cut and the early stages of production well under way, it was still possible for AMELS to accommodate these significant alterations, as project manager Adriaan Roose explains: “With almost 30 people working in the in-house design team, we put tens of thousands of man hours into the initial design and engineering plans for the boat. This gave us a strong design base to work from, so when it came to customising the deckhouse and helideck, it only took us an additional 5,000 hours of design time to make these changes to hull No.1.”

In 2007 AMELS launched the LIMITED EDITIONS—five superyacht designs, all created with the Damen philosophy of comprehensive R&D followed by highly efficient builds leveraging Damen’s network of yards and smart procurement. Combined with the renowned AMELS engineering and luxurious finish, the LIMITED EDITIONS are high quality and proven platforms that offer short delivery times as well as a high level of individualised design. Visit www.amels-holland.com to discover more about AMELS. You will find interesting videos, including of the first AMELS 199, EVENT!
Madness of superyacht building

Following the hull production, EVENT arrived at the AMELS yard in Vlissingen, where the madness of superyacht building took over. A lot of effort went into planning spaces and in particular varying the luxury interior spaces while keeping the platform intact. An example is the centralisation of the AMELS 199’s air-conditioning system into one space – not only does this free up more luxury space, but the maintenance schedule is much easier.

The largest of EVENT’s window units weighs in at 600 kilos and all incorporate heat reflection and noise dampening within the structure. Their manufacturer designed a robotic fitter, tall enough to fit the window units from the outside – the only option, as the units are so large and heavy.

AMELS prides itself on luxurious paint finishes and EVENT is no exception. Almost every component – from the radar to the engine room valves – are painted and repainted to perfection. It takes 12 months to paint a yacht of this size, all meticulously by hand. Factoring in enough time for the painters to do the job and allowing the paint and filler to cure is essential. In such builds, the paintwork is the critical path, determining the delivery date. To ensure a perfect finish, the halls are fully climate controlled for the perfect temperature and humidity.

Engineered for luxury

With her Scimitar bow, the AMELS 199 is such a departure from the norm that AMELS invested heavily in the naval architecture. During laborious upfront engineering, the designers efficiently placed every pipe, duct, hydraulic system and electrical conduit. EVENT also benefited greatly from Damen’s extensive R&D facilities. From tank testing the hull at MARIN, AMELS discovered the boat was slightly faster than originally predicted by the computer fluid dynamics (CFD) software.

A complete floating interior helps reduce noise and vibrations, combined with attention to detail from the tank deck up. Sound measurements taken on sea trials throughout the yacht were lower than the design limits at 43 to 46dB - an achievement that did not go unnoticed by those on board during EVENT’s maiden voyage. Many commented on the low level of vibration and noise.

“Return on investment

With the maiden voyage to Norway in the planning for more than a year, the construction team couldn’t afford any slippage in the schedule of delivery. True to their reputation, AMELS delivered the completed EVENT on time last year. EVENT required four years to complete, compared to the typical two years for a LIMITED EDITION. During the first two years of development, AMELS and Damen put a lot of effort into engineering the AMELS 199. However, they were confident this investment in precision would help them sell the second AMELS 199, and so it proved. The contract was signed following EVENT’s dramatic debut at the Monaco Yacht Show. Now under construction, the second AMELS 199 is due for delivery in Spring 2015 – a beautiful confirmation of the radical concept created on the boards of Tim Heywood and delivered by the craftsmen at AMELS.

“This yacht is without doubt the greatest thing I have produced,” the designer enthuses.

“It’s not the longest, it’s not the biggest volume – but it’s just a jewel. It’s everything that I’ve wanted to do, and I am just so proud of EVENT.”
Importantly, at Damen we want to go above and beyond complying with the law and regulations, we want to anticipate developments and make sure we are ready to address them." Last year’s special focus topic was ‘Health and Safety awareness as part of the Damen culture’. When the Safety Week took place this year the safety topic will be addressed by all our clusters as the company broadens the initiative, she says.

The Safety Week also went back to basics to underline the importance of safety measures, Laure adds. “For instance, we explained why we ask people to wear a helmet and walk along the special green safety paths. This showed that there is always a good reason – it is not just for the sake of it.”

Laure stresses that Damen wants to highlight the risks but it is all done in a very positive environment.

A good example of Damen’s focus on safety is highlighted by the work of Damen Shiprepair Brest, where a broad range of health and safety initiatives have been introduced as part of the shipyard’s continuing efforts to improve safety levels.

Jos Goris, Managing Director of Damen Shiprepair Brest, says: “In effect our safety standards are being pushed up continuously by our clients which are very often the energy majors. We are audited annually by our customers but while some companies may find audits slightly irritating, we actually welcome them. The energy companies bring a ‘fresh pair of eyes and an awful lot of knowledge’ to our yard and help us improve.”

“Our safety programme is absolutely ‘business critical’, we are working for the energy majors and have to have a very good safety system.”

The drive to increase safety standards is apparent throughout the French yard. Damen Shiprepair Brest, which was acquired by Damen Shipyards in 2012, has already introduced a comprehensive work permit and hot work permit system, which is managed by its Safety Coordination Team onboard vessels.

“Importantly, at Damen we want to go above and beyond complying with the law and regulations, we want to anticipate developments and make sure we are ready to address them.” Last year’s special focus topic was ‘Health and Safety awareness as part of the Damen culture’. When the Safety Week took place this year the safety topic will be addressed by all our clusters as the company broadens the initiative, she says.

The Safety Week also went back to basics to underline the importance of safety measures, Laure adds. “For instance, we explained why we ask people to wear a helmet and walk along the special green safety paths. This showed that there is always a good reason – it is not just for the sake of it.”

Laure stresses that Damen wants to highlight the risks but it is all done in a very positive environment.

A good example of Damen’s focus on safety is highlighted by the work of Damen Shiprepair Brest, where a broad range of health and safety initiatives have been introduced as part of the shipyard’s continuing efforts to improve safety levels.

Jos Goris, Managing Director of Damen Shiprepair Brest, says: “In effect our safety standards are being pushed up continuously by our clients which are very often the energy majors. We are audited annually by our customers but while some companies may find audits slightly irritating, we actually welcome them. The energy companies bring a ‘fresh pair of eyes and an awful lot of knowledge’ to our yard and help us improve.”

“Our safety programme is absolutely ‘business critical’, we are working for the energy majors and have to have a very good safety system.”

The drive to increase safety standards is apparent throughout the French yard. Damen Shiprepair Brest, which was acquired by Damen Shipyards in 2012, has already introduced a comprehensive work permit and hot work permit system, which is managed by its Safety Coordination Team onboard vessels.
Strict safety measures are in place for entering confined spaces. Again, the yard has a dedicated office controlling who is going into which tank, along with providing information on the condition, atmosphere and lighting in the tanks.

Working in confined spaces
Each person has their own badge that is put on a magnetic board outside the tank so it is easy to see where people are and they are equipped with a radio, dead man alarm and O2 monitor. “The office is in direct communication with people inside the tanks, which is vital when considering that many of these vessels have 50-60 tanks and they maybe 20 m deep in the vessel.”

Changing the safety culture
The shipyard is encouraging all of its subcontractors to take part in the safety initiatives. “We will provide our subcontractors with safety training and then they can pass it on to their employees,” Jos says. “Failure to give this training will ultimately mean that subcontractors do not qualify for tendering at the yard. “We want certain safety standards amongst our subcontractors and we want a level playing field for them. And because we are auditing them, we are sharpening their standards as well as our own.”

The programme is being rolled out this year with a number of workshops in which everyone will be involved, focusing on subjects like lifting operations, hot work, working at heights, housekeeping standards, communicating safety targets and personal protective equipment. Client representatives and third-party experts will help provide specialist information at the workshops.

Efforts certainly appear to be paying off. Jos adds that a recent 25-day repair project from one of the world’s leading oil companies, involving six QHSE staff and two technical superintendents, made only three minor observations, all of which have now been rectified.

“We want our people to understand the reasons behind these measures”
BUILDING ON SITE

DAMEN TECHNICAL COOPERATION PROVIDES LOCAL SOLUTIONS FOR SHIPBUILDING PROJECTS

“We are currently building in 16 countries around the world,” explains Damen Technical Cooperation (DTC) Product Director Frits van Drenth. “This includes ASD tugs, 90m Offshore Patrol Vessels and a 2,500m³ trailing suction hopper dredger.

“Adaptable Services

The range of services DTC offers is extensive – far beyond the scope of just delivering the parts. “Local yards often use our experts to assist during construction of the vessel. We can assist the yards on every level from general management to supplying foremen and engineers,” comments Mr Van Drenth. “If a client has his own design, we can also assist him by supplying materials, training and building assistance.” This flexibility meets the demands of more specific projects. “We also can assist local yards to prepare tender proposals – we provide the specs, the plans and all the relevant documentation while compiling the feasibility studies.”

Global Solutions Supplier

There are numerous reasons to build locally; maybe regulations prohibit importing vessels from abroad or require a minimum local content. For some operating areas, local construction is the only option: “If you want to sail at Lake Victoria or Lago Titicaca you have to build on-site because there is no other way to get your vessel over there,” explains Mr Van Drenth. By using DTC’s services, customers have access to support from the entire Damen organisation; from research and product development to spare parts delivery and customer finance plans.

Productive Partnerships

Damen Shipyards Gorinchem provides overall technical support. A dedicated Project Manager organises the flow of materials; a highly automated process of parts inventory and distribution. “DTC’s collaborative approach results in short delivery times, in comparison to traditional shipbuilding. On completion, commissioning and trials are performed in the presence of Damen specialists,” says Mr Van Drenth. “To date we have executed more than 1,000 projects in 70 different countries.”
Combining sales force, purchasing power and learning ability to guarantee docking capacity and high-level services.
Just over a year ago Damen’s 16 shipyards specialising in repair and conversion were brought together under one organisation, Damen Shiprepair & Conversion.

This new Damen division can now offer 40 dry docks worldwide, the largest of which is 420 m long, and has specialists in every industry sector ranging from offshore vessels, LNG carriers to fishing vessels and dredgers in locations in the Netherlands, Sweden, France, United Arab Emirates, South Africa and Singapore.

Durk-Jan Nederlof, who is heading up Damen Shiprepair & Conversion comments: “We took the strategic decision to invest in repair and conversion and to promote cooperation between all our yards in the repair and conversion business.”

This led the Group to go on a spending spree in 2011/12 when it eventually acquired five yards, considered complimentary to its activities, in less than a year in the Netherlands, France and Sweden.

“Since we have brought all our yards together under our organisation we have been able to combine our sales force, purchasing power, cooperate more and learn from each other.”

Each yard is individually managed by a dedicated team but the Damen Shiprepair & Conversion philosophy and brand is being adopted at all the yards – being safe, reliable, providing the best quality and at a competitive price.

Wherever clients are in the world they will be treated in the same way, see the same Health & Safety procedures, working methods, planning and same invoicing, stresses Durk-Jan. For example, as from 2014 all of the yards will be ISO 9001 certified and we are now working towards an ISO 14000 group certificate. “Our yards are all working to the latest standards and have continuous improvement programmes in place. I can confidently say that audits by major clients - without exception - are going very well.”

The Group’s purchasing power is now a lot bigger and it can offer better prices and pass these on to the customer and it is also able to have a wider choice of subcontractors, which again, leads to better prices. “Our scale allows us to be more reliable and more competitive. The major advantage for the client is that they can expect the same level of performance.”

Kees Jan Groen, Commercial Director, stresses that the client always selects their yard of choice. “We always have capacity available with 40 dry docks. When they ask us for capacity there is almost always a dock available and our customers can go to the yard of their choice with our quote. If for instance, Dunkirk doesn’t have a slot available with 40 dry docks. When they consider the yards, we can bring the vessel to Vlissingen if the customer agrees.”

Damen Shiprepair & Conversion has specialist teams for drilling, offshore, fishery vessels, cable layers, pipe layers, renewables, etc. and a broad range of facilities suitable for any type of vessel including a 50 m high covered dock in Vlissingen, large graven docks at Shipdock in Amsterdam and at Damen ARNO Dunkerque, as well as the huge dock in Brest, tailored for the very largest oil tankers and LNG carriers. Damen Shiprepair Rotterdam recently completed a lifetime extension of an FPSO; Gothenburg has a great deal of experience in ferries, as does Damen ARNO Dunkerque, where we also work closely with the dredging companies. Damen Shiprepair Vlissingen converted several jack-up rigs into accommodation platforms; each yard has its specialism.

But if one particular location is not convenient for a client, then the dedicated specialist teams can be brought to a yard of the customer’s choice. “We aim to provide continuity of service – the people that docked the ship at one location can still be working on the vessel at another location,” says Durk-Jan.

Since the yards have been brought together under one division, the management has reorganised the commercial approach. Damen Shiprepair & Conversion is now working with one sales organisation representing all yards. The market has been divided into area’s and product groups. Our 25 sales managers are now each responsible for their dedicated area’s and/or product groups such as dredging, cruise ships etc.

