

# SAL HEAVY LIFT



WE INNOVATE SOLUTIONS



## ABOUT SAL

**SAL Heavy Lift is a world leading carrier specialized in sea transport of heavy lift and project cargo.**

We operate a global network of own offices and representatives. This enables us to quickly provide excellent solutions to our clients. Thanks to our longtime experience, integrated best practices in QHSE and our highly trained crews, we provide safe, innovative, reliable transport solutions.

Our in-house engineering department develops customised solutions for all transport needs and thoroughly supervises all projects from the planning stages to successful completion while working hand in hand with our crew onboard.

SAL Heavy Lift upholds the highest standards in respect of QHSE: all vessels are certified to ISO 14001 and OHSAS 18001. Type 183, 176 and 116 have Environmental Passports confirming this compliance.

**It is our ambition and mission  
to provide safe and reliable  
heavy marine transport services.**

WE INNOVATE SOLUTIONS





OWN SPECIALIZED CREW  
FOR ALL VESSELS



OFFICES IN 12 COUNTRIES  
AGENTS IN OVER 20 COUNTRIES



IN-HOUSE ENGINEERING TEAM  
SAL ENGINEERING GMBH



HIGHEST QHSE STANDARDS



RO-RO / FLO-FLO  
DOCK VESSEL & DECK CARRIERS



OWN FLEET OF  
HEAVY LIFT VESSELS



FULLY EQUIPPED VESSELS WITH  
OWN TOOLS AND LIFTING GEAR



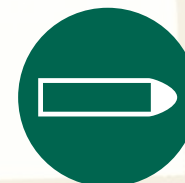
UNRIVALLED SPEED  
UP TO 20 KNOTS



CRANE CAPACITY  
UP TO 2 000 t SWL



HOLD SIZE  
UP TO 107.1 x 17 x 13.5 m



DECK SPACE  
UP TO 128.5 x 27.5 m

# GLOBAL SERVICES

## SEMI-LINER SERVICE

SAL offers a Semi-Liner Project Service for the transportation of heavy lift, break-bulk and project cargoes on several routes:

- Between Europe and Far East, we call ports en route including the Black Sea and Persian Gulf when required.
- Our Africa service connects Europe and the African continent with Gulf of Guinea/West Africa as regional hub. We offer round trips via the Cape and shipments to and from Asia and the Persian Gulf.
- Our Americas service offers transport of project and break-bulk cargo Trans Atlantic to/from Europe and Africa as well as cross Pacific to/from Asia. We also offer shipments between North America and South America (East/West Coast) in cooperation with group partner Intermarine.

Our Semi-Liner Shipping Services have continuously developed over many decades. With regular sailings, short transit times and our reliable services, we connect ports around the world. In addition, our fleet of heavy lift vessels, equipped with advanced lifting gear, can operate in remote or small ports, independently from port infrastructure. Our vessels are also perfectly suited for off-shore loading and discharge operations.

We offer innovative solutions for our globally active customers.

