



# Landing Ships

**DAMEN**  
NAVAL



# Mission modularity

- » Ideal for transport & logistics, maritime security, disaster relief, SAR and hydrographic surveys.



# Effective and adaptable

- » Flexible arrangement of spaces, internal logistics and vital infrastructure.





# A versatile concept

» The Damen Landing Ship implements multiple smart design features that boost flexibility, creating vessels with more value throughout their entire lifetime.





Stan Lander

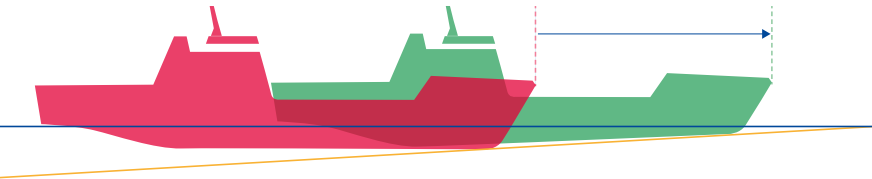
- › Length ranging from 40m to 60m overall
- › Aft deckhouse and flexible open deck configuration
- › Wide bow ramp enabling loading and unloading on quays, jetties or beaches
- › Cargo holds below open deck
- › Very shallow draught
- › High payloads
- › (Optional) Bow optimised for beaching

Landing Ship Logistics

- › Length ranging from 80m to 90m overall
- › Aft deckhouse and flexible open deck configuration
- › Optimised routes for personnel, supplies and cargo
- › (Optional) UAV deck aft
- › Troop/special personnel accommodation
- › High speed

Landing Ship Transport

- › Length ranging from 100m to 120m overall
- › Aft deckhouse, protected internal cargo deck and flexible, open upper deck configuration
- › Optimised route for personnel, supplies and cargo
- › Helicopter/UAV deck aft
- › (Optional) Helicopter hangar
- › Large troop/special personnel accommodation
- › Blue water capable



Reduced wading depths

BOOSTING VERSATILITY

Landing Ships

**LST is the military designation for the naval vessels created during World War II to support amphibious operations. Their purpose was to carry significant quantities of vehicles, cargo, and landing troops directly onto any shoreline.**

The Damen Landing Ship range provides not only access and support to shallow and small harbours, but can also provide military clients with an amphibious capability for rapid deployment on a secured beach. When carrying Fast Assault Craft, the LST range can also be used as a 'mother vessel' during insertions and counter-piracy operations. With ever more frequent extreme weather events occurring, the Landing Ship can be particularly effective in delivering humanitarian aid and disaster relief.

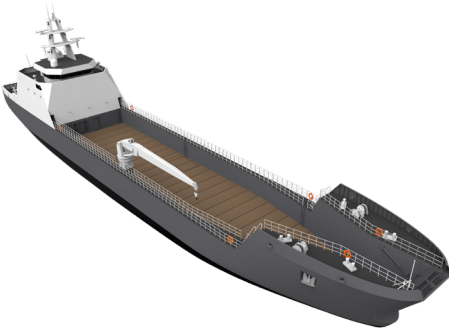
Essential and cost effective design features

- › MARPOL+ ready; no fuel adjacent to shell or bottom
- › Optimised hull form and propulsion for low fuel consumption
- › Efficient logistic arrangement/routes for embarked forces
- › Ramps designed for handling vehicles up to 70 tonnes
- › Stern anchor for use during beaching and recovery
- › High degree of survivability by means of double hull arrangement
- › Complies with latest intact and damage stability requirements
- › Design optimised for minimum wading depths



Stan Lander

	SLa 4210	SLa 5612
Length (m)	42	57
Beam (m)	10	12
Draught (m)	2.5	2.5 - 2.7
Deadweight (t)	290	700
Speed (kn)	10	11
Range (nm)	1500	3000
Crew	16	16
Additional personnel	–	–
Troops/EMF	–	–
RoRo space (m²)	185	350
Landing Craft	–	–
Flight deck	–	–
Helicopter hangar	–	–
Main gun (mm)	12.7	12.7



Landing Ship Logistics

	LSL 80	LSL 90
Length (m)	80	90
Beam (m)	14	14
Draught (m)	2.7 - 3.0	2.7 - 3.0
Deadweight (t)	300 - 550	650 - 900
Speed (kn)	17	17
Range (nm)	2500	3000
Crew	12	12
Additional personnel	6	6
Troops/EMF	36	36
RoRo space (m²)	490	600
Landing Craft	–	–
Flight deck	1x S-size optional	1x S-size optional
Helicopter hangar	–	–
Main gun (mm)	12.7 - 30	12.7 - 30