When it comes to engineering and work preparation the cooperation also brings a lot of advantages. With our combined purchasing power the overlap of yards is much easier to handle big offshore/conversion projects with all the specialists in-house and to develop products such as scrubbers and Ballast Water Treatment systems.

Bringing so many yards under one umbrella with such diverse expertise is also providing great opportunities for employees. “Talented people are getting a lot of chances to prove themselves. We have a young but very experienced management team, which is being given a lot of responsibility. This makes us a very attractive company to work for,” adds Durk-Jan.

“SINCE WE HAVE BROUGHT OUR REPAIR YARDS TOGETHER UNDER ONE DIVISION WE HAVE BEEN ABLE TO COMBINE OUR SALES FORCE, PURCHASING POWER, COOPERATE MORE AND LEARN FROM EACH OTHER”
Diversity is very much at the heart of South Africa where 11 languages are deemed official. The country has a diverse people and a diverse landscape, which encompasses everything from stunning wildlife at its world-renowned national parks to penguins on the Cape, to the country’s iconic Table Mountain.

With a well-documented history South Africa has emerged as the African superpower, representing the largest economy on the continent. Mining has undoubtedly been the driving force behind South Africa’s economic development as this country boasts huge stocks of mineral resources, gold and diamonds.

South Africa, along with China, Brazil, Russia and India, is also a member of the association of the five major emerging economic powerhouses, BRICS.

**Early history - Indigenous San and Khoikhoi people live in the region**

- **1497** Portuguese explorer Vasco da Gama lands on Natal coast.
- **1795** British forces seize Cape Colony from the Netherlands.
- **1816** Shaka Zulu founds and expands the Zulu empire.
- **1866** Diamonds discovered at Kimberley.
- **1880s** The Gold Rush in the Transvaal.
- **1902** Anglo-Boer War ends.
- **1912** Native National Congress founded, later renamed the African National Congress (ANC).
- **1948** Policy of apartheid adopted when National Party (NP) takes power.
- **1964** ANC leader Nelson Mandela sentenced to life imprisonment.
- **2010** South Africa hosts the World Cup.
- **2014** Cape Town named ‘World Design Capital 2014’.

**POPULATION**
- 49 million

**CAPITALS**
- Pretoria (executive), Cape Town (legislative), Bloemfontein (judicial)

**LARGEST CITY**
- Johannesburg

**AREA**
- 1.22 million sq km

**COASTLINE**
- ± 2,800 km

**MAJOR LANGUAGES**
- 11 official languages including English, Afrikaans, Tsonga, Sesotho, Setswana, Xhosa and Zulu

**MONETARY UNIT**
- 1 Rand = 100 cents

**MAIN EXPORTS**
- Gold, diamonds, metals, minerals, machinery

**GDP**
- $384.3 billion 2012

**GNI PER CAPITA**
- $7,610 2012
Editor’s note

South Africa. When you fly to Cape Town and your plane starts its descent, your eye catches the sun, the ocean and then: the land, with Table Mountain and Lion’s Head slowly rising up out of the sea. First impressions: a land of beauty, of wildlife, of sea life; one of the strongest and most stable African countries, both economically and politically.

When you get closer to the landing strip, the other face of this southern-most country on the African continent also becomes apparent: slums surround the airport and children on bare feet are playing in the mud. When I explain to the taxi-driver that I’m here on a business trip, he warns me not to go out alone at night and confides that corruption is a serious problem. Nevertheless, the driver is good-humoured, easy-going and proud of a job well-done – a description that seems to fit almost everyone I will meet on this trip.

Driving along, slowly the slums turn into ‘neighbourhoods’ of small, simple, but newly built and freshly painted houses – the result of a government programme for housing the poor in a decent way. It really works, says the driver, and I believe him. You can actually see progress going on. And that is, I think, South Africa’s state of affairs in a nutshell: progress going on.

Kommer Damen: “To me, South Africa is a beautiful country with a positive vibe and a promising political and business climate”
On the past & future

Looking back on 2013, which project is your favourite?

“Personally, I’m very proud of the repair and maintenance contract for the DAFF fleet (Department for Agriculture, Forestry and Fisheries, ed.). It really shows how far we’ve come and at the same time gives us the opportunity to show our worth.”

Looking forward to the rest of 2014, what would you really like to build at DSCT?

Friso, showing a big smile, answers: “Those who are familiar with the South African context know what I really want to build: Offshore Patrol Vessels and Inshore Patrol Vessels!”

On high-speed craft

“When it comes to high-speed craft, our yard has become more and more professional, gaining experience in building both standard series and one-offs for the African continent. We are building several types that are relevant to local and regional markets, such as pilot vessels, three of which are operated by the Transnet National Port Authority in Cape Town and the Port of Saldanha.”

On tugs and dredgers

“Since 2008 we’ve built numerous tugs and dredgers. The tugs especially are doing quite well in the southern African region and in South Africa itself. The dredgers are modular and can easily be transported by trucks to more remote and land-locked regions. We’re currently finishing a few for our stock, so they can be bought Commercial-off-the-shelf.”

On special vessels

“Special vessels have become part of our portfolio in the last few years. They include special designs for pilot vessels, Hydrographical Research Vessels and Fishery Inspection Vessels for the Department of Agriculture, Forestry and Fisheries.”

Financial Review

Jeroen Plate, one of DSCT’s four board members and Financial Director of the Damen Shipyards Group, says: “From a HQ point of view the advantage of being a member of the Damen family is creating stability in terms of products, finance and know-how. This is what we bring to Cape Town and indeed many of our other yards.”

“As a local board member I am very proud of 2013’s development with regards to our yard’s facilities, people management skills and branding. Looking to the future, I see DSCT playing a more complete role: engineering, planning, purchasing. In other words: an independent full-fledged shipbuilding operation with a high degree of predictability, meaning delivering on time and on budget.”
On production and growth

“DSCT has indeed tripled its output, one reason is that we have upgraded and renewed our machinery, expanded our production facilities and improved our infrastructure. Another reason is that our parent-company Damen Shipyards Group has organised its flow of production in such a way that it can practically guarantee a continuous workflow for its 32 shipyards worldwide. Within Damen, local capacity shortages can be transferred to locations with excess capacity, depending on the state of regional economies, supply-and-demand cycles and market analyses. The resulting continuous workflow is beneficial to local employment.”

On employment & employees

“Whatsoever is going to be printed in this interview, I would like to seize this opportunity to say something about our production workers. It’s them that actually build the ships. It’s their skills, their working ethos that makes a ship visibly come about and I’m very proud of them. In turn, I hope that they are proud of the yard. Therefore we strive to remain an attractive employer. We are taking a close look at the day-to-day needs of our ‘Production Hall’ and are planning to implement several solutions and practicalities that make life on the shop floor easier.”

Frank Rebel – “The local Damen shipyard delivers quality vessels to clients in South Africa and the sub-Saharan region, with skills development and technology transfer being critical success factors”

On 2013: Which results in the past year do you consider to be important?

“To my mind, one of the most important results is that we are increasingly selling South African-built boats to surrounding countries and even to other continents. There is a remarkable resemblance in the feedback we get from clients, from South Africa to Ghana and from Angola to Madagascar: they increasingly like their ships to originate from their own continent. Once they start working with those vessels, they want them to be serviced too. Because we want to be close to our customers and to comply with their wishes, we have decided to open a Service Hub in Cape Town.

In addition we’ve seen a 200% growth in our repair and maintenance activities and we now offer comprehensive, long-term fleet maintenance contracts too.

Another result is that we have shown our ability to build many vessel types of both Damen and non-Damen design and in between we’ve repeatedly adapted our standard designs to the demands of the African market.”

On 2014: Can you tell us about any major developments in the coming months?

“This is confirmed by the yard’s long-time consultant Jendo Ocenasek. Jendo is one of the former owners of Farocean Marine and was its General Manager. Today he’s being consulted on a regular basis by DSCT because of his extensive shipbuilding and commercial knowledge: “Through time, both Farocean and DSCT have adapted some of the original Damen designs to make them compatible with the technical and commercial demands of private and public sector customers. Examples are the pilot vessels that work here in Cape Town and the Stan Tug 2006. The original design is the 19-metre STu 1906, but a 20-metre tugboat fits better in the client’s own standardised range. Because of Damen’s flexible standardisation design method, they were able to adapt, adopt and overcome.”

Friso continues: “The resulting designs have proven to do the job: technically, commercially and in practice. We’ve even started building and selling them from stock in order to decrease delivery times, especially for some of our returning customers. To assist clients locally, instead of advising them from our HQ in the Netherlands, we’ve set up an Engineering Department at DSCT. The five-strong team is eager to cooperate with clients when choosing vessel options or making design changes.”

Jendo Ocenasek: “Adapt, adopt and overcome. Damen’s design method of ‘flexible standardisation’ enables Damen Shipyards Cape Town to make ships compatible with local technical and commercial demands”
Meet Estrolete Julies, a 24-year-old artisan welder, one of eight women currently training through Damen Shipyard Cape Town’s Apprentice Training Centre. Estrolete is confident her chosen career path is the right one for her.

When asked why she opted to become a welder, her reply is straightforward “why not?” And why not indeed – it is, after all, her passion. “It was difficult to begin with,” she explains, “but I fell in love with it. It makes me a different person and I can challenge the guys!”

Estrolete decided to become a welder when considering her after school opportunities. She was driven; she had goals and wanted to better herself. “Where I come from it’s difficult,” she says. And, as the eldest child in a family of five children, she wanted to set a good example to her siblings and to others like them. “Especially to the young girls who make all the wrong choices,” she explained. “Becoming an artisan will give me that opportunity.”

Estrolete thrives on delivering the quality required in her work. “You need perfection!” she enthuses. “It’s all about precision! Every weld should be your best weld.”

Furthermore, Estrolete is satisfied that she chose to do her apprenticeship with Damen Shipyards Cape Town. “I would recommend Damen to anybody. I’m very happy being an apprentice here and I’m very grateful for all the support I get from Dederick (Dederick Ross, DSCT’s Training Officer, ed.). What Damen promises, it gives to you. What you make of it, is up to you.” Estrolete is clearly someone who knows her own mind, so it is perhaps unsurprising that she has a clear view of where she’s going. “I want to work my way up. In the future I’d like to be a welding inspector and I will succeed!”

ESTROLETE JULIES

The confidence of Estrolete was highlighted recently, when, on 12 March 2014, she took part in the traditional keel-laying ceremony held at DSCT for an Azimuth Tractor Drive Tug 2909 being constructed for the South African Navy. During the ceremony Estrolete confidently welded a steel plaque, containing the yard number and project name onto the keel of the ATD Tug 2909 in front of over 300 people; this just goes to show how confident this lady is with her chosen, traditionally male dominated, trade.
Ricardo Daniels looks after DSCT’s Health and Safety requirements, especially Safety. In his spare time Ricardo is a fervent cyclist and actively involved as the pastor of the local Pentecostal church. This is a family affair, with sons Houston and Dillon playing in the church band. Ricardo began working at the yard 18 years ago, as a driver with Farocean Marine. Four years ago the opportunity to become Safety Officer arose and he seized it.

“My role involves overseeing safety inductions and risk assessments,” says Ricardo, who is assisted by a team of eight safety representatives. Together with the shipyard’s foremen they ensure that there is always someone on the shop floor to monitor health and safety.

“Each month a Safety Board meeting is held, attended by four safety representatives, Managing Director Frank Rebel, Internal & External Finishing Manager Paul Hornford, Services Business Development Manager Gary Atkins, Project Manager Craig Trethewey, Technical Manager Han de Voogt, HR Manager Heather Dukas and of course myself.”

During Ricardo’s tenure improvements have been made to safety processes, bringing the yard into closer alignment with headquarters in the Netherlands. This is something Ricardo is immensely proud of and which he wants to showcase to clients. “I take safety very seriously; it is a critical element that improves production,” he says. “When I started, we were 70 percent compliant with health and safety regulations. Nowadays we are 90 percent compliant. We have been doing our utmost to get this right, but there is still much to be done.” Ricardo has a clear view of what this next step will entail. “We need to change the mentality towards the working environment. It’s about getting people to take responsibility and ownership. You have to ‘own’ the place you work.”

Ricardo, it seems, is determined to be there for the duration and oversee this task. “I liked it at Farocean Marine and I still like it at Damen Shipyards Cape Town. I’m lovin’ it!” he quips.
The family business
One of his daughters, Thaala Montsi-Loper went to study at Stanford in the USA, married and stayed there. His other daughter, Sefale has followed his lead and also sits on the Damen Shipyards Cape Town’s board of directors. His two sons are also following his entrepreneurial example. Tsepo, who designed the safety system in the first South African designed electric car, now studies at Cape Town University for a senior degree in Biomedical Engineering, whilst Arif has already established two companies since completing his Business Studies degree. Shortly, he will be working for Montsi Investments in Ghana, where the company has launched a granite mining and crushing business producing aggregates for the construction and building industries.