## MAIN SERVICE ROUTES

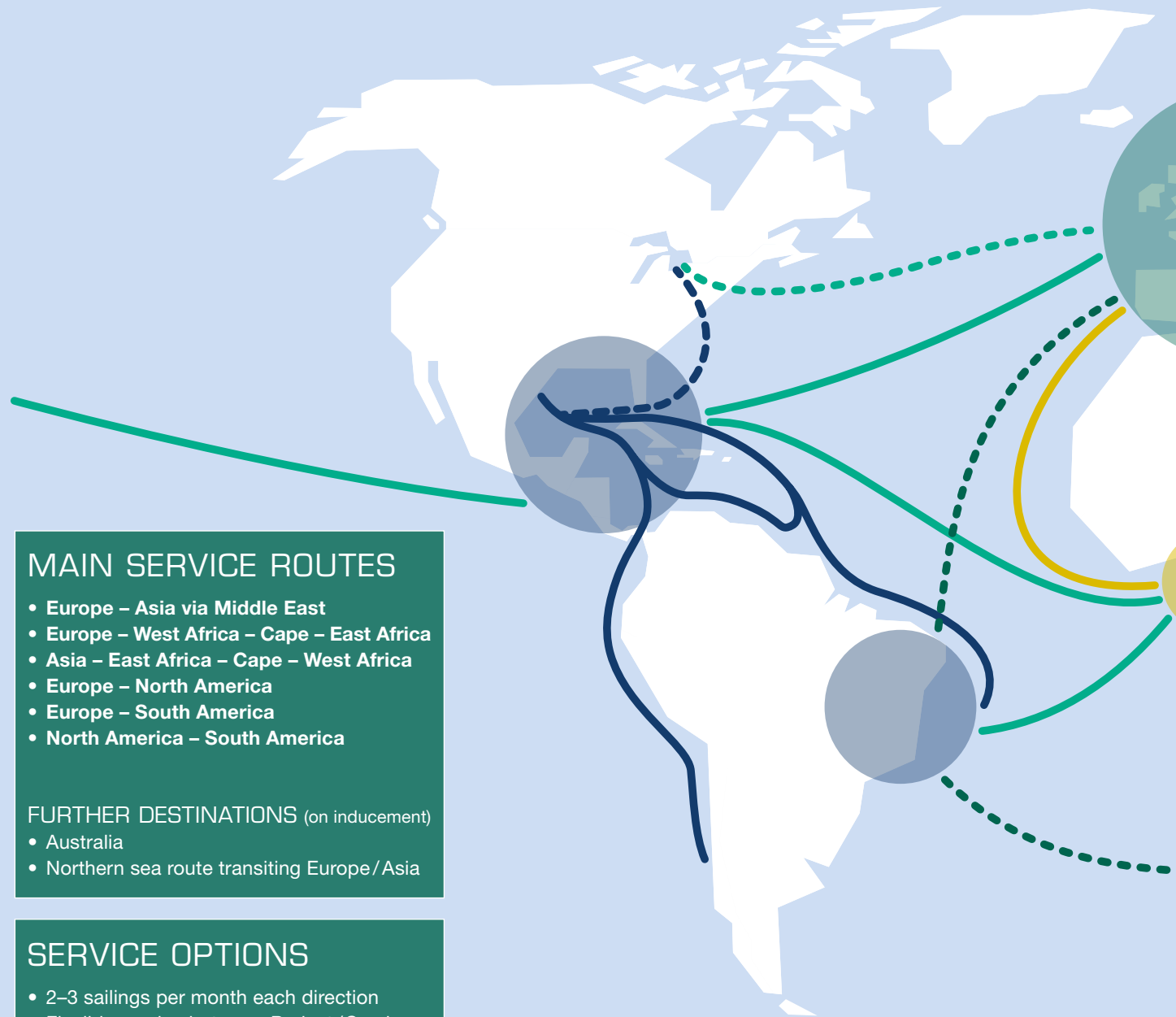
- Europe – Asia via Middle East
- Europe – West Africa – Cape – East Africa
- Asia – East Africa – Cape – West Africa
- Europe – North America
- Europe – South America
- North America – South America