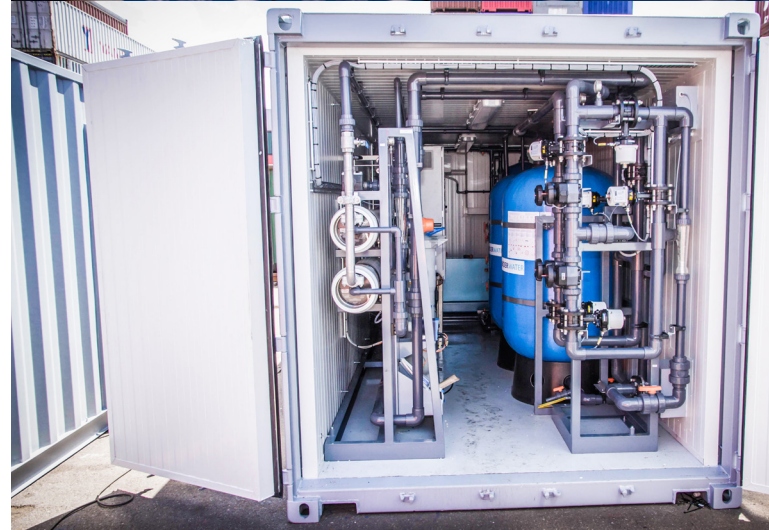


Landing Ship Transport

LST 100	LST 120	LST 120H
100	119	119
16	16	16
3.5 - 3.9	3.5 - 3.9	3.5 - 3.9
900 - 1400	1400 - 2200	1400 - 2100
15	14.5	14.5
4000	4500	4500
18	18	18
30	57	58
234	378	378
1020	1500	1310
2x davit	4x davit	2x davit
1x M-size (NH-90 o.e.)	1x M-size (NH-90 o.e.)	1x M-size (NH-90 o.e.)
–	–	1x M-size (NH-90 o.e.)
12.7 - 40	12.7 - 40	12.7 - 40

Typical characteristics – other options can be specified by the client





## NAUTICAL AND COMMUNICATION EQUIPMENT

# Mission ready

The landing ship range can be suited with a combat system, ranging from small gun with communication system to Combat Management System (CMS) with sensor suite and surface & air surveillance.

The CMS shall provide the command team with the combat capabilities to support the vessel's operational tasks. By using a modular built-up, easy extension and addition of software or systems shall be possible. The CMS shall provide the following functionalities: situational awareness, sensor control and target engagement via target designation from CMS to RWS.

	SLa	LSL	LST
RWS *	12.7 mm gun	12.7 - 30 mm gun	12.7 - 40 mm gun
Sensors suite	-	EO-System **	EOF-System ***
SAR	-	Surface & (low) Air Radar	Surface & (low) Air Radar + IFF
CMS	-	Compact CMS	Compact CMS
ICS ****	Compact ICS with 1x HF + 1x V/UHF	ICS with 2x HF + 2x VUHF	ICS with 2x HF + 3x VUHF

\* Remote Weapon System

\*\* Electro Optical Surveillance

\*\*\* Electro Optical Surveillance with Fire Control

\*\*\*\* Integrated Communications System





BOOSTING LANDING SHIP VERSATILITY

Stan Lander

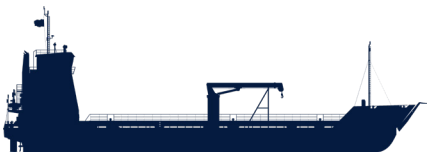
Shoreside infrastructure typically has a wide variety of construction and design types to meet specific local operational requirements (tides, currents, space limitations). Normal commercial vessels very often cannot meet the minimal requirements for use. In that case, the Stan Lander, in combination with Damen's modular jetty, is the answer.

- Operational profile
- › Logistic operations
  - › Strategic transports
  - › Personnel movements



Stan Lander

Length o.a.	42 - 57 m
Beam mld.	10 - 12 m
Draught	2.5 - 2.7 m
Deadweight	290 - 700 t
Speed	up to 11 kn
Accommodation	8 - 10 pers



- › Highly cost effective strategic / logistic capability
- › Flexible, large open-deck configuration
- › Wide bow ramp enabling loading and unloading on quays, jetties or beaches
- › Crane options for increased flexibility and self-reliance
- › Sheltered cargo holds below the open deck allowing weather protected stowage of goods
- › Very shallow draught capability giving optimum inland access
- › High payload capacity for maximum transport efficiency



EFFECTIVE & ADAPTABLE

# Landing Ship Logistics

In many cases around the world limitations in shore facilities do not allow for normal commercial vessels to trans-ship their cargo because of constraints in draught, quay strength, space etc.

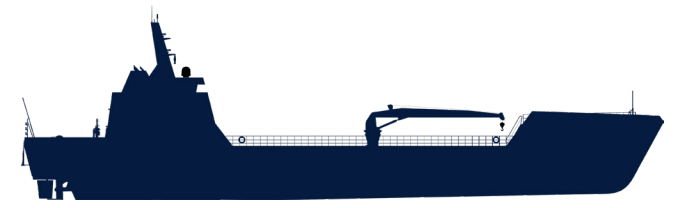
In these cases, the Damen LSL provides a unique solution, navigating shallow waters and offloading cargo close to its final destination via the Roll-On Roll-Off (Ro-Ro) mode or a suitable beach or very limited infrastructure.