To relax, Sam likes to spend his time in his garden, which he lovingly tend himself. He cultivates over 200 roses and grows his own vegetables.

Origins of success
At the dawn of liberation in 1994 Sam was one of the few black business owners in South Africa to enter the fishing industry. He was able to achieve this by developing a solid business plan. He operated a second-hand fishing vessel, bought from St. John’s in Newfoundland, Canada, and this led to his involvement in the maritime industry. At one stage Sam needed some spare parts for his boat and contacted the previous owners for advice about where he might find the parts that he was looking for. They put him in touch with Peter “Padda” Kuttel who also controlled Farocean Marine. A good relationship developed and, two years down the line, Mr Kuttel invited Sam to take an interest in the yard. When Damen took over the yard, Kommer Damen (chairman of Damen’s one-tier board) encouraged him to maintain his 30% share. Sam agreed, seeing a clear match between Damen and his own way of doing business. “There is a resonance with the Damen Group as a family company. I hope my children can learn from that.”

Responsibility
Sam feels strongly that with success there also comes a responsibility to give something back to society and is clear on how DSCT can achieve this. “We should train people and facilitate jobs,” he says. DSCT is doing its share with the Apprentice Training Centre, but also with local sourcing. Some foreign companies expect to be awarded business here, but do not build in South Africa. But with Damen, significant investments in Cape Town have translated into job creation, education and facilitation of growing outsourcing opportunities.

Women
Sam is proud of the opportunities that DSCT has opened up for people in South Africa, particularly those people who would not have been able to enter the maritime industry prior to the end of Apartheid. Notably he points to training and a wider inclusion of women in the shipyard. “Women in South Africa make up more than 50% of the population and they should be involved in every sector of industry. They used to face discrimination, but there are more options for them today. We try to provide some of those options by equipping them with the necessary skills and work experience. For DSCT to bring them into this traditionally male dominated industry is quite an achievement.”

The future
Sam is looking forward to a positive future for DSCT. “From a commercial viewpoint the future is looking bright and exciting. In terms of capacity and financial backing we are the strongest shipbuilding company, not just in South Africa, but in the whole of Africa.”

Part of the strength of Damen Shipyards Cape Town, Sam feels, lies in the fact that African-built vessels are being produced to the high Damen standards. He also points to the policy of stock holding, ensuring a consistently fast response to a client’s needs, as a reason for DSCT’s attraction. He also says that, even though sales are handled in Europe, there is focus on localism that clients find attractive. “It is important that clients are aware that the building and business are being carried out in Cape Town, not only in Europe. Damen HQ is aware of this - there is an enthusiasm to support local business.”

"THERE IS A RESONANCE WITH THE DAMEN GROUP AS A FAMILY COMPANY"

“WE SHOULD TRAIN PEOPLE AND FACILITATE JOBS”
“It’s my job to ensure our day-to-day business runs as smoothly and effectively as possible,” says Frank Rebel (51). Born in South Africa, he was the first son of a Dutch couple that emigrated from Amsterdam to Johannesburg in 1957. Frank has studied, worked and lived in the Netherlands for a large portion of his life, but presently he and his wife Karin, their daughter Marilyn and their son Julian live in Cape Town. Frank likes mountain biking, hosting a ‘braai’ (the South African term for a BBQ), playing golf and enjoys researching and sampling South African wines.

Since Frank became Managing Director in 2008, Damen Shipyards Cape Town has grown, especially so in the past two years, when employee numbers doubled from 100 to 250. “Hiring and training a young workforce shows we have faith in our future, right here in South Africa. I sincerely hope we can set an example for other companies and that we will be able to train and educate many more apprentices in our Apprentice Training Centre.”

There’s also a technology transfer of modern shipbuilding techniques – once that knowledge has landed, so to speak, you can really see our organisation growing. Also, having access to the Damen global customer base is good for local business – it generates serious benefits.”

Can you give an example of the yard’s commitment to growth?

“Yes, of course. It’s true that we have the commitment and the means, so we achieve results. Our stockpile management is an example of that commitment: by building vessels for stock we are able to maintain a constant workflow, which means constant levels of local employment.”

Why is DSCT’s Apprentice Training Centre so important to you?

“Because delivering high-quality ships, closing the skills gap and developing the yard is important. Our in-house training centre for welders and boilermakers opened its doors in 2010. Recognized by MERSETA, the Manufacturing, Engineering and Related Services Sector Education and Training Authority, the aim of the centre is to bridge a skills gap within South Africa. This is achieved via the delivery of qualified artisans. Those going through our Apprentice Training Centre receive a minimum of 3 months theory and 3½ years practical workshop training. Once an artisan is qualified they may go on to do other training courses required for the workplace.

Currently, 39 apprentices are trained; 8 women and 31 men, each of whom can be offered a job at DSCT upon successful qualification. To date, 14 graduates of the centre have gone on to become Damen employees. This year 21 apprentices have applied for trade tests which will be completed by June 2014.

Amongst the female apprentices is Lee Anne Andrews, who is the first qualified female boilermaker in the Western Cape region of South Africa. Upon completing her education Lee Anne took up a Damen apprenticeship, completing many challenges, amongst which was an AutoCAD course. More recently Lee Anne has also been appointed as a Junior Draughtsperson at Damen Shipyards Cape Town. She has a message to other women contemplating their future career paths: “To all females that wish to embark upon the path of becoming boilermakers, nothing is impossible. If I can do it, then you can do it too… Be the best and show the men how it should be done!”

“I feel the Centre really contributes to the yard and plays a positive role in the local society”, says Frank. “Ask Dederick, our Training Officer.” Dederick Ross supervises the Training Centre. He is a qualified ship welder and old hand in the shipbuilding industry. Dederick has always enjoyed his career and is known for his contagious enthusiasm. He is held in high regard by his pupils and says of his relationship with the learners. “I am strict with them, but I am also very proud.” He is convinced of the importance of maintaining a flow of apprentices into Damen. “The flow of apprentices improves the flow of work; pupils can focus on the smaller elements, thus enabling the artisans to fully concentrate on the bigger parts,” he says. “Furthermore, we need to develop ourselves in order to remain competitive.” Frank: “I couldn’t agree more.”

What is your favourite Damen vessel?

“The FCS 5009 with its distinctive Sea Axe bow, it’s an innovative design with a great appearance and proven performance. And we are building two in Cape Town right now. My favourite sailing vessel, by the way, is a classic 3-class sailing yacht, like the 1933-built Velsheda – she’s a real beauty.”

Frank Rebel – abbreviated resume

1981 | Studies shipbuilding in Belgium and the Netherlands
1988 | Fulls several functions at Boelwerf Temse (the largest Belgian yard at the time, specialised in LNG tankers)
1992 | Moves to South Africa with wife Karin to take over his father’s electro-technical installation company, together with his two brothers. Soon, however, Frank moves to super yacht builder Oceanco, first in South Africa, later in the Netherlands
1996 | Starts at Damen Shipyards Gorinchem as Project Manager, often bringing him to Poland and Russia
2002 | Appointed as Logistics Manager at Damen’s HQ, later becoming Production & Logistics Director
2009 | Damen asks Frank to become Managing Director at DSCT – he’s now lived 25 years in Europe and 26 years in South Africa
As the threat of piracy reduced, largely due to the anti-piracy efforts of the East African Nations, SVS is focusing on a portfolio based on four key activities - Safety, Standby, Supply and Security. With a fleet of 16 vessels, SVS delivers a range of services including Fast Support Intervention, Crew Supply, Supply and Support, Guard & Chase Vessel duties, along with Port Control and other multi-purpose tasks.

Part of the Comarco Group of companies, SVS has a multi-purpose fleet, which has a range of equipment from davit launched Fast Rescue Craft, workboats & RHIBs, oil spill response, fire fighting and towing winches to offer full flexibility to meet client demands. SVS Managing Director, Tudor Ellis explains: “When we were founded there was limited tonnage available to the operators that had started to work in the region.

“We wanted to ensure we could provide ‘best in class’ services for the operators moving into the region. We needed to have vessels that had longevity, reliability and performance. We knew Damen had the pedigree from naval vessels through to tugs.”

Deployed all year round
Damen’s Axe Bow vessels ticked all the boxes. “The Axe Bow has the range, capability, performance and speed to deliver fast support, intervention and crew supply capabilities.”

Crucially, the Damen vessels can be deployed all year round, in all weathers. “All of our vessels operate in a difficult environment. Often we are in the Mozambique Channel, which is renowned for it wave height, high winds and strong currents.

“The Damen 33 m Axe Bow has the endurance to stay at sea for up to a month. They are robust and designed to meet a high wind severity index. Consequently, we can operate in this weather with the confidence that the vessel is safe.”

SVS has grown its fleet together with Damen. In the first instance the company ordered two 33 m Axe Bow vessels and now the fleet has increased to five Damen 33 m and three 55 m vessels.

As well as SVS looking for modern, durable vessels, it was also looking for a means to finance them. “Damen is dynamic and entrepreneurial, recognising market demand and it helped us by providing finance as well. This was the total package. Damen really has given us complete support to establish the most modern fleet in East Africa.”

“Modern fleet
There are also more opportunities, Mr Ellis says. “There is increasing interest from customers in West Africa as they look to find companies that can operate to the required OGP standard with vessels that are fit for purpose.”

SVS already has two vessels supporting drilling explorations off Benin. The vessels mobilised from Mombasa with the SVS Avery making a maintenance call at Damen Shipyards Cape Town to check that all on board systems were fully functional and working to Class specification.

Safety, Standby, Supply and Security
Mr Ellis says SVS will continue working with Damen because it is delivering what the market wants. SVS is set to take delivery of another 55m vessel in August 2014 and it took recent delivery of the SVS Cavendish. “We are working very closely with Damen, it is a true partnership, Damen assists and solves problems and are always happy to support us.”

Damen Cape Town – convenient for repairs & maintenance
Support is vitally important for the company. SVS needed to fit a davit and FRC system to SVS Teach for charter work in West Africa. “We needed excellence in workmanship, a facility to ensure that work completed would keep the vessel in Class and warranty, along with a location that was convenient. The Damen facility in Cape Town provided this. All work was completed on schedule. Even when issues were discovered with the davit hardware, Damen was at the forefront of arranging specialist electronics engineers and Class surveyors out of hours to ensure the vessel was able to depart on schedule.”

Mr Ellis is confident that the business will see more growth. “We are doing our job in a difficult environment where there are high risks. We want to make sure we can be relied upon on and to this end we will be expanding our fleet with other types of vessels so we can offer the breadth of service needed.” SVS has metamorphosed and it is geared up for the opportunities to come. “Without Damen it wouldn’t have happened,” stresses Mr Ellis.
Several Cutter Suction Dredgers were built at DSCT. The yard keeps a limited number of dredgers and DOP Pumps on stock in order to guarantee fast delivery to clients. The CSD 500 type is very popular amongst African customers, especially in Nigeria. Damen dredgers are easy to maintain, modular and can be mounted on trucks for transport over land to any land-locked destination.

**Shoalbuster 3009S**
A Shoalbuster 3009S (Shallow Draught) is being built for Smit Amandla Marine for offshore supply and vessel assistance operations to a long standing client.

**Pilot Cutter 2706**
Damen Shipyards Cape Town (DSCT) built three Pilot Cutters for TNPA. The vessels were built at DSCT to meet the specific requirements of TNPA's fleet. Two vessels operate from Cape Town and the third one from Saldanha Bay.

**ATD 2909**
Two 29m Azimuth Tractor Drive tugs are being built for Project Canter, a South Africa Navy project. With a minimum of 40 tonnes BP, they will be used at Naval Base Simon’s Town after delivery in Q4 2015.

**FCS 5009 Patrol**
The FCS 5009 Patrol is based on the patented Damen Sea Axe bow, a hull shape decreasing slamming up to 70%, amongst other innovations. At Damen Shipyards Cape Town, a particular ‘heavy’ version is built, fitted for three Reutech guns (1x 20mm Super Sea Rogue, 2x 12.7mm Sea Rogue), allowing for serious offshore patrol duties. The FCS 5009 Patrol and its sister-types (Stan Patrol 5009, SPA 5509 and SPA 3307), are already in service in countries as diverse as Cabo Verde, Italy, Kenya and Nigeria.