## FURTHER DESTINATIONS (on inducement)

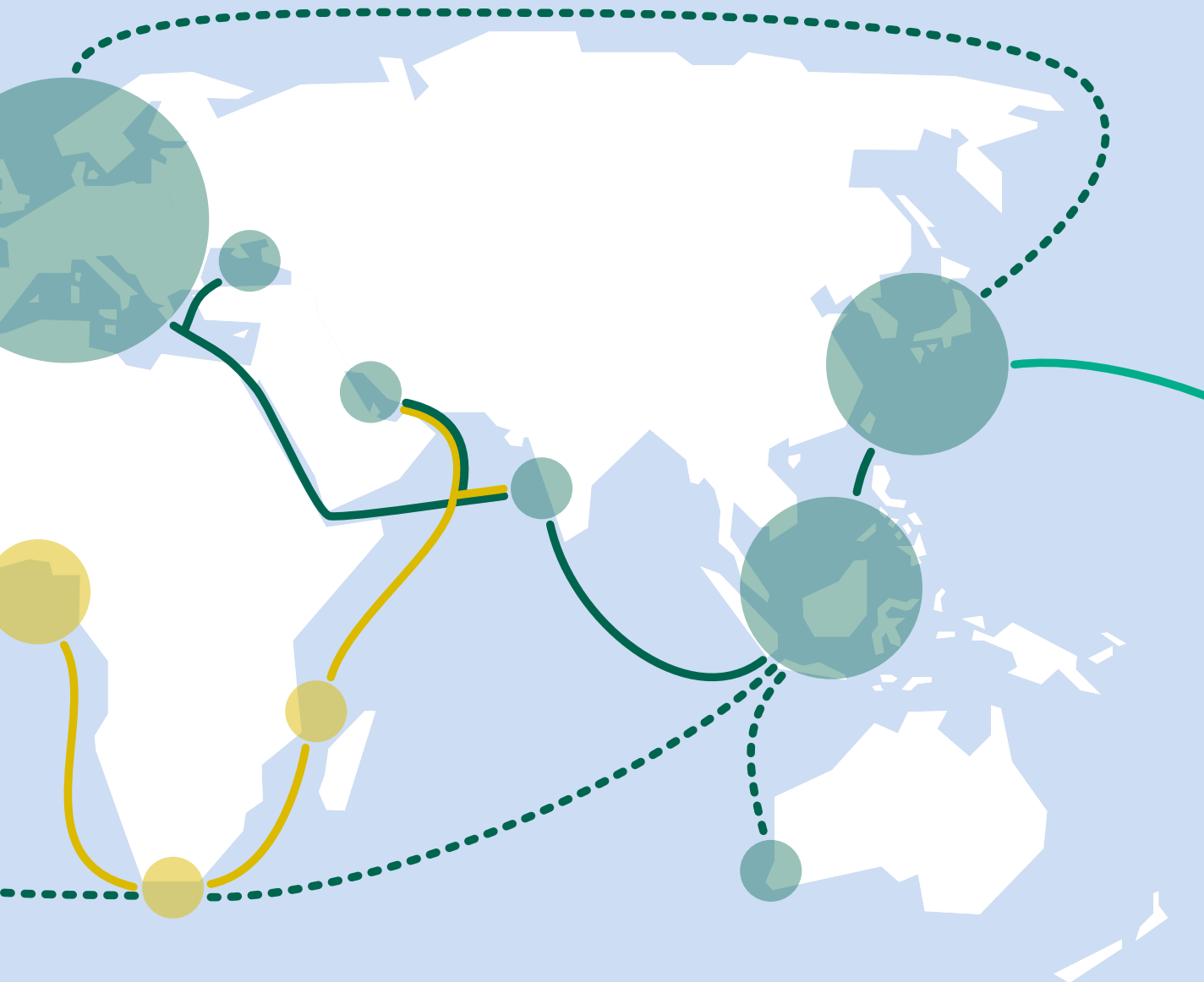
- Australia
- Northern sea route transiting Europe/Asia

## SERVICE OPTIONS

- 2–3 sailings per month each direction
- Flexible service between Project / Semi-Liner (i.e. full cargo and part cargo option)
- Secondary ports/remote port access







- Africa service route
- SAL NC / Asia semi-liner trade
- Intermarine Intra-Americas liner service
- SAL cross Atlantic / Pacific trade into Americas
- ... Further destinations

## MARINE PROJECTS

SAL offers a port-to-port Project Service and port-to-site service (e.g. feeder service) worldwide – providing tailor-made transport and installation solutions to our clients. With this service SAL aims to meet client needs and to design innovative, efficient and flexible solutions for the safe and secure transportation of heavy and time-sensitive cargo, backed by our long-standing competence and engineering expertise.

## OFFSHORE SUPPORT

The growing challenges of meeting worldwide energy demands have led major oil and gas producers to increase exploration with a heavy emphasis on offshore infrastructure. With this global development, SAL has become increasingly involved in providing transportation and installation solutions to complex offshore oil, gas and renewable projects.