- Operational profile**
- › Amphibious operations
  - › Transport & logistics
  - › Maritime security operations
  - › Humanitarian aid and disaster relief
  - › Counter-piracy operations
  - › Over The Horizon - Special Forces (OTH-SF) operations
  - › Combat Search and Rescue (CSAR) support
  - › Operations command
  - › Stand-off Mine Counter Measures (MCM) operations support
  - › Rapid Environmental Assessment (REA) support
  - › Hydrographic survey operations support



## Landing Ship Logistics

Length o.a.	80 - 90 m
Beam mld.	14 m
Draught	2.7 - 3.0 m
Deadweight	350 - 900 t
Speed	up to 17 kn
Crew	12 pers
Troops/EMF	36 pers



- › Optimised internal routing and access for personnel, supplies and cargo
- › Flexible internal cargo deck with stern and bow ramps for drive-through configuration for payloads up to 70 tons
- › Large open upper deck for cargo with crane and Ro-Ro access to the beach
- › Suitable to carry a variety of assault craft in davits
- › Large helideck to support UAV operations, stowage of mission module containers or helicopter landing and take-off
- › Robust troop/special personnel accommodation



LONG TERM FLEXIBILITY & MISSION MODULARITY

Landing Ship Transport

The LST delivers a high payload onto a secured beach and provides a flexible base platform for various operations.

The NATO amphibious Ship to Objective Manoeuvre (STOM) involves the movement of landing forces from over the horizon directly to their objective. This is often supported/supplemented by a limited or temporary build-up of combat power on a beach.

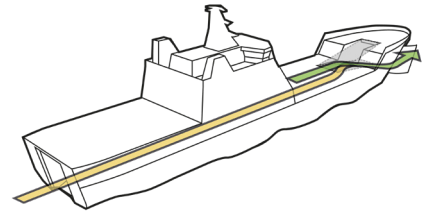
Once the beach is secure, the LST can rapidly provide an unmatched amount of operational assets. This capability makes an LST a ‘force multiplier’ in STOM operations as part of an Amphibious Task Group. Alternatively, LSTs can operate independently and conduct amphibious operations using their reconnaissance capability to secure a beach for the main force on board.

- Operational profile**
- › Amphibious operations
  - › Transport & logistics
  - › Maritime security operations
  - › Humanitarian aid and disaster relief
  - › Counter-piracy operations
  - › Over The Horizon - Special Forces (OTH-SF) operations
  - › Combat Search and Rescue (CSAR) support
  - › Operations command
  - › Stand-off Mine Counter Measures (MCM) operations support
  - › Rapid Environmental Assessment (REA) support
  - › Hydrographic survey operations support

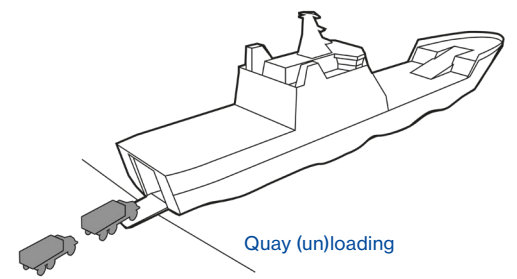


**Landing Ship Transport**

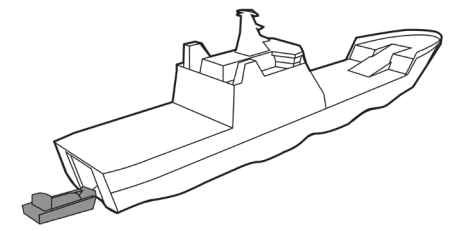
Length o.a.	100 - 120 m
Beam mld.	16 m
Draught	3.5 - 3.9 m
Deadweight	900 - 2200 t
Speed	up to 15 kn
Crew	18 pers
Troops/EMF	234 - 378 pers