**Stan Tug 2006**
The Damen Stan Tug 2006 Crested Tern was delivered to the TNPA (Transnet National Port Authority), which operates it in Saldanha Bay as a harbour tug and workboat for the increasing traffic in this expanding industrial port.
THE DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES (DAFF) PROJECT

In 2013, Damen Shipyards Cape Town (DSCT) was awarded the DAFF Fisheries Research Vessels & Fisheries Inspection Surveillance Vessels fleet contract to bring vessels suspended from Class (or about to be) back into Class and operational readiness. The fleet includes the Offshore Patrol Vessel Sarah Baartman, the Research Vessels Africana and Ellen Khuzwayo and the Patrol Vessels Lilian Ngoyi, Ruth First and Victoria Mxenge. Almost all of these vessels were originally built by DSCT’s predecessor Farocean Marine.

The Africana is a 32 year old vessel, but still going strong. On some points her condition is even outstanding, according to Class. This Research Vessel will be brought back into service in the coming months.

The Ellen Khuzwayo was the third vessel to depart Simon’s Town, in January 2014. DSCT re-commissioned the equipment and completed all outstanding repairs in six months.

One month later, the Sarah Baartman sailed from Simon’s Town after undergoing her Class dockings and surveys. On completion, SAMSA carried out the safety surveys before she departed to go on active duty.

One month from when famous, the Victoria Mxenge and the Ruth First were the first two vessels to depart Naval Base Simon’s Town once they had been brought back into Class; this was achieved in two months.

According to DSCT Services Manager Chris Somerset, he and his team are very proud of this project. So far, getting all the DAFF vessels back into service is the largest repair & maintenance job of Damen Shipyards Cape Town.

The Patrol Vessel Lilian Ngoyi had her two main propulsion engines removed and overhauled. This was successfully completed and the engines are now refitted and aligned. The next major step is pulling both propeller shafts and the fin stabilizer shafts to replace seals. The vessel is currently dry-docked. Underwater hull cleaning and painting will also be completed prior to putting her back into the water.

The Lillian Ngoyi is a 32 year old vessel, but still going strong. On some points her condition is even outstanding, according to Class. This Research Vessel will be brought back into service in the coming months.
‘Live Design. Transform Life’ - a strong theme, and with good reason: it won Cape Town this year’s title ‘World Design Capital 2014’. Being the world’s design capital is a leap forward in the city’s development, which is transforming into a hub for design and creativity. The project not only incites a series of design related events; it represents a step in the process of changing how the city and its people approach development and use innovative thinking and design to transform Cape Town.

World Design Capital is an initiative of the International Council of Societies of Industrial Design to acknowledge, reward and stimulate design projects and initiatives in cities worldwide. Turin, Seoul and Helsinki won the prestigious title in past years; Cape Town is 2014’s laureate, making it the first World Design Capital from a developing country and the first from Africa.

Themes

The programme encompasses no less than 460 transformative design-inspired events and projects, all related to the central theme: ‘Live Design. Transform Life’. To ignite the imagination of the public, and to contribute towards a greater understanding of the multi-faceted nature of design, four sub-themes have been developed.

‘African Innovation: Global Conversation’ focuses on products or events that originated in Africa and have global relevance – unique solutions that have been exported beyond the continent. The second theme, ‘Bridging the Divide’, connects projects that use design to bridge the historical divide between communities and across borders. ‘Beautiful Space. Beautiful Things.’ picks up on aesthetics and collects inspiring and original South African architecture, interiors, fashion, craft, art and creativity. The fourth theme, ‘Today for Tomorrow’, relates to a field in which Damen is active in Capetown.

More information and the complete programme of World Design Capital 2014 can be found at www.wdccapetown2014.com
South Africa has garnered praise for its wines, and for good reason. It’s the wine country of the future. Output is growing rapidly and South African wines offer increasingly better value for money – something that can also be said of Damen.

In the winemaking tradition, South Africa bridges the gap between the Old and the New Worlds. It is terroir-driven with French influences, but on an entirely different continent. The first vineyards were planted more than 350 years ago (by Jan van Riebeeck, a Commander in the Dutch East India Company), but the industry only began to flourish and innovate after apartheid and the international trade boycott against it had ended. Even today, it invests in expertise, new technologies and long-term sustainability – a philosophy that has Damen’s wholehearted support. Now that exports are booming, emblematic wines such as Chenin Blanc and Pinotage from the Cape regions have become popular worldwide. Expert Etienne van Unen (of Van Unen Wijnkopers) selected five of his favourites for Damen Magazine.
**Chenin Blanc by Kanu**
“This is normally a fairly neutral, dry grape but this winemaker does something magical with it. Kanu is one of the best producers of Chenin Blanc in the world and this excellent wine proves it. Kanu is a mythical bird and symbolises promise. The name speaks for itself. It’s the ideal white wine for a ‘braai’ (the South African word for a BBQ).”

**Mulderbosch Wooded Chardonnay**
“Excellent value for money and very much like a Meursault from Burgundy. Very good with turbot or sole.”

**Rockwood by Kanu**
“With a strong taste of berries and forest fruits, a hint of tannin and wood undertones. A genuine Bordeaux, but offering better value for money. A perfect red for a braai.”

**Faithfull Hound by Mulderbosch**
“A Bordeaux blend, spicy and fruity with mild tannins and delicate cacao notes. For more refined meat dishes.”

**Oupa se Wyn & Ouma se Wyn by Weltevrede Estate**
“Grandfather’s wine and grandmother’s wine, from one of the oldest vineyards in South Africa. The vines were planted in 1926 and are protected. Ouma se Wyn is bright golden in colour, and Oupa se Wyn is brick coloured. Two of the best-sold dessert wines in this price class.”

**The South African braai**
A crucial part of South African popular culture is the braai, a barbecue with a twist. Large pieces of meat, for example boerewors (a popular type of sausage) are cooked slowly over a smouldering wood fire. That produces real barbecue meat – braaivleis – which is just as important as the social side of things. A braai is a real event. It even has its own holiday, National Braai Day, on 24 September.
DELIVERIES

A SELECTION

Damen delivers up to 180 vessels annually, from newbuilds at Damen yards to deliveries from stock and from licences to locally built vessels.
UNDER CONSTRUCTION
A SELECTION

Damen currently has more than 100 vessels, of all types and sizes, under construction at yards around the world.
REPAIR, MAINTENANCE, CONVERSION

A JOB WELL DONE

Each year, the yards of Damen Shiprepair & Conversion execute more than 1,500 jobs. The scope of work can vary from a few hours of maintenance to complete conversions of offshore rigs and can be done at berth, in dry docks or on location. We proudly present you with an overview of recent projects.

<table>
<thead>
<tr>
<th>Range</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10 k</td>
<td>±</td>
</tr>
<tr>
<td>10k - 2.000k</td>
<td>±</td>
</tr>
<tr>
<td>&gt;2.000 k</td>
<td>±</td>
</tr>
<tr>
<td>Total</td>
<td>&gt;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Range</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>±</td>
</tr>
<tr>
<td>500</td>
<td>600</td>
</tr>
<tr>
<td>800</td>
<td>783</td>
</tr>
<tr>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>1300</td>
<td>1400</td>
</tr>
<tr>
<td>550</td>
<td>800</td>
</tr>
<tr>
<td>780</td>
<td>800</td>
</tr>
<tr>
<td>1230</td>
<td>1370</td>
</tr>
</tbody>
</table>

Repair projects
Damen is making considerable efforts to reduce its own energy consumption at its yards worldwide. The Group introduced a Greenhouse gas measuring and Energy Management System last year, which conforms with ISO 14064 and is centralised in the Netherlands. Laure Jacquier QHSE Team Leader comments: “Now we can monitor electricity and gas use per department. This gives us insight into where energy is used the most, which is vital to be able to reduce consumption and to make efficiencies.

“If we want to reduce energy, we need more insight and then we can optimise the equipment.” This insight has subsequently led to installing a new compressor, upgrading all the welding equipment, and Damen is in the process of improving other equipment.

Other recent energy saving measures have included installing large cupolas in the main production hall to let as much natural light in as possible. Heating is optimised by being turned off at night and motion sensors have been installed in all the offices. Additionally a new system, which will automatically turn lighting off when there is enough natural light, is being tested.

A new maintenance department building at HQ has been designed in such a way and is so well insulated that it doesn’t need heating. Energy efficient lighting is used throughout and a central air-conditioning unit has been installed. Damen is reducing fuel consumption by using electric cars and by wide-scale use of video conferencing. And on the other side of the world, at Damen’s new yard in Vietnam, water is heated via solar panels.

In the Netherlands the company also buys green energy generated from offshore wind farms.

Gradually over the next few years, Damen’s standards in the Netherlands are being implemented at all of its yards worldwide. At the moment Laure and the team in the Netherlands are assisting QHSE managers at the new yard in Vietnam, which opened in March, so the same safety, environment and quality standards can be introduced. “Throughout the Damen organisation – wherever people are in the world – they need to understand our standards and what our customer expects.”

The QHSE manager for Vietnam has been trained at Damen HQ in understanding European QHSE standards and has grown to understand how the management system helps not only the companies, but also all the employees, she adds. This training programme will be offered to other QHSE managers from other yards in the Group this year.

In a bid to make sure it keeps up-to-date on these issues, Damen participates in multiple international organisations for the development of standards and regulations. “It is really important to participate and give our input into QHSE standards which will be introduced and prepare for any changes. Damen is bringing in users’ experiences to the international ISO Revision Committee, we are working together to develop the management system standards of tomorrow,” Laure emphasises.
Hydrodynamics Laboratory and the design office De Vries Lentsch. Damen cooperated with KNRM, Delft University’s Ship vessels. Maritime Research Institute Netherlands (MARIN) and TNO engine control data. Damen worked alongside Delft University which was synchronised with ship motion and acceleration/steering/of KNRM vessels, which resulted in a large database of videos, ‘Speed at Sea’ included a large number of full-scale trials on board Research into the operability of fast craft led to the development weather conditions, has excellent seakeeping and stability but a new communication system. This new Class is deployable in all New Search and Rescue Class This has resulted in a design wherein the vessel is highly manoeuvrable in bow and bow quartering waves with the required course stability in following waves. Retractable fins were introduced, which provide the necessary change of characteristics depending on the situation. Peter van Terwisga, the Group’s Research Coordinator, comments: “This vessel is a major improvement on previous designs and also fits in with today’s requirements to be less noisy and more comfortable.” The NH 1816 Class, which entered service in February, also has a new communication system. This new Class is deployable in all weather conditions, has excellent seakeeping and stability but comfort and user-friendliness are also key features. The concept could apply to other ships as well, he adds. Ongoing studies are looking into the seakeeping behaviour of high-speed craft, with current research examining motion control systems. “It is all about improving operability, making sure our customers can do their tasks and missions – ensuring that they can operate for a longer time in higher sea states, waves and wind.” Walk to Work vessel for offshore wind farms Another design concept innovation concerns the new Walk to Work vessel to service offshore wind farms. “How best to serve the shore. Maintenance activities cannot be performed efficiently to the traditional method to address seakeeping. This makes it much easier to predict the structural design response, increasing certainty. We can now predict the fatigue life of high-speed craft. When we integrate these findings into vessels, we can lower the weight of our vessels whilst still having durable vessels with good structural response.” Launch & recovery Another important topic being addressed is the ability to launch and recover vessels and equipment such as ROVs. The LAURA 2 Joint Industry Project initiated by MARIN is considering how to put equipment overboard/on board again in higher sea states. “This is a very important development – the better the operability of the ship, the better it is able to earn money.” Fatigue Life prediction In another cooperative project, an integrated analysis procedure for high-speed and planing craft has been developed. Essentially it has coupled advanced ship motion predictions tools and structural design tools. “This has shown the need to predict the loads in a different way to the traditional method to address seakeeping. This makes it much easier to predict the structural design response, increasing certainty. We can now predict the fatigue life of high-speed craft. When we integrate these findings into vessels, we can lower the weight of our vessels whilst still having durable vessels with good structural response.” Materials - composites For materials, Damen is busy on several fronts, particularly researching the use of composite products. Damen Scheide Naval Shipbuilding is already applying composites to the design of some superstructures and masts and Damen examined the fire resistance properties of composites in the EU project BESSST.

"Now we are able to prove that composites are safe and effective to our customers and the classification societies." Knowledge of composite structures developed in the FLIGHT project was also applied to Damen’s new modular ferry concept (see separate story).
As a client focused company we are continuously trying to improve our products and services, since we wish to exceed our clients’ expectations. To accomplish this we have to stay close to all our customers and keep involving them during the entire process, from signing contract to after-sales services. We should also stay open minded for suggestions and improvements.

In order to gain insights in the experience and satisfaction of our customers we have set up a client survey. The client survey is designed to continuously measure the satisfaction of our customers at three key moments.

Once a year we also evaluate the relationship with our clients. On this page you find some main results of our annual survey 2014.

If you have any questions regarding the client survey, or if you would like to participate, please contact Ms. Sylvia Boer of our Marketing Department E: sylvia.boer@damen.com or Phone: +31 183 655294.