### SHIPPING & OFFSHORE SUPPORT

ENERGY / OIL & GAS

RENEWABLES

INFRASTRUCTURE

MARINE

INDUSTRIAL MACHINERY

OTHER SERVICES





OUR SOLUTIONS

# »ENERGY

Energy is what drives the world. From refineries and petrochemical plants to oil and gas installations – all come in great varieties and increasing sizes. They require challenging transport solutions. We know how to handle it. We carry large reactors on our unobstructed decks. We place huge carousels on our vessels, spool them with kilometres of umbilicals and hand them over to installation vessels. We load complex modules in our spacious holds. And our versatile vessels can also serve as installation platforms for your offshore development projects. We make energy our business.





# THE BIGGEST MARINE ASSET

MV Svenja serves as  
project platform for offshore  
development platform  
installation in Alaska







1



Deutsche Oel & Gas

Subsea installation of Monopod

2



Installation of Modular Support Frame (MSF)

3



Installation of Topside

*"We appreciate the exceptional cooperation we received from SAL and the significant contributions they made to ensure the success of this project."*

Johan Sperling, Vice President  
Crowley Marine Solutions

## ■ KITCHEN LIGHTS UNIT #3

### Vessel

MV Svenja, Type 183

### Location

Cook Inlet, Alaska

### Client-provided items (CPI)

Offshore development platform:

- Monopod
- Modular Support Frame (MSF)
- Topside
- Helideck

### Weight

1000 t (Monopod)

700 t (Topside)

### Dimensions

45 × 26 m (Monopod)

33 × 30 × 27 m (Topside)

### Vessel modifications and deck equipment

- Temporary living quarters for 60 supporting team members
- 10 additional mooring winches
- 3D Sonar System

### Scope of work

- Rent and installation of adjustable mooring system to guarantee accurate positioning in strong tidal currents
- Driving King Pile into seabed by hydro hammer
- Lowering of Monopod to seabed (delivery by barge, additional preparations on deck)
- Installation of Topside and Helideck

### Specials

- Strong tidal currents
- US Jones Act: vessel was not allowed to move as soon as American cargo was hanging on the cranes
- Topside could only be lifted during high tide with an extremely tight single hook lift with very small tolerances
- Highly technical and complex installation of the offshore platform



## OUR SOLUTIONS

### REFINERY AND PETROCHEMICAL COMPLEX PROJECT, VIETNAM ◀

<b>Vessels</b>	MV Lone, Type 183, Type 176 vessels, Type 161 vessels
<b>Cargo</b>	<ul style="list-style-type: none"><li>• Risers, Strippers, PP Splitters, Debutanizers and Deethanizers</li><li>• Units weighing up to 1 100 t each, longest item: 95 m</li></ul>
<b>Weight</b>	270 000 freight tons in total
<b>POL</b>	Various ports in Europe and Asia
<b>POD</b>	Nghi Son, Vietnam
<b>Specials</b>	<ul style="list-style-type: none"><li>• 26 voyages</li><li>• Combining cargo on Type 183, 176 and 161 vessels</li><li>• First heavy lift vessel to enter discharge port</li><li>• Starboard discharge for single items due to length</li></ul>





## ■ 43 REELS ▼

<b>Vessel</b>	MV Anne-Sofie, Type 176, MV Regine, Type 176
<b>Weight</b>	Up to 335 t Total weight of all three voyages: about 11 400 t
<b>Dimensions</b>	11.4 × 5.9 × 11.4 m and 9.2 × 6 × 9.4 m
<b>POL</b>	Batam, Indonesia/ Singapore
<b>POD</b>	Broome, W. Australia/ Yampi Sound, offshore northwestern Australia
<b>Specials</b>	<ul style="list-style-type: none"> <li>• Three shipments with two vessels and three additional return voyages to Batam with empty carousels and empty reels</li> <li>• No transpooling</li> <li>• Doublebanking/handover to installation vessel</li> </ul>



## ■ TWO CAROUSELS ▲

<b>Vessel</b>	MV Frauke, Type 176
<b>Weight</b>	Empty: 620 t Fully spooled: 1 475 t respectively 1 875 t
<b>Dimensions</b>	12 m high, diameter 26 m
<b>POL</b>	Rotterdam, Netherlands
<b>POD</b>	Project site offshore West Africa
<b>Specials</b>	<ul style="list-style-type: none"> <li>• Spooling of over 2 000 t of umbilicals in Panama City, US</li> <li>• On-site support for installation vessel for over two months</li> <li>• Precise weight spreading on hatch covers with tailor-made steel supports</li> </ul>