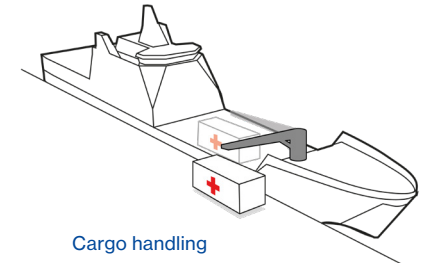
Drive through concept



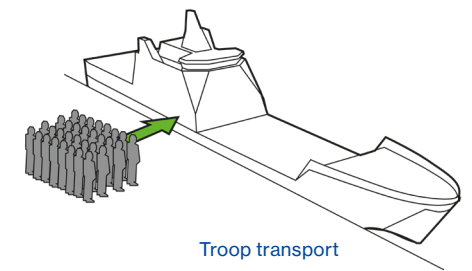
Quay (un)loading



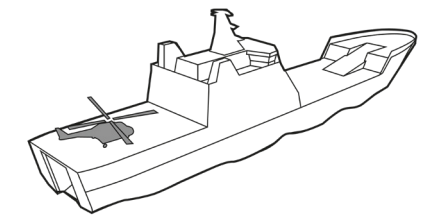
Landing craft (un)loading



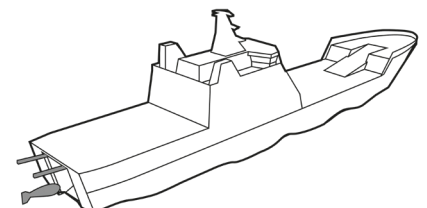
Cargo handling



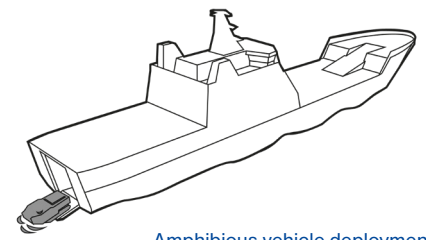
Troop transport



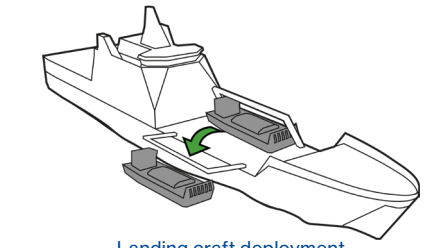
Helicopter operations



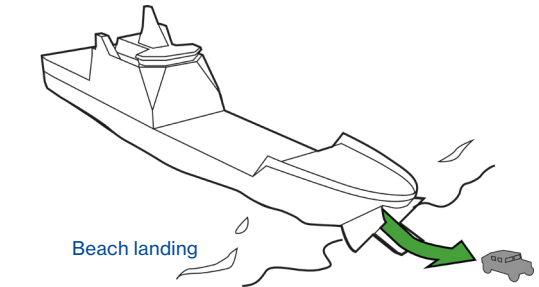
UUV / UAV / small craft deployment



Amphibious vehicle deployment



Landing craft deployment



Beach landing

- › Optimised internal routing and access for personnel, supplies and cargo
- › Flexible internal cargo deck with stern and bow ramps for drive-through configuration for payloads up to 70 tons
- › Large open upper deck for cargo with crane and Ro-Ro access to the beach
- › Suitable to carry a variety of assault craft in davits
- › Large helideck to support UAV operations, stowage of mission module containers or helicopter landing and take-off
- › Robust troop/special personnel accommodation