The survey is executed in cooperation with MWM2, an independent research agency.
“I’ve flown all round the world, from Russia to Kazakhstan and China to the Americas and back again, for Offshore and newbuilding. Then the time came when I wanted my family with me on this great adventure. The five of us left for Dunkirk, France last year, where I’ve now been appointed Managing Director. There’s less travel than in my previous positions, but it’s not without its own challenges. A new country, a new language – we’re adapting, bit by bit.

I was the first person in this yard who wasn’t of French origin, but everyone welcomed me with open arms. The company culture is very pleasant here. The first thing we do at the start of each day is to shake one another’s hands. That’s comme il faut, as they say here. Before I left I took a high-intensity French course in the Netherlands and my colleagues in the yard simply correct me if I garble my grammar or pronunciation. My wife already speaks French fluently, and I’m well on my way.

My ideal day off? It would have to be a day on the beach. Our house is only five hundred metres from the coast and very close to the shipyard. Weekends are always filled with beach strolls and dune walks, but I’d love to start playing tennis again too. Coming from ‘Noord-Brabant’, a province in the south of the Netherlands, I really feel at home in Dunkirk because the people here celebrate carnival, just like we do. In fact, their carnival goes on for at least three months!”

43 YEARS OLD AND MARRIED TO EEFKE
HAS: THREE CHILDREN, JONAS, BASTIAAN AND FREEKE
CHOoses: THE ASD TUG AS HIS FAVOURITE DAMEN SHIP

BOB DERKS
MANAGING DIRECTOR FOR DAMEN ARNO DUNKERQUE, FRANCE
Dutch ship repair yard Shipdock, acquired by Damen in February 2013, is a well-known shipyard group with roots dating back to 1920. The company operates facilities in Amsterdam and Harlingen, in the north of Holland. Amsterdam can service vessels of up to 250 m and at Shipdock Harlingen ships of up to 120 m.

Both repair yards are equipped with excellent facilities, which can meet with the highest expectations. In Amsterdam, Shipdock also has construction company Niron Staal on-site, a professional machine shop and steel construction facility. The highly skilled Shipdock team has adopted the motto ‘Going the extra yard’, reflecting their ‘Can do’ mentality and customer focused approach.

Van der Velden Marine Systems B.V., which joined the Damen Shipyards Group in 2013, has been a specialist in maritime manoeuvring and propulsion efficiency for more than 50 years and has established a leading position in the sector. Renowned for quality, safety, innovation and service, the company operates in the global marine market, covering the inland waterways, short sea, deep sea, offshore and yacht building sectors.

Van der Velden® rudders and steering gear are recognised as being state-of-the-art: Reliability, ease of maintenance, safety and a long lifespan are key drivers throughout the design, manufacturing and installation processes. Customers and yards alike benefit from an easy to install and integrated solution, a unified overall design and one project coordinator for the manoeuvring system. The Dutch company has an exclusive worldwide 24/7 service network. With a variety of professional services Van der Velden keeps your manoeuvring system in excellent condition.

Located in the Tax Free Zone in Antalya, the new yard is right by the harbour, making it easy to transport completed vessels. The total facility is 14,000 sq m, of which 12,000 sq m is a fully air conditioned, covered facility. On average, Damen expects some 35 boats a year to be produced and once it is at full capacity, around 150 people will work there.

Vessel types
Vessels that will be built at Damen Shipyards Antalya include the Damen Interceptor 1102, the new Fast Crew Supplier/Stan Patrol/Stan Pilot 1605, the SPA /SPi 2205, as well as the Damen Waterbus (20m and 24m). Damen Shipyards Antalya will build for stock, further enhancing delivery times.

Scheduled for delivery in the first and second quarters of 2016, the 14-knot ro-ro ferries will be able to carry up to 200 passengers and 60 vehicles. The investment in the new ferry is part of the Government’s vessel renewal programme. On announcing the new ferry’s arrival, Conception Bay East Member of the House of Assembly, David Brazil, said: “Following the extensive evaluation process, Damen will provide the best value to the province and a high quality vessel that will be delivered on time and on budget.”
For Arnaldo Calbucci, vice president of offshore vessels, towage, ship agency and shipyards at Wilson Sons in Rio, that means looking to build bigger and better ships: Because Petrobras is such a key player in Brazil’s offshore oil and gas industry as the national oil company, Wilson Sons, like all contractors, has to keep track of the oil major’s market needs.

And as Petrobras has extended its deepwater production capacity to fields further offshore, it has created a demand for platform supply vessels which can operate further offshore, and provide better performance in greater safety.

“We have a long lasting relationship with Damen – we have built more than 60 vessels with Damen, mainly harbour tugs and also platform supply vessels,” Calbucci explains. All told, Wilson has 18 PSVs sourced from Damen. “It is a partnership,” he says. “We build here in Brazil with a Damen design, and a Damen material package and with their assistance during the construction.”

Wilson Sons developed its own PSV, designed with Damen, using a diesel electric propulsion system, using a Brazilian manufacturer WEG for the electrical equipment.

“Our client Petrobras requires diesel electric propelled vessels due to the better fuel oil consumption and redundancy – on the diesels we have four generator sets on board, and two electrical motors that provide power for the propulsion system,” says Calbucci. “So if we have one engine failure, we still have three gen sets to work or we can also sail with the vessel with only two engines. This is the redundancy issue.”

Engine redundancy is necessary to allow the ships to operate safely further offshore. “We have very deep drilling and deepwater fields,” Calbucci explains. “These are far from the coast so we need bigger platform supply vessels with more fuel oil capacity, and with more cargo capacity because the vessels make longer trips. Also the vessels’ sea-keeping characteristics and the comfort for the crew is important because these fields are so far from the coast.”

Brazil’s offshore vessels have to contend with severe swells due to deepwater currents, which have to be overcome, and strong winds. “So the vessels need to be more and more powerful, and bigger. And we need redundancy for the safety of the crew,” Calbucci continues. Since the start of Brazil’s deepwater oil and gas expansion around
Greater crew comfort is needed too: Vessel vibration has to be minimised, and the slamming effects on hulls from wave action in rough seas receives closer attention during ship design. “This is a more technical issue, on top of sea-keeping which is related to the line of the vessel,” Calbucci says. “Damen has been paying attention on this. We are very satisfied with the results.”

In line with its emphasis of continuous improvement, Wilson Sons has to plan for new vessels to meet future trends. “Nowadays we are thinking about building vessels with 5,000 dwt cargo capacity so the future is going more to be more safety, more comfort, more vibration control - vibration is very important because the crew stays 30 days on board and they have to stay comfortable,” Calbucci emphasises. “There is a growing concern in relation to vibration.”

He points out classification societies and labour unions are also calling for measures to minimize ship vibrations: “So we are going to face higher and higher standards.”

Currently Wilson is building a new Remotely Operated Vehicle Support Vessel for Fugro using a Damen design which is being equipped with a cinema – providing more evidence of the commitment to crew comfort. Modern ships also feature gyms, satellite TV, and internet enabled computers.

But of course there is a price to pay for all these enhancements. “The cost of the ships has increased a lot in the past years,” Calbucci admits. Costs have increase by about 10%. Today, a new PSV built in Brazil could be between US $55 million and $65 million, depending on equipment specification. A few years ago a similar vessel would have cost $45 m or $50 m.

Currently the company is building 12 harbour tugs and it is about to deliver the last of a series of four PSVs and it is aiming to build more for Petrobras in a new tender round in January 2014.

Petrobras and its partners, including UK-based BG Group, are planning for at least 15 new Floating Production Storage and Offloading vessels to tap giant fields including Lula and Lara in BM S 9 and BM S 11 between 2010 to 2018 with a capex of $3 bn per year for BG alone. All of these new FPSOs will need support vessels.

“We do believe in the future of the oil and gas market,” Calbucci says. “We have built a new dry dock to allow our ship yard to build bigger vessels.”

Want to see Wilson Sons and its people for yourself? Watch the short film at YouTube: http://tinyurl.com/wilsonsons

Petrobras requires vessels to be equipped with DP2 dynamic positioning with in-built redundancy, so that a vessel cannot lose position in the event of a single fault in an active unit within the DP system such as a generator, thruster, switchboard, or remote controlled valves.

BIGGER AND BETTER VESSELS IN BRAZIL

20 years ago, offshore support vessels have had to fulfil different operating requirements. “We started building PSVs with 3,000 deadweight tonnes, twin screws, direct driven and now we are building vessels with 4,500 dwt with diesel electric propulsion, with more power, and more speed. In the past the speed was around 15 knots, or 12 knots. Nowadays the minimum is 13 knots, with, in certain cases 15 knots so there are some changes,” Calbucci indicates.

Petrobras requires vessels to be equipped with DP2 dynamic positioning with in-built redundancy, so that a vessel cannot lose position in the event of a single fault in an active unit within the DP system such as a generator, thruster, switchboard, or remote controlled valves.

by about 10%. Today, a new PSV built in Brazil could be between US $55 million and $65 million, depending on equipment specification. A few years ago a similar vessel would have cost $45 m or $50 m.

Currently the company is building 12 harbour tugs and it is about to deliver the last of a series of four PSVs and it is aiming to build more for Petrobras in a new tender round in January 2014.

Petrobras and its partners, including UK-based BG Group, are planning for at least 15 new Floating Production Storage and Offloading vessels to tap giant fields including Lula and Lara in BM S 9 and BM S 11 between 2010 to 2018 with a capex of $3 bn per year for BG alone. All of these new FPSOs will need support vessels.

“We do believe in the future of the oil and gas market,” Calbucci says. “We have built a new dry dock to allow our ship yard to build bigger vessels.” This new $60 million drydock in the Port of Santos, in the city of Guarujá, is 145 metres long and 26 meters wide, and capable of constructing very large offshore support vessels.

“There is a huge demand for offshore vessels in the future because we can substitute foreign flag vessels for Brazilian flag units. It is very expensive to build in Brazil – due to the exchange rate and due to the cost of the steel and labour here in Brazil, compared with Far East shipyards – which are most probably subsidised by the government – sometimes half the price of Brazilian-built vessels, but we have the protection of the flag,” Calbucci adds.

Want to see Wilson Sons and its people for yourself? Watch the short film at YouTube: http://tinyurl.com/wilsonsons
DAMEN SEA AXE FAST YACHT SUPPORT VESSEL FITS PERFECTLY INTO THE SUPERYACHT WORLD

Since the Fast Yacht Support Range entered the market in 2010 it was clear that Damen and AMELS were offering something completely new to the yachting world. This impact on the market is reflected in the fact that four Sea Axe Fast Yacht Support vessels have now been delivered and three are under construction.

AMELS is the most successful superyacht builder in the Netherlands and has been part of Damen Shipyards Group since 1991. Due to the growing interest and demand for these vessels Damen has created a specialised Yacht Support Department headed up by Mark Vermeulen.

Mark comments: “Our success in Yacht Support is undoubtedly due to the unique combination that Damen and AMELS provide. We bring a combined expertise that no one else can match. You’re buying into a unique package of Dutch expertise, the specialist superyacht knowledge of AMELS and the benefit of its parent company Damen.”

Dutch expertise
Traditionally, Yacht Support vessels have been built to a low standard and as a consequence they have been slow to gain acceptance in the demanding superyacht world, AMELS Managing Director, Rob Luijendijk explains. “The low performance of most support ships, and also the fact that many are quite ugly and finished to a low quality - all these factors have meant superyacht owners have tended to look the other way.”

“We wanted to address all those shortcomings by offering a support ship that is capable of carrying large and valuable items safely, is fast in all weathers, and looks every bit as good as she performs.” Hence, the creation of the Damen Sea Axe range, which is marketed by AMELS. This range is perfect for providing a powerful, elegant, fully faired support vessel for the mother ship, finished to a superior standard, that fits right into the superyacht world.

70 m plus version
Built by Damen, the Sea Axe Fast Yacht support range was initially launched with the 37-m and 50-m models, of which two are already in active service and then in the summer 2012, the first 67-m Sea Axe 6711 – the Garçon – was delivered. A 70 m plus version is also being developed.

Yacht Support vessels provide space for larger toys including 45 ft tenders, submarines and jet skis, etc. They can also go on ahead of the mother yacht and set up in a bay of choice meaning that the owner doesn’t have to wait to get everything arranged. Additionally, they provide more privacy and security, as well as better safety when it comes to helicopter operations, with the helipad facilitating a 5,000 kg take-off weight.

When Garçon, was launched one of her first duties was to sail to the Monaco Yacht Show. Rob Luijendijk points out: “Anyone who saw the Sea Axe 6711 in Monaco against the backdrop of so many luxury yachts would understand what we mean when we say the Sea Axe fits into the superyacht environment beautifully. Her angular beauty and yacht-quality finish make her look right at home in Monaco - or any other luxury destination.”