## OUR SOLUTIONS

### ■ NINE MODULES ▼

<b>Vessel</b>	MV Anne-Sofie, Type 176
<b>Weight</b>	Up to 319 t
<b>Dimensions</b>	Up to 26 × 12 × 15 m, 19 502 m <sup>3</sup> in total
<b>POL</b>	Tarragona, Spain
<b>POD</b>	Antwerp, Belgium
<b>Specials</b>	Cargo destined for refinery upgrade was stowed both on deck and in hold

### ■ FOUR STORAGE BULLETS & REFINERY PROJECT EQUIPMENT ▲

<b>Vessel</b>	MV Svenja, Type 183
<b>Weight</b>	1 230 t (bullet), 5 422 t in total
<b>Dimensions</b>	60 × 9 × 12 m (bullet), 29 000 m <sup>3</sup> in total
<b>POL</b>	Masan, South Korea
<b>POD</b>	Sohar, Oman





OUR SOLUTIONS

# »RENEWABLES

We support the diversification of world-wide power supplies – no matter if onshore or offshore. Our spacious vessels make the perfect solution for the transportation of monopiles, transition pieces, blades or any other wind farm equipment. We are experts in finding tailor-made, cost-effective solutions for your transportation needs. And with a 20 knots sailing speed, we are the perfect partner to match your tight project schedule.



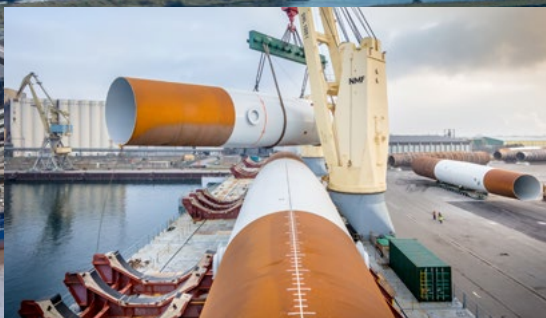
# THE TALLEST & THE HEAVIEST

Transition Pieces, Monopiles,  
tower sections and blades

*“The cooperation between VanOord and SAL has been excellent – in particular because we needed SAL to comply with our extremely tight construction program. And SAL has proven that they can do the job.”*

Floren Verweij, Project Manager,  
Van Oord Offshore Wind Projects BV





## ■ TRANSITION PIECES & MONOPILES

<b>Vessel</b>	MV Svenja, Type 183
<b>Cargo</b>	87 Transition Pieces (TPs), 87 Monopiles (MPs)
<b>Weight</b>	Up to 561 t (TPs) Up to 1019 t (MPs)
<b>Dimensions</b>	Up to 33 m long, Ø 7.44 m (TPs) Up to 72.56 m long, Ø 8.4 m (MPs)
<b>Total volume</b>	239 366.46 m <sup>3</sup> – 44 935.80 t (TPs) 310 660.70 m <sup>3</sup> – 62 018.32 t (MPs)
<b>POL</b>	Rostock, Germany / Teesport, UK / Aalborg, DK
<b>POD</b>	Belfast, UK
<b>Specials</b>	<ul style="list-style-type: none"> <li>• Tallest and heaviest TP's currently in the market</li> <li>• Two different cargoes alternating in one voyage, vessel mobilized twice</li> <li>• Long-term employment with several consecutive voyages over about ten months</li> </ul>

What began in 2010 with the delivery of foundations for the first Walney Offshore Wind Farm concession was successfully continued in 2017: MV Svenja played a fundamental role in the third extension of the Walney Offshore Wind Farm, located in the North West of the UK. The vessel transported a total of 87 Monopiles (MPs) from Rostock to Belfast. In addition, 87 Transition Pieces (TPs) were carried from Tees and Aalborg to the project harbor. With a height of up to 30 metres, a diameter of more than seven metres and a single weight of up to 561 tons, the TP's are amongst the largest ever built – a job that kept MV Svenja busy for almost a year. This long-term project was characterized by several challenges: Two different types of cargo, each requiring its own mobilization setting on board, which had to be shipped alternately, a tight schedule from customer side demanding flawless workflows for a pinpointed delivery from