MODERN STANDARDS

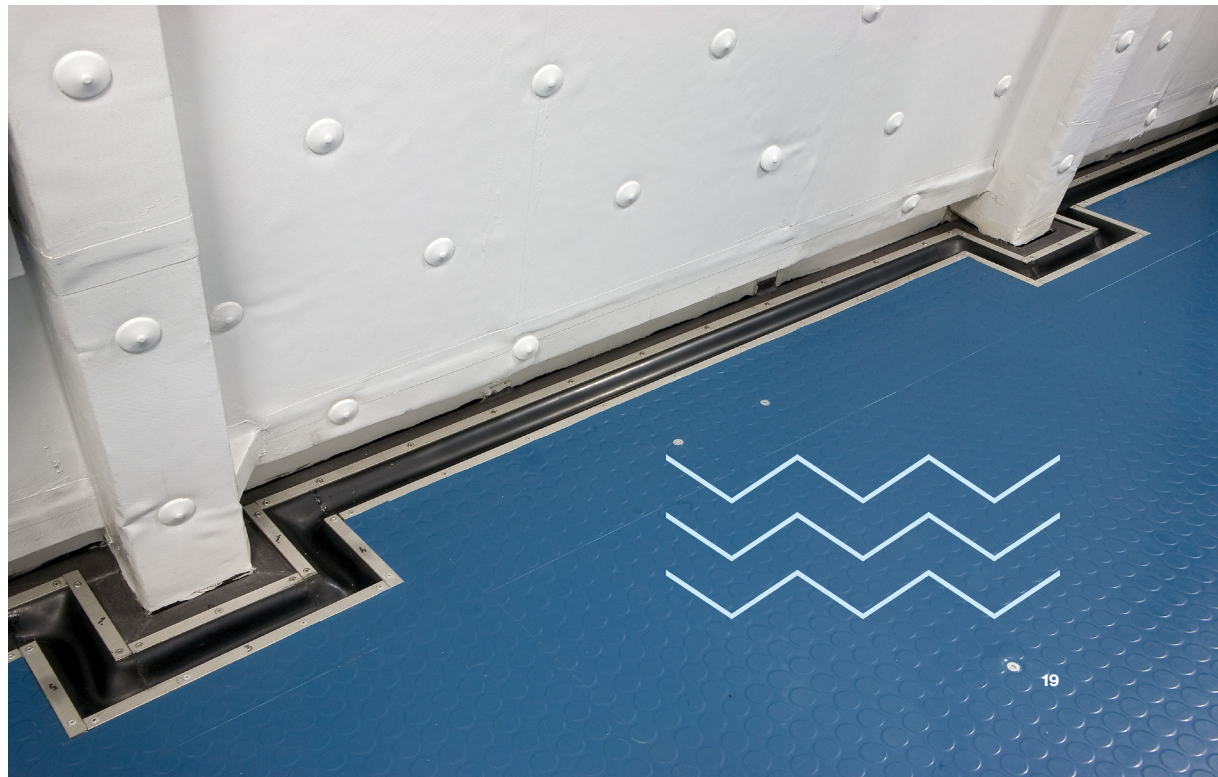
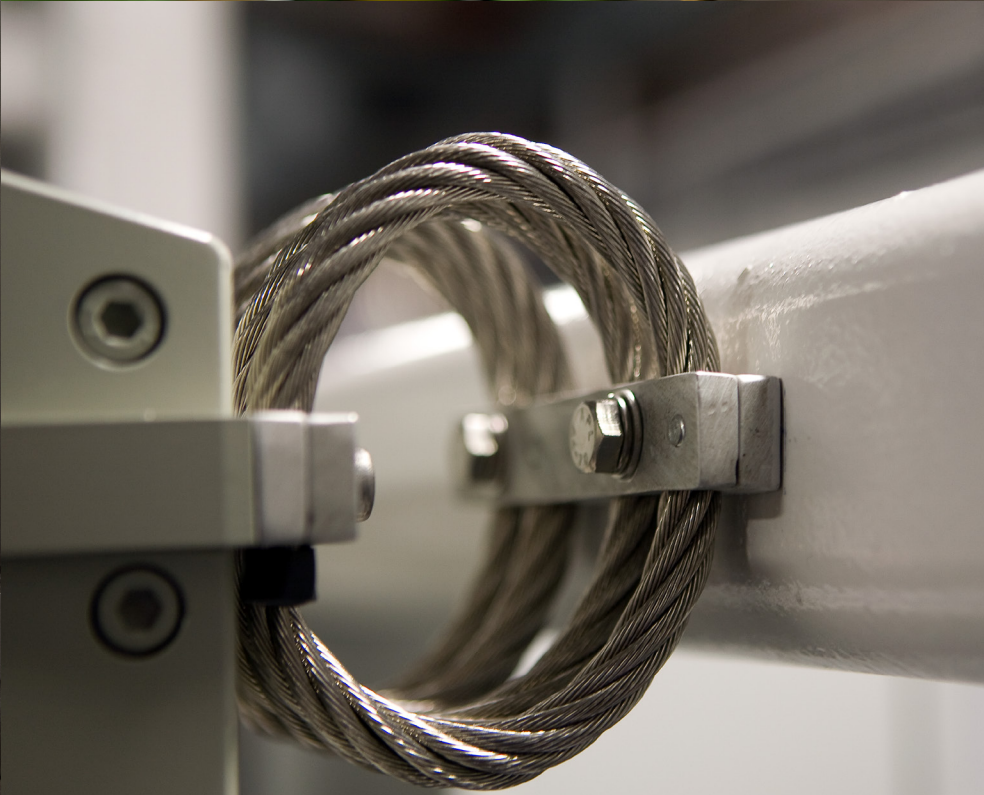
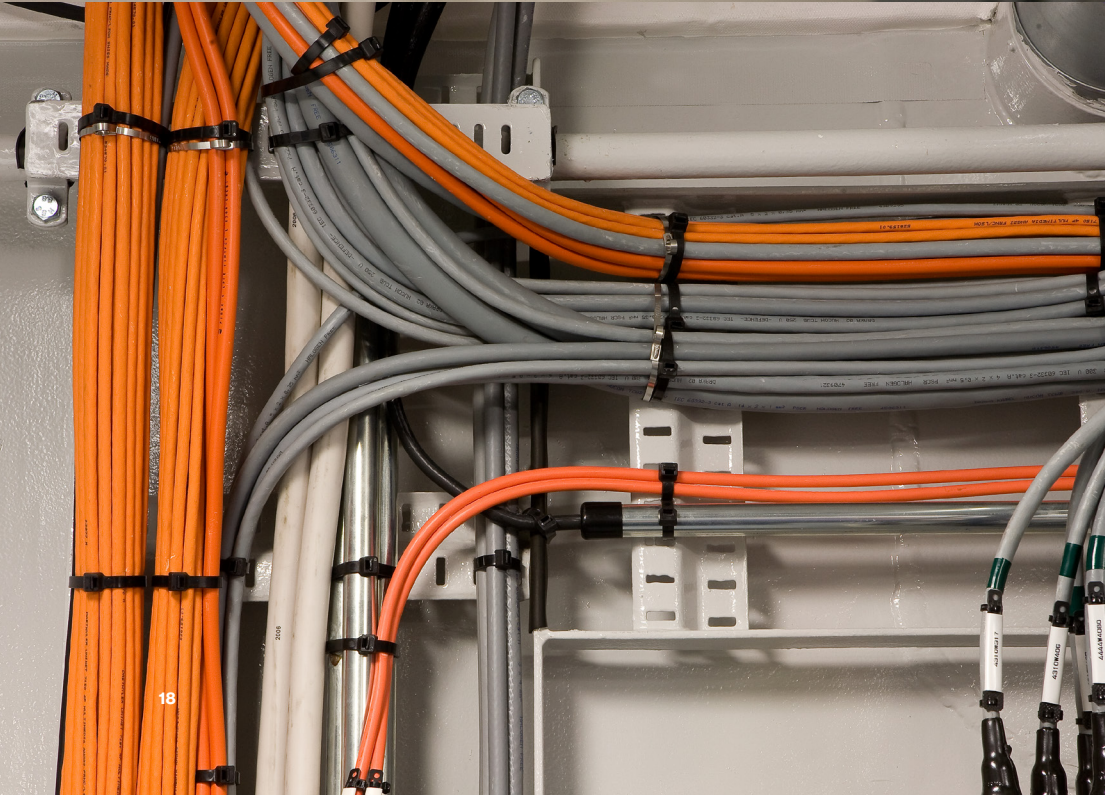
# Inner strength