Industry award for innovation
And subsequently, the 67 m Garçon has been recognised by the industry when it won the International Superyacht Society (ISS) Award of Distinction for Innovation. Garçon was designed and customised according to the requirements of the client, the owner of an 87 m luxury superyacht. The vessel’s innovative Axe Bow and underwater body shapes enable her to reach speeds between 18-25 knots in all sea states, making this a fast and dependable support ship - whatever the weather. Garçon has 235 m² deck space, which makes room for a fully certified helipad.

The unique bow and underwater body shape of the Sea Axe design enables it to maintain high-speed speeds in all sea states, making this a fast and dependable support ship - whatever the weather. Different engine configurations are available, but if speed is of the essence, then the Sea Axe 6711 is capable of delivering up to 25 knots. Great care has also been taken with the aesthetic design and high quality finish of the ship. The bridge interior is finished to superyacht standards and the exterior is painted to the same quality as a superyacht. And, as in the case of this first order of the Sea Axe 6711, there is an option to finish the deck in hard-wearing but good-looking Bolidt artificial teak.
When the maritime bug bites, it bites for life. I think that goes for everyone in the maritime sector. It happened to me when I was about ten and my parents moved the family to Medemblik. I was willing to move, but I had one condition: I wanted to take sailing lessons. Since then, my whole life has been dominated by water sports and shipping. Both professionally and personally, it’s all about water.

As sales manager, I’m responsible for the entire process, from scouting for clients and building a network to actually closing on project deals. There’s a lot of travel involved – in fact, I’m on the road about a hundred days a year. Denmark and Finland are my main destinations and also where I made my very first sale. It was a Fast Crew Supplier 2610, a ship that takes engineers to wind turbines in Denmark, for example for repair or inspection. The travel, Damen’s wide-ranging portfolio and the many different clients I work with make my job challenging and a lot of fun.

My ideal day off? It would start by my checking the wind, wave height and tide early in the morning. If the wind speed is 6 or higher on the Beaufort scale, then I’d be off to Wijk aan Zee to windsurf. The other option is no less appealing, however: my Beneteau is moored at Enkhuizen and we like to sail it across Lake IJsselmeer to the Wadden Islands. It’s a kind of “floating garden” for us, something we don’t have at my house in the centre of busy Amsterdam. I think it’s a good alternative! I also enjoy early morning walks on the beach with my partner and children, if possible with a kite and a leisurely breakfast. Whether or not I’m working, you’ll always find me near or on the water.”
Damen started to address the ballast water treatment challenge several years ago, investing in the development of its products and by employing specialists. Subsequently, Damen has established a Ballast Water Centre of Excellence at its headquarters in Gorinchem.

With at least 70,000 vessels needing to comply with international ballast water treatment legislation in the near future, Damen now offers a range of cost-effective options for shipowners from retrofitting to a pioneering mobile ballast water treatment unit, which is the first in the world.

Gert Jan Oude Egberink, Damen Manager Ballast Water Treatment, says: “We have been looking into what we can do to help our customers regarding ballast water treatment and finding alternatives for those owners that may not want to retrofit a ballast water treatment system, perhaps because their ships operate on fixed routes or their ships are too old to make the investment in a system prohibitively expensive. Harbours may also need to provide back-up, in case a ship’s onboard treatment systems fail.”

“This is all in-house technology and very simple to use – essentially it is a plug & play system in one container. Vessels only need to have a deck connection. Using this mobile treatment unit, owners and operators will be fully compliant with both the IMO and US regulations.”
Background to BWT legislation

The US already enforced its ballast water regulations (US Coastguard) in June 2012 and any day now, the IMO’s Ballast Water Management Convention will follow suit.

When this is finally ratified this year, all ships trading in international waters will be required to manage their ballast water on every voyage by either exchanging or treating it using a type approved ballast water treatment system. In accordance with implementation dates relative to its ballast capacity, only treatment can be used after the ships first IOPP renewal survey after the IMO BWMC enters force.

Under the IMO regulations, this means some 70,000 vessels are going to need a ballast water treatment solution in the short-term. Most of these vessels are expected to comply by installing a fixed ballast water treatment system on board.

A one-stop-retrofit shop

“We have really looked at our customer’s concerns about a retrofitted system. Our preferred systems are easy to operate and maintain, and once all the preparations are made such a system can be fitted within the ships drydocking period. With our retrofit service we aim to minimise costs and the disruption to the shipowner.”

“Taking these 70,000 vessels into account, it is estimated that at least 25 to 40 retrofits have to be done a day globally. But owners should act now to make sure the engineering capacity and slots in yards are available and the necessary experts. Postponing may lead to higher costs.”

The advantage of the BWT Retrofit Service is that Damen can provide a true one-stop-shop. Damen Shiprepair & Conversion has 16 repair and conversion yard facilities, including 40 dry docks worldwide. “If vessels are coming in for their special survey when the system has to be installed, we can do both things at once, providing a turnkey solution. We can install Damen selected technology or our customer’s choice of unit at a Damen or a non-Damen yard or afloat.”

Damen can do the onboard survey, 3D scans, onsite surveying and pre-engineering, the integration plan, purchasing, manufacture the piping, make all the preparations, do the installation and commissioning, carry out the trials, training and supply the BW management plan.

“I think there is no other company that has this one-stop-shop, with both the yard and engineering capacity and a vast knowledge of shipbuilding. We can be the BWT total solution provider and our customers have a trusted partner and peace of mind.”

“Damen can provide a newbuild BWT solution, a retrofit one or our pioneering mobile solution!”

Newbuild & retrofitting solutions

For its own new built vessels and its retrofitting service, Damen has been evaluating the many different ballast water technologies. Currently, there are approximately 35 IMO type approved BWT systems available on the market.

Mr Oude Egberink explains: “During our research we have found that not one BWT technology suits all vessels. It depends on their trading routes, the power consumption etc. We have chosen to focus on the most environmentally friendly technologies available. For cost effectiveness and standardisation reasons we have chosen to work with selected preferred suppliers of type approved systems to cover the whole range of vessels.”
Damen Shipyards Group strives to design and build vessels with optimal performance to meet the specific needs also in the offshore oil and gas industry. To satisfy our customers and better understand the specific demands we constantly are in contact with the market assessing all major, ship owners and operators, defining trends, reviewing current innovations and investigating which improvements can be incorporated in our designs. These activities, aligned with our extensive vessel knowledge, have resulted in the launch of our new offshore series.

The series includes for example a range of five PSV designs, varying in size, the new AHTS series ranging from 65 to 200 tonnes bollard pull, the Damen Offshore Carrier platform and Fast Crew Supplier. Based on our experience, having successfully delivered the Jumbo Heavy Lift vessels, a number of pontoons and support vessels, we designed the new series especially for the offshore industry. These Damen vessels facilitate efficient and reliable operations, even in a harsh environment.

The PSV 3300 heralded a new era in the offshore industry for Damen when it delivered the World Diamond, the first of six PSV’s 3300 for Norwegian owner World Wide Supply in July. Jan van Os, Damen Product Director Offshore, says: “World Diamond opens a new chapter in our offshore strategy because it embodies the ‘Damen standard’ PSV for a fast-changing market.”

Extensive range

“Starting point for all the vessels in the new Offshore Series has been the new and distinctive hull shape which is tailor-made for reducing fuel consumption,” says Mark Couwenberg, Design & Proposal Engineer. “Hull shape, coatings, the location of oil tanks, refrigerants, recovery of waste heat and engine emissions – all of these are part of the E3 concept, which stands for Environmentally friendly, Efficient in operation and Economically viable.”

Couwenberg explains: “We spent considerable time on CFD studies to investigate and simulate ship behaviour and optimise the hull shape. A model of the resulting hull has been tested at Maritime Research Institute Netherlands (MARIN) to verify the results. The slender hull reduces fuel oil consumption, not only in calm water but especially in rough sea. Smooth surfaces and a distinct lack of angles, lines and recesses also have a positive effect on the durability of coatings.”

This new look has been successfully incorporated in a number of our progressing designs, which together form the new Damen Offshore Series.

3. Fast Crew Supplier (FCS)

more than 70 vessels featuring the unique Damen Sea Axe vessel bow ranging from 19m-67m have been supplied. These vessels cut through waves maintaining speeds of up to 20 knots, reducing slamming and vertical acceleration by up to 75%. The latest variant, a Twin Axe Bow version, the FCS 2610, is making an impact in the windfarm construction sector, handling crew transfer in wave heights of up to 2.5m and operating at speeds up to 25kn.

4. Anchor Handling Tug & Supply vessel (AHTS)

part of the AHTS category, offered from 70t bollard pull upwards, the 200t bhp AHTS 200 has been designed for water depths up to 3,000m. The vessel features a 670m² working deck, extensive winch lay-out, ROV functionality and can be used for subsea construction. The Damen AHTS 200 design was based on the Petrobras AHTS 18,000 requirements.

5. Wall Stimulation Vessel (WSV)

increasing the production performance of deteriorated oil wells is often performed by old PSV’s which have been retrofitted with the required pumping and mixing equipment. Damen has designed a versatile well stimulation vessel in recognition of the fact that purpose-built vessels are increasingly coming to be seen as safer and more economical.

6. Oil Spill Response Vessel (OSRV)

an increasing demand for vessels which are able to respond to environmental disasters is expected, especially after the Macondo disaster. Having built a number of dedicated Oil Spill Response Vessels, Damen is working on a new type for this market. Like the CSV and the AHTS, this vessel is fit for the Brazilian market and incorporates Petrobras’ OSRV-requirements. Currently multiple Damen OSRV’s are being built at WilsonSons in Brazil.

7. Damen Offshore Carrier (DOC)

7,500 – 10,000 dwt range multi-purpose vessel with heavylift, ro-ro and offshore installation capabilities. It features 65 days endurance, 2,300m² of deck area, and deck strength of 20t/m². The vessel can be fitted with the Damen Deep Dredge system, for mining and dredging.

8. Multi Purpose Vessel (MPV)

designed to execute a great extent of specific tasks which may include coast guard duties, fishery control, fire fighting, rescue on recovery, offshore, wind farm maintenance. The vessel design-platform may be customised to suit specific client requirements.
After recently undergoing successful trials, she has proved a comfortable tug, with low noise and vibration levels and she has excellent sailing and manoeuvring characteristics. A bollard pull of 70 tonnes and speed of 13.1 knots were achieved during trials.

She is a cost effective, compact, modern state-of-the-art twin screw, multipurpose tug with MTU 16V 4000M63 and Reintjes gearboxes, designed for worldwide operation. Low maintenance costs, due to proven technology, with straight line propulsion, 2800 mm DMC Optima nozzles running in closed oil bath propeller shafts and proven hydraulic steering systems guarantee minimum maintenance.

The ergonomically designed, airy wheelhouse has a modern layout with joystick controls for the main engines and rudders. Modern, well-appointed accommodation for 10 crew is provided.

Additionally, the basic design of the Stan Tug 3011, can be customised with optional extra equipment for a variety of tasks such as being suitable for operating as a Harbour/Coastal Tug, Deep sea - tug by extending her fuel capacity to slightly over 200 m³ from 154 m³ in the standard version – an Anchor Handling tug, with optional stern roller, shark jaws, tugger winch and towing/anchor handling winch or a Hose handling tug, with optional open stern, capstans and extra bulwark doors, hydraulic crane and a bow thruster.

THE LATEST NEWS

THE DAMEN STAN TUG 3011 IS THE LATEST DEVELOPMENT OF THE STAN TUG SERIES. IT REPLACES THE FAMOUS STu 2909 OF WHICH ALMOST 50 TUGS WERE BUILT.
Damen added another shipyard to its portfolio in 2013 and indeed, another country, as it opened its first yard in Turkey. Damen Shipyards Antalya is also the Group’s first dedicated composites specialist.

The new yard will be at the heart of the Damen operation for building composite workboats such as high-speed craft and ferries, up to 35 m in length. Damen Shipyards Antalya will also become a Knowledge Centre for composite building worldwide and it has its own engineering office.

Located in the Tax Free Zone in Antalya and surrounded by shipbuilding companies and suppliers, the new yard is right by the harbour, making it easy to transport the completed vessels. The total facility is 16,000 sq m, of which 12,000 sq m is a fully air-conditioned, covered facility. On average, Damen expects some 35 boats a year to be produced and once it is at full capacity, around 150 people will work there.

Auke van der Zee, General Manager Damen Shipyards Antalya, explains: “We created our business plan at the end of 2012, but we had been considering having a dedicated composite yard for some time. We were always keen to buy a yard, so we can control the production and have it in our own hands. And of course, very specialist knowledge is needed for the composites sector, it is all about a good team, work preparation and having a dedicated facility where full climate control is vital.”
“Composites can be used from low-tech to high-tech”

Streamlined production = fast delivery
Previously the yard was called Cyrus Yachts, part of the Vitters Group. Damen moved at its usual fast pace, acquired the yard in March and by June it had started serial production of high-speed craft.