Damen Naval is more than a ship builder; we are a systems integrator. Our SIGMA vessels are prime examples of this. Sensors, weapons, command, alarms, navigation, energy generation, propulsion – all ship systems work together to create one multi-disciplinary platform. We deliver high platform standards with operational spaces fully tailored to customer wishes.

- › Continuous improvement and evolution of platform solutions
- › Up-to-date mission equipment
- › Modern solutions for platform management systems











THE YARD OF YOUR CHOICE

# Local construction

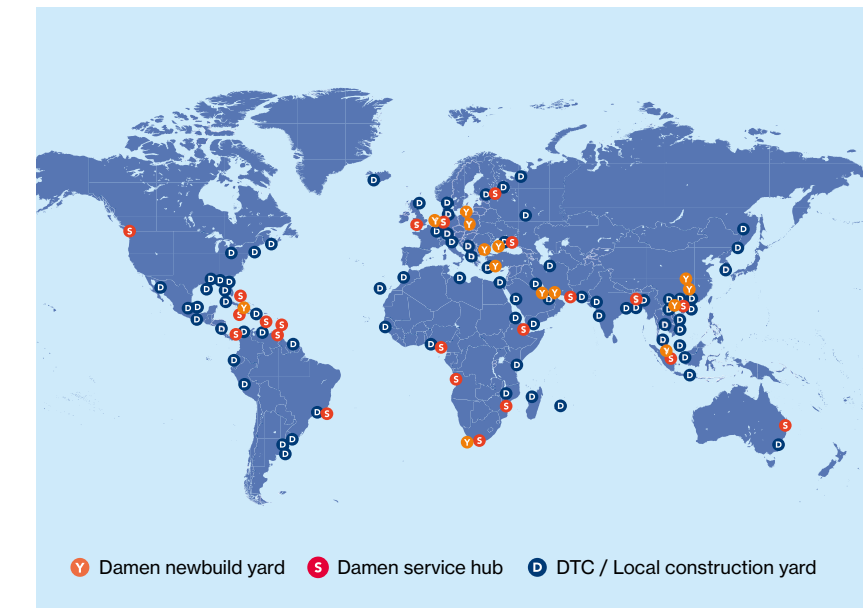
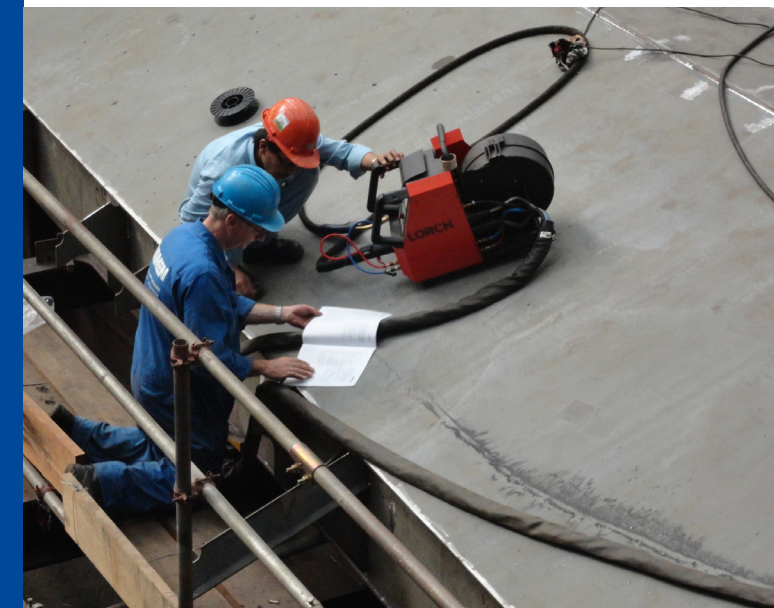
**Damen offers local building for its entire portfolio, and has built more than 1,000 vessels in this way in over 70 countries around the world.**

In addition to the option of building vessels at our own yards, Damen Naval can support vessel construction at a location of the client's choice. Damen Naval has already completed successful projects like this for the Indonesian Navy and Mexican Navy.