Jaap Gelling, Damen Shipyards Director High Speed Craft, explains the wider Damen strategy. “It is our policy to replace our aluminium vessels with composite ones eventually up to the 20-25 m range. The 25-40 m should ideally be aluminium and 40 m plus, steel. However, the choice is still down to the customer, we will always build to fit in with our customer’s requirements, as long as it can be done technically.”

“Composites offer a number of benefits. They do not corrode, for instance. Aluminium vessels are great, but only as long as they are handled in the right way. They really have to be looked after properly.”

Jaap stresses: “Composites can be used from ‘low tech’ to ‘high tech’ - simple, relatively heavy constructions (still lighter than aluminium) for medium speed workboats, up to light carbon-reinforced laminates for ultra-fast interceptors.”

Jaap says. “Overall we can produce high quality at a lower cost and pass this on to our customers and offer much shorter delivery times because we are building a series.”

Auke, who is the only non-Turkish employee, adds: “We have a very experienced team here. It is a highly efficient operation with a great deal of expertise in-house. The shipbuilding knowledge of the people and their work mentality is fantastic. We work very closely together and have great teamwork, which is very important, particularly when series production methods are used.”

The internal logistics of Damen Shipyards Antalya are very efficient and can be compared with the automotive industry. “We have a production line essentially, where the staff have all the materials they need at each station. Equipment and parts are kept behind the boats at deck level, so people working on the vessel don’t have to leave their stations to get things out of the warehouse. This makes the process totally streamlined.”

The location of the yard is a real benefit as well, he adds. “It is a few hours direct flight from Damen HQ and it is much easier for our customers to visit us here.”

Advantages of composites
“Composites offer many advantages for customers”, emphasises Auke. “Composite vessels have the major advantage that they provide a much lower Total Cost of Ownership; they have less weight, therefore reduced fuel consumption. There is a high degree of sustainability. They have lower maintenance costs because composite vessels do not corrode and – which is not always known – they are easy to repair.”

“There is sometimes the impression that composites are complicated and difficult to repair but we can teach our customers how they can repair their boats to their original strength in just a few days.”

He adds that it is simply a case of what customers are used to. A recent study in the UK showed that eight out of nine pilot stations in the UK preferred composite vessels. The reason? They are easy to repair!

Another major advantage comes when weight is the most important factor, for example for Interceptors. “Vessels can’t be heavy if they need to go at 55-60 knots! Yes, they can be done in aluminium but then customers have to switch to petrol rather than diesel, adding to the costs of fuel and compromising safety.”

Smart engineering
Additionally, with Damen’s unique modular system, composite vessel delivery times can be extremely short. For instance, Damen designed a 16 m high-speed ‘platform’, which can be turned into a pilot boat, fast crew supplier or patrol boat by adding three different superstructures.

Damen is continually aiming to reduce the costs of production to pass on these benefits to its customers. This is one reason why it has hired specialists on the mass production of composites vessels – who learned the trade in the sailboat industry where production numbers of thousands a year are not uncommon. “It all starts with smart engineering. When we start to design a boat we should know how we are going to build it. Cutting the building hours by smart design could help reduce costs by at least 10,” Jaap says.

Vessels that will be built at Damen Shipyards Antalya include the Damen Interceptor 1102, the new Fast Crew Supplier/Stan Patrol/Stan Pilot 1605, the Stan Patrol/Stan Pilot 2205, as well as the Damen Waterbus (20 m and 24 m). Damen Shipyards Antalya will build for stock, further enhancing delivery times.

Currently, Damen Shipyards Antalya is building a series of Damen Interceptors 1102, the ‘first of series’ Fast Crew Supplier 1605 and moulds for the Stan Patrol 2205 and the Modular Waterbus.
All of the Waterbus components have been fully engineered and standardised after several years of R&D work and all approvals are in place, with the modules complying with the latest EU passenger regulations and they are classed by Lloyd’s Register.

Assembly to order is possible for vessels between 16 m to 24 m but Damen doesn’t rule out making longer vessels of up to 28 m. There are a wide range of Waterbus applications including water taxis, inspection vessels, dinner cruise boats, survey boats and sightseeing boats. Damen is currently developing more propulsion options including electrical hybrid versions. “We will kick off production very soon,” Henk says.

“These vessels are maintenance friendly, clean, light and fuel efficient. Any maintenance savings are very important for the ferry operators – every penny saved is welcome.”

As well as being fuel efficient – with savings of 25% expected – the Damen Waterbus is suited to a single man operation. With the standard IPS propulsion system from Volvo, Damen offers a joystick control and Dynamic Positioning. “Having this DP ability makes it safer, more stable and having a one man operation saves substantially on crewing costs, which is especially important in the smaller ferry market.”

Able to carry up to 100 passengers, these vessels could cost considerably less compared with similar aluminium vessels but they still have a comparable lifetime. The Damen Waterbus is also easy to repair.

Although composites are highly suited in the smaller vessels, aluminium is still very important for high-speed catamarans and steel for conventional ferries. And aluminium and steel ferries are as popular as ever in the medium and large sectors.

Recently, Damen was awarded an order for two 80 m ropax Super Ice Class ferries which will operate in New Foundland (Canada).
With more than 8000 employees, 32 ship- and repair yards and projects in more than 145 countries, Damen is proud to call itself an international company that has retained the values of a small family business. Engagement and respect – for society, culture and maritime history – remain our priorities, as evidenced by our support for a broad range of causes, from local initiatives in and around our shipyards in Gorinchem and elsewhere to major cultural organisations such as Nederlands Dans Theater and the international Dance4Life foundation.
Damen’s own long history in shipbuilding gives it a special appreciation for our maritime heritage and the need to preserve it. Family member Dina Damen, sister of Kommer Damen, and intimately involved in the company, says: “We need to preserve our shipbuilding industry. Not only does it generate jobs, income and innovations, it is also an integral part of the Dutch people and of our country’s history. Our maritime heritage is worth being cared for and should be kept alive.”

Dina continues: “What happens today is history tomorrow. What parts of history are valuable enough to preserve? It is important for museums to answer that question. Here at Damen, our dedicated team, Josien [Kommer Damen’s spouse] and I try to do our part; we maintain a large historical archive and organise in-house exhibitions at several shipyards. By maintaining our own historic collection we explicitly support the intrinsic value of our industrial heritage and the role of Damen Shipyards within that heritage.”

Other family members subscribe to this, stating that it is a good way of showing the company’s strong maritime roots and knowledge to younger generations and visitors from abroad, firing their enthusiasm. “We try to share the information that is contained within our collection with others, both internally and externally, by organising exhibitions on changing themes,” Dina says. “They are characteristic of our innovative, scientific approach to shipbuilding and the earning capacity that guarantees our continued existence. However, it is up to the maritime museums to cover the whole of our national seafaring culture. Our family thinks it’s very important to support those institutions. In the long run, the museums support both education and business – it is always a pleasure to invite clients to exhibitions. It proves that the modern-day vessels built by all Dutch shipbuilders, not only us, are the result of a long line of innovations needed to live with that magnificent and yet dangerous sea that can swallow our country if not controlled.”

From large museums such as the National Maritime Museum in Amsterdam to small foundations such as the one supporting the seagoing tugboat de Holland, Damen supports the following six causes:

**National Maritime Museum**

The National Maritime Museum (Scheepvaartmuseum) is housed in a listed building in the heart of Amsterdam. The museum houses one of the world’s largest collections of nautical art and artefacts, including paintings, navigation instruments and ship models. Interactive exhibits allow visitors to explore 500 years of maritime history. Thanks to Damen’s generous support, the museum is able to pass on Dutch maritime heritage to future generations. “To update the museum’s impressive collection of ship models, Damen Shipyards also donated a beautiful model of the Eissaad 712, an Axe-Bow,” says Elisabeth Spits, curator of Ships and Technique. “A great example of the development of shipbuilding.”

**National Dredging Museum**

From the Zuiderzee Works to Dubai and Palm Island, the Netherlands’ National Dredging Museum (Nationaal Baggermuseum) offers visitors a broad overview of the business of dredging. Ship models, old prints, photographs and a striking collection of dredged objects have been brought together in a listed building in Sliedrecht, the birthplace of the industry.

In 2010, the dredging museum showcased one of the temporary exhibitions that Damen organises in the entrance hall to the company’s head office in Gorinchem: Trekken en Duwen [Pulling and Pushing], curated by Dina and Josien – about Damen’s role in the dredging sector.

**The Hudson Museum Ship**

The Hudson was launched almost 75 years ago. Commissioned by L. Smit & Co’s International Towing Service and the only pre-war seagoing tug in the Netherlands, it is unique in its class. Twice saved from demolition, the Hudson has been a museum ship since 2003. It lies anchored in Maassluis and serves to preserve some of the wonderful history of Dutch ocean towing. A visit to the former engine room and bunkers takes you back to a time when captain and crew still inhabited the ship. “Damen made a major contribution to preserving the tug, for example by financing major upkeep in 2012,” says Eric Spanjer, member of the board for the Save the Hudson Foundation. “That will keep us ship-shape for the next few years.”

**The Hudson Museum Ship**

The Hudson was launched almost 75 years ago. Commissioned by L. Smit & Co’s International Towing Service and the only pre-war seagoing tug in the Netherlands, it is unique in its class. Twice saved from demolition, the Hudson has been a museum ship since 2003. It lies anchored in Maassluis and serves to preserve some of the wonderful history of Dutch ocean towing. A visit to the former engine room and bunkers takes you back to a time when captain and crew still inhabited the ship. “Damen made a major contribution to preserving the tug, for example by financing major upkeep in 2012,” says Eric Spanjer, member of the board for the Save the Hudson Foundation. “That will keep us ship-shape for the next few years.”

**From large museums such as the National Maritime Museum in Amsterdam to small foundations such as the one supporting the seagoing tugboat de Holland, Damen supports the following six causes:**
The Holland Seagoing Tugboat Foundation

The Holland, a seagoing tugboat built in 1951, carried out about two hundred spectacular rescue missions. The ship was originally a salvage vessel, but was also used to ferry passengers to the Dutch island of Terschelling and as a research ship – until its demolition was announced in 1998. Fans joined forces and set up a foundation, the Holland Seagoing Tugboat Foundation, to preserve this authentic ship. The Holland’s charming Art Deco salon was restored to its former glory and the tugboat was transformed into a museum ship, with Harlingen as its home port. “Much of the restoration work was financed by Damen, and we have been partners for more than ten years now,” says Tom Schoonhoff, manager at the Holland Seagoing Tugboat Foundation.

Mauritshuis Royal Picture Gallery

It may not be maritime, but we feel it’s worth mentioning anyway: the Mauritshuis Royal Picture Gallery, located in The Hague. After a major renovation, the museum will be reopening shortly, on 27 June 2014. The Mauritshuis occupies a unique position in the international museum world. It has a small and cohesive collection, featuring Dutch and Flemish paintings from the Golden Age – for example Rembrandt’s Anatomy Lesson and Vermeer’s Girl with a Pearl Earring. The collection is housed in a 17th-century building, whose extraordinary architecture and location add greatly to the visitor’s experience. In order to secure this prestigious position for the future, the Mauritshuis is being expanded with a new and spacious exhibition space and a welcoming underground entrance foyer. As a member of Confrérie Pictura, the international platform for businesses that feel an affinity with the museum’s mission, Damen is helping the Mauritshuis with this and other investments.

MuZEEum

Water, Work, Glory and Adventure – the story of the sea is at the heart of Maritime MuZEEum in Vlissingen (in Zeeland, a southern province of Holland bordering on the North Sea). Maritime stories from the past and present are grouped into these four themes and reveal the past and present of Zeeland, but also of Damen. The exhibition “Buoyant Power – superyachts built by Amels in Flushing” (2011-2012) was the start of a partnership that has already produced many wonderful things. Damen also features in the museum’s permanent collection. Ship models, films and interactive displays take visitors on a journey through the history of shipbuilding, with Damen at the helm. “What’s the first thing visitors see when they enter the museum? A large-scale ship model by Amels. That really fires their imaginations,” says Daniëlle Otten, manager at MuZEEum Vlissingen.
Ship repair and conversion yard Shipdock Amsterdam received a contract for the propulsion upgrade of the 3D Seismic Vessel Polarcus Naila. The ultra-modern vessel arrived at Shipdock in February 2014 for its six-week conversion.

**Project**
Propulsion upgrade for 3D Seismic Vessel Polarcus Naila

**Ship name**
Polarcus Naila

**Yard**
Shipdock Amsterdam

**Types of works done for this project:**
- Conversion
- Propulsion upgrade
- Modification works
- Ballast Water Treatment installation
- Installation of new workboat and davits
- Relocation of the MOB
- 5-year special survey
In addition to the propulsion upgrade the vessel underwent modification works in order to be classified as a Special Purpose Ship. Furthermore, the scope of work included Ballast Water Treatment installation (see separate article), installation of a new workboat and davits, relocation of the MOB and the 5-year special survey.