Furthermore, the modular design of our SIGMA range of vessels means that construction can be carried out in different locations, depending on locally available manpower, knowledge and facilities. This innovative and efficient modular building method shortens delivery times.

The benefits of modular building and local construction are numerous:

- › Proven naval designs
- › Design flexibility to meet specific demands
- › Guaranteed Damen quality and building support
- › Transfer of technology and skills development to local shipbuilding industry
- › Convenience of local production
- › Increased local content to meet political requirements
- › Stimulation of local economy and employment opportunities



- › **Modular building strategy**
- › **Short delivery times thanks to parallel construction in several sites**
- › **Transfer of technology**
- › **On-site production support**
- › **Local procurement and supply chain**
- › **National industry development**
- › **Key enabler for future service support**





YOUR MISSION IS OUR GOAL

# Product Lifecycle Support

Keeping your assets operationally available and relevant throughout their lifecycle against predictable Life Cycle Costs is our goal. We achieve this by delivering a comprehensive package of digital and smart innovative solutions, and services.

Damen Naval's Product Lifecycle Support portfolio contains both local one-stop-shop support and transfer of technology programs, enabling our customers to create their strategic autonomy. We support our customers in keeping their vessels relevant in the operational arena, by modernising them with the latest technologies. With innovative software solutions such as a computerised maintenance management system, interactive electronic publications, and the use of extended reality simulated environments, we digitalise asset management.

## Key features

- › Improved fleet readiness
- › Controlled lifecycle costing
- › Operational relevance of your assets
- › Strategic autonomy
- › Digital support environment
- › Local technical support
- › Global spares availability
- › Sustainable services







## TOWARDS A SUSTAINABLE FUTURE

# Sustainability

**Damen Naval works proactively to decrease the environmental footprint of its vessels in several ways.**

### Operational performance

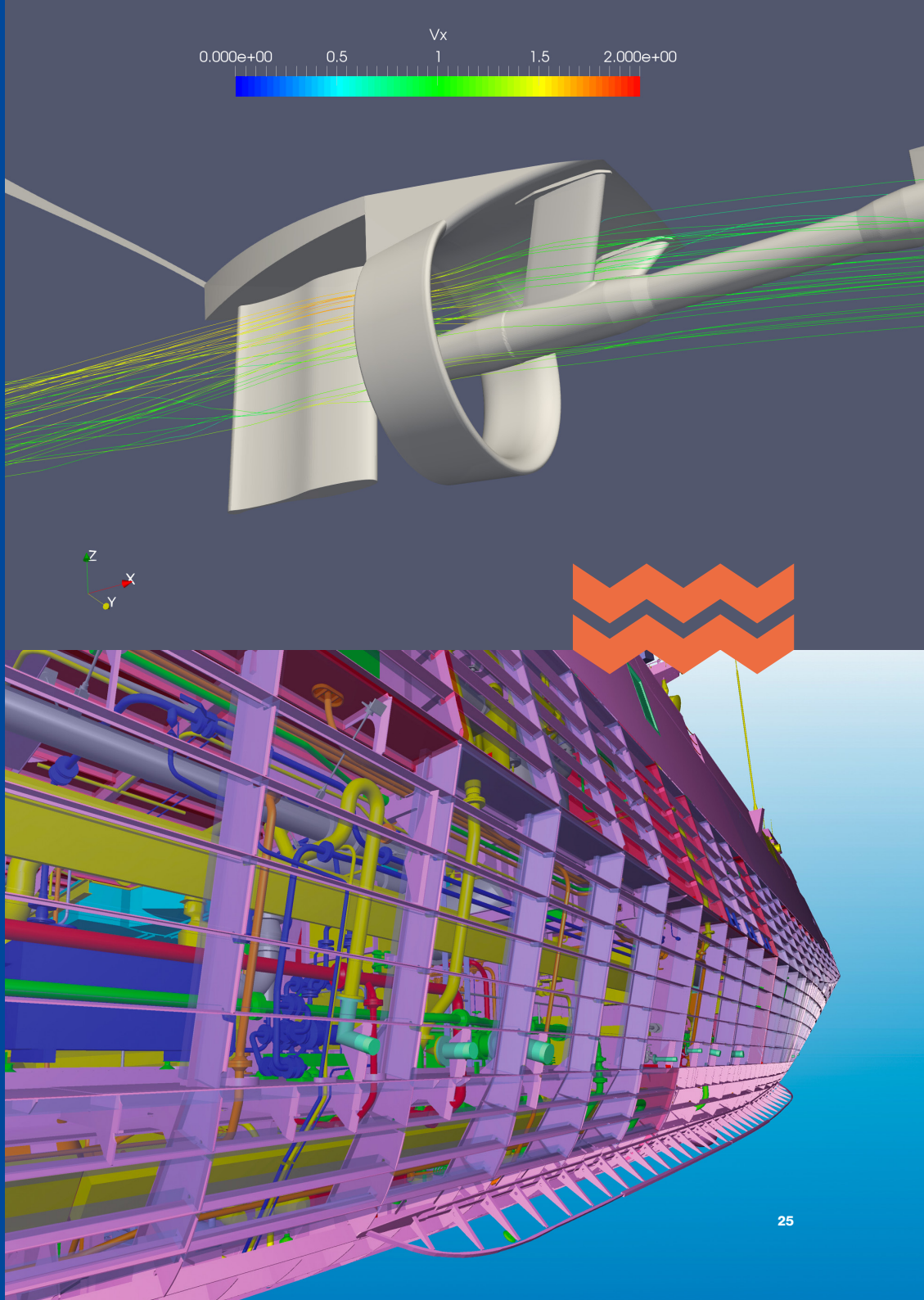
In order to reduce fuel consumption of our vessels, the following implementations will be executed on the next generation of products:

- › Multi-objective optimisation energy management strategy
- › Prototype of the Hull Vane design
- › Adaptive pitch control
- › Hull optimisation on actual operational weather conditions and sea states
- › Several efficiency improvements on HVAC and E&A systems by component selection and system design

### R&D

In cooperation with strategic partners in the naval production chain, research institutes, and the Royal Netherlands Navy, we participate in numerous research programmes aiming to lower CO<sub>2</sub> emissions and reduce dependence on fossil fuels.

- › Alternative fuels
- › Alternative (hybrid) power and energy storage
- › System optimisation and energy management
- › Exhaust gas treatment systems







SECURING OUR SEAS

# Damen Naval

Damen Naval is the dedicated naval shipbuilding division of the Damen Shipyards Group, which brings together all the naval activities of the group, both in the Netherlands and abroad.

With roots stretching back almost 150 years – to the Royal Schelde yard in Vlissingen – Damen Naval is the only naval original equipment manufacturer (OEM) in the Netherlands.

Having delivered more than 400 vessels to customers all around the world, we are a trusted partner in the international marketplace, known for our role as full-service provider, or integrator, throughout the lifecycle of our products. While taking pride in our heritage, we are looking towards the future.







WE TAKE PRIDE IN OUR TRACK RECORD

# References

**For more than 50 years, Damen has worked with the Royal Netherlands Navy on the design, engineering and construction of eight generations of combatants, as well as Naval Auxiliaries, Landing Platform Docks and Hydrographical Survey Vessels.**

Based on this extensive experience, Damen Naval also offers navies worldwide a broad range of naval and patrol vessels, ranging from 7 to more than 200 metres.

The SIGMA range of vessels is an important part of this export market. Although built according to a standardised concept, SIGMA vessels are tailored to the clients' unique operational requirements and can be equipped for missions ranging from maritime security up to naval warfare and power projection.

With every vessel we build, we guarantee quality standards based on proven technologies.







# Damen Shipyards

## OCEANS OF POSSIBILITIES

Damen Shipyards Group has been in operation for over ninety years and offers maritime solutions worldwide, through design, construction, conversion and repair of ships and ship components. By integrating systems we create innovative, high quality platforms, which provide our customers with maximum added value.

Our core values are fellowship, craftsmanship, entrepreneurship and stewardship. Our goal is to become the world's most sustainable shipbuilder, via digitalisation, standardisation and serial construction of our vessels.

Damen operates 35 shipyards and 20 other companies in 20 countries, supported by a worldwide sales and service network. Damen Shipyards Group offers direct employment to more than 12,000 people.

### Colophon

© 02-2023

The Damen Shipyards Group is the copyright owner of this brochure.

© Damen Shipyards Group 2023

All rights reserved. Except with the prior express written permission of the Damen Shipyards Group, this brochure and its content may not be distributed and/or commercially exploited.

If you have any comments on our brochures, please let us know:  
[info@damennaval.com](mailto:info@damennaval.com)





**DAMEN**  
NAVAL

De Willem Ruysstraat 99  
4381 NK Vlissingen

P.O. Box 555  
4380 AN Vlissingen  
The Netherlands

+31 (0)118 48 50 00  
[info@damennaval.com](mailto:info@damennaval.com)  
[damennaval.com](http://damennaval.com)

BRO-DNLS-0223