Pre-fabrication works on the two gondola’s, which need to be fitted to the vessel, have been done at Niron Staal. They were completely outfitted before arrival of the vessel at the yard. Niron Staal, also part of Damen Shipyards Group, is a specialised steel construction and machining company located in the Port of Amsterdam on the premises of Shipdock.

The vessel was at the yard in Amsterdam for a period of 35 days in which the conversion works were realized. Taking day rates of a Seismic Survey Vessel into account, time literally is money and the vessel needed to be back in business as soon as possible. It is therefore not surprising that Polarcus decided to bring the vessel to Shipdock Amsterdam, fully aware of the management and technical capabilities, due to experiences in the past. Polarcus and Shipdock have been working together since 2010. The relation between the companies has strengthened and formed the basis for the successful booking of the upgrade conversion job.

Polarcus Naila is a 12-streamer 3D/4D Seismic Vessel. Delivered in 2010, she is built to an Ulstein design. The Naila combines the latest developments in maritime systems with the most advanced seismic technology commercially available. The vessel is also amongst the most environmentally sound seismic vessels in the market, with diesel-electric propulsion, high specification catalytic convertors, double hull, and an advanced bilge water cleaning system. The vessel complies with the stringent DNV Clean Design notation.

Polarcus Naila and her sister ship Polarcus Nadia are the only vessels with thruster units in the Polarcus fleet.

Not only Shipdock Amsterdam and Niron Staal were involved in the Polarcus Naila project, also Damen Marine Components (DMC) played her part in it. As a partner and supplier of Caterpillar Marine (former Berg Propulsion), DMC has provided two Damen Optima nozzles with an inner diameter of 4,545 mm.
BUILD YOUR OWN TUG (1:100)

One hundred hours, 1160 Lego blocks, and a lot of patience. That’s what it took for Lego designer Edwin Korstanje to turn Damen’s ASD Tug 3212 into scale models. “Lego makes standard bricks and Damen makes standard boats. It’s a match made in heaven.” Damen Magazine had three questions for Korstanje, for whom shipbuilding and Lego go hand in hand.

How did you become interested in Lego?
“It started when I was a kid. I lost interest in it as a teenager, but about three years ago I took my five-year-old daughter to the toy shop because she’d been pestering me for a Lego Technic set. We set it up at home and since then I’ve rediscovered my fondness for Lego. Shortly afterwards I started to design Lego structures – cars and trucks at first, but I soon switched to ships. My father worked in inland shipping, so I fell in love with ships at an early age.”

How do you go about designing a Lego ship model?
“I usually ask the shipyard or shipping company to provide the lines plan for the relevant ship. The next step is to calculate the scale and to convert the outcome into blocks. The search for the right bricks usually takes up the most time. In addition, Lego – like Damen – is a quality leader. The parts have a long shelf life of dozens of years. And both Lego and Damen are family-run businesses that have expanded into international companies. The model I’m most proud of is the SL Gabon, a Damen Stan Tug 4011. It’s made of no less than 38,000 Lego parts, is almost a metre and a half long and weighs 40 kilos. It took me more than 300 hours to build – a huge undertaking, but still much faster than building a real ship!”

Damen and Lego: an ideal combination?
“Without a doubt. Damen’s formula – modularisation, standardisation and building from stock – also suits Lego. For example, the original bricks from back in the 1960s still interlock perfectly with the bricks produced today, and as a designer it’s important to have a huge stock of bricks to work with. In addition, Lego – like Damen – is a quality leader. The parts have a long shelf life of dozens of years. And both Lego and Damen are family-run businesses that have expanded into international companies. The model I’m most proud of is the SL Gabon, a Damen Stan Tug 4011. It’s made of no less than 38,000 Lego parts, is almost a metre and a half long and weighs 40 kilos. It took me more than 300 hours to build – a huge undertaking, but still much faster than building a real ship!”

One hundred hours, 1160 Lego blocks, and a lot of patience. That’s what it took for Lego designer Edwin Korstanje to turn Damen’s ASD Tug 3212 into scale models. “Lego makes standard bricks and Damen makes standard boats. It’s a match made in heaven.” Damen Magazine had three questions for Korstanje, for whom shipbuilding and Lego go hand in hand.
Damen’s new Harbour & Terminal Journal asks what brought a renowned tug designer and a world-class shipbuilder - which has its own extensive portfolio of tugs - together, even though they are more often known as fierce competitors. Undoubtedly, the key to this unusual move is the international maritime service company KOTUG – a customer of all of the companies.

Ard-Jan Kooren - better known as AJ - President of KOTUG, readily admits that it is a bold step adding, that KOTUG, Damen and Robert Allan Ltd. are all known to push the boundaries and this is no exception. It makes sense to bring a top designer and top builder together, he says.

Headquartered in Rotterdam, KOTUG is a four-generation family firm, established in 1911. Since 2005, the company has expanded rapidly purchasing more than 39 newbuilds, as well as some second-hand vessels from the market. The Dutch company now has some 50 tugs in its fleet, 30 of which are Rotor®tugs.

Originally designed by AJ’s father Ton, the Rotor®tug is dear to KOTUG’s heart, although KOTUG and Rotortug B.V. are now separate companies. KOTUG operates tugs in the Netherlands, Germany, the UK, Cameroon, Australia and has three on charter in Russia.

Ard-Jan Kooren explains: “It just occurred to me one day, that we are building our vessels worldwide and why not have a relationship with Damen – known as a quality, established company – right here in the Netherlands. Damen always has a good name as a quality company and being able to deliver in a very short lead time.”

During discussions that followed regarding KOTUG’s planned new building programme he outlined the new hybrid Rotor®tug design to Damen. “I asked why not consider building Rotor®tugs, alongside your own portfolio?” The three parties; Damen, Robert Allan Ltd. and Rotortug B.V. have signed an agreement, which allows Damen to build the Rotor®tug ART 80-32 Hybrid for third party clients.

“Damen is showing that it is client focused and an open minded shipyard in that it will build other designs, not just its own, and it will build what the client wants.”

In a move that took the tug industry completely by surprise Damen, Robert Allan Ltd., Rotortug B.V. and KOTUG International B.V. have teamed up in a recent project.

UNIQUE COOPERATION LEADS TO LAUNCH OF NEW Rotor®TUG ART 80-32 HYBRID

“IT just occurred to me one day, that we are building our vessels worldwide and why not have a relationship with Damen”
“We used to design and construct Rotor®tugs but now with Robert Allan Ltd. being the exclusive designer of the Rotor®tug, Rotortug B.V. is the patent holder and we provide a lot of input in the design process.”

Evan Willemsen

Coen Boudesteijn, Damen Product Director of Tugs, comments: “For Damen it is a special experience to build Robert Allan Ltd. designed tugs at the high level of the Damen Standard for our customer KOTUG. Development of a complete new Damen design like ASD Tug 3212 takes us about three years. Quality is in the details! These Rotor®tugs are delivered with a lead-time of only 18 months.

This complete new design was the result of a dedicated team effort, encompassing our experience from the development of our proven ASD and Stan Tug Series. A number of truly innovative developments in the new Rotor®tugs ART 80-32 Hybrid are the result of a close cooperation of the Damen Tugs team, Damen Research, Damen Engineering and the Robert Allan Ltd. design team.”

As well as being the first time Damen has built a Rotor®tug, this also represents that Robert Allan Ltd. is designing the Rotor®tug on an exclusive basis. Robert Allan Ltd. has designed the two Damen-built Rotortug ART 80-32 Hybrid, as well as four standard Rotortugs being built in Cheoy Lee Shipyards in Hong Kong. Jim Mylon, Manager Project Development Principal at Robert Allan Ltd., explains more.

Robert Allan Ltd. is probably most well known for its tugs, escort tugs, fireboats and ferries. Based in Vancouver, the company has designed boats for KOTUG for about 10 years and was officially named the exclusive designer of Rotortug B.V in 2012.

Coen adds: “With the new Rotor®tugs ART 80-32 Hybrid, Damen is pioneering in the field of customised tugs and uniquely in the shipbuilding world as it is the only shipyard building different types of hybrid tugs and building them for stock. These new generations of hybrid vessels make economic and environmentally friendly Damen has a distinct vision.”

Evan Willemsen, Managing Director at Rotortug B.V. says: “We can now concentrate on telling people the major advantages the Rotor®tug holds over any other propulsion configuration.”

In his opinion the main advantages are that the Rotor®tug is the only tug designed to work bow first – it is always able to sail bow first, he stresses. There is a lot of redundancy, with a high BP capability possible even if there is a failure. Operators never have to reposition their tug because they work well indirect or direct at all speeds, he adds.

And even in severe weather, the Rotor®tug can easily be controlled and manoeuvred. “Her high and immediate steering forces with little heeling angle at a vector response time of virtually "0" seconds makes it the best escort tug on the market and this makes it possible to reduce the number of tugs per port call, he stresses.

He agrees with Jim that the new cooperation has taken some getting used to: “A few years ago Damen was our direct competitor, as were all other naval architects and shipbuilders. So it has been a 180-degree turn.

However, at the end of the day we have actually teamed up with the major players in the world and together with the customer – in this case KOTUG – we can design according to our customer needs.”

Jim adds: “Ultimately this has come about because of KOTUG, they are our client and a good one. We trust them. Ton Kooren and Robert Allan mutually respect each other. KOTUG supports us and assists us to come up with the right solutions. It is an on-going collaboration process.

Damen is a quality yard and yes, we do have different philosophies in that Robert Allan Ltd. is more about custom-design, one-offs, while Damen is a specialist in standardisation. But I think we will all benefit from this arrangement as will the Rotor®tug concept.”

KOTUG’s Managing Director, Evan Willemsen, comments: “If you consider the hybrid version, this saves 25% in fuel consumption and 45% in emissions. With this addition to the Rotor®tug range we are taking responsibility for any future rules and regulations to come.

Like my grandfather and father, we are always pioneering.”

KOTUG, Damen, Robert Allan Ltd. and Rotortug B.V. are always looking at what's going on in the market and we all have fantastic quality brands. We can learn from each other, he adds. We are leading companies doing a project and I look forward to future cooperation,”

Evan Willemsen, Managing Director at Rotortug B.V. comments: “We are proud to put the Damen logo on our site. We are all very proud to be partners.”

“Ultimately, the Rotor®tug works very well in confined areas and this makes it possible to reduce the number of tugs per port call, he stresses.

The new Rotor®tug ART 80-32 class

The new Advanced Rotor®tug ART 80-32 will be the first time Damen has built a Rotor®tug, with Robert Allan Ltd. being the exclusive designer of the Rotor®tug concept. The Rotor®tug concept offers increased security for ship-handling and escort towing, as well as enhanced crew safety.

At 32 m long, the vessels have an installed power of 3 x 1765 kW, delivering a bollard pull of 80 tonnes over the stern and bow. The hull form has been developed from Robert Allan Ltd.’s high performance escort tugs. The Rotor®tugs ART 80-32 will also feature the XenoPoint Hybrid Propulsion System designed and supplied by Aspin, Kemp & Associates Ltd. and this is similar to the first E-Kotug, RT Adriaan, which is a retrofit vessel operating in the port of Rotterdam.

Evan Willemsen, Managing Director at Rotortug B.V. says: “I can now concentrate on telling people the major advantages the Rotor®tug holds over any other propulsion configuration.”

In his opinion the main advantages are that the Rotor®tug is the only tug designed to work bow first – it is always able to sail bow first, he stresses. There is a lot of redundancy, with a high BP capability possible even if there is a failure. Operators never have to reposition their tug because they work well indirect or direct at all speeds, he adds.

And even in severe weather, the Rotor®tug can easily be controlled and manoeuvred. “Her high and immediate steering forces with little heeling angle at a vector response time of virtually “0” seconds makes it the best escort tug around. You never lose control. Rotor®tugs really created a different way of ship handling. There is push/pull method, which is very slow, but we don’t have to push on the side of the ship but against the tow wire instead, again with a zero reaction time to follow pilot’s orders. “

Ultimately, the Rotor®tug works very well in confined areas and this makes it possible to reduce the number of tugs per port call, he stresses.
Damen serves many markets and sub-markets with a great number of standardised, customisable and one-off vessels. To give you an overview of markets, ships and other ship-related products, you can order our catalogue ‘Damen Shipyards Group Portfolio’ at PR@damen.com.

You can find gifts, clothing, office items, scale models of Damen vessels and much more. Don’t forget to take a look at our ‘Outlet items’, here you can find products in SALES offer! You can order in small, individual numbers or place large orders that can be shipped all over the world. After ordering, your package will be sent out to you in 1-3 days. Hope to see you soon at the Damen Webshop!

To give you an overview of markets, ships and other ship-related products, you can order our catalogue ‘Damen Shipyards Group Portfolio’ at PR@damen.com.
DAMEN - THE BEST YEARS OF YOUR LIFE
http://career.damen.com