## ■ TOWER SECTIONS & BLADES

<b>Vessel</b>	MV Annegret, Type 161A
<b>Cargo</b>	40 Tower Mid Sections (TMS), 40 Tower Top Sections (TTS), 24 Blades (B)
<b>Weight</b>	125 t (TMS) 119 t (TTS) 55 t (B)
<b>Dimensions</b>	30.7 × 7.5 × 7.2 m (TMS) 33.7 × 6.6 × 6.2 m (TTS) 82.5 × 6.7 × 6.0 m (B)
<b>POL</b>	Aabenraa & Esbjerg, Denmark (towers) Nakskov, Denmark (blades)
<b>POD</b>	Belfast, UK
<b>Specials</b>	<ul style="list-style-type: none"> <li>• Consecutive shipment</li> <li>• Blade length of over 80 metres</li> <li>• Tight storage of blades</li> </ul>

three different loading ports, and a special sea-fastening system which had to be designed to cope with the cargo variety and to ensure quick handling, even during the harsh North Sea winter weather conditions.

While MV Svenja was busy delivering MP's and TP's, MV Annegret got ready to transport tower sections and blades from Nakskov, Aabenraa, and Esbjerg in Denmark. In a total of eleven voyages, MV Annegret transported 40 tower mid sections, 40 tower top sections and 24 blades. A single voyage contained either ten tower sections or eight blades. Due to their length of over 80 metres, the blades became quite a challenging cargo that demanded every centimeter of space on board the vessel. Stowed in the lower hold and in two layers, the blades had an all-in-all distance of only 500 millimetres to the forward and engine bulkhead. A challenge that has successfully been met by our experts.



# OUR SOLUTIONS

## ■ VEJA MATE OFFSHORE WIND FARM

<b>Vessels</b>	MV Trina, Type 176
<b>Cargo</b>	<ul style="list-style-type: none"><li>• 67 Transition Pieces</li><li>• Anode Cages</li><li>• Additional cargo</li></ul>
<b>Weight</b>	365.5 t (TP)
<b>Total volume</b>	108674 m <sup>3</sup>
<b>POL</b>	Aalborg, Denmark
<b>POD</b>	Eemshaven, The Netherlands
<b>Specials</b>	Special designed lifting tool



*“The commitment of SAL Heavy Lift to HSE, quality, workmanship, and eagerness to complete the project correctly and within the allotted schedule is greatly appreciated.”*

Pieter Poelsma, Manager Transport & Logistics, OWF





## ■ BLADES, NACELLES, HUBS ETC.

<b>Vessels</b>	MV Paula, Type 161A MV Annemieke, Type 161
<b>Weight</b>	Up to 73 t
<b>Dimensions</b>	Up to 49.62 × 3.27 × 3.26 m (blades)
<b>POL</b>	Shanghai & Taicang, China Esbjerg, Denmark
<b>POD</b>	Akita, Japan
<b>Specials</b>	Transportation of several nacelles, hubs, blades and transformer units, as well as cooling towers, elephant foot, rotor yoke and containers





## ■ WIKINGER WIND FARM – TEST PILE CAMPAIGN

<b>Vessel</b>	MV Lone, Type 183
<b>Location</b>	German sector of the Baltic Sea, north-east of the island of Rügen
<b>Client-provided items</b>	Nine piles, largest: 36 m long, diameter approx. 1.4 m, weight up to 47 t
<b>Max. lift weight</b>	165 t (piling frame and hydro-hammer)
<b>Vessel modifications</b>	<ul style="list-style-type: none"> <li>• Piling frame (“Triplex Template”)</li> <li>• Piling hammer and follower</li> <li>• Testing beam</li> <li>• WROV</li> <li>• Tugger winches</li> <li>• Temporary accommodation units</li> </ul>
<b>Scope of work</b>	<ul style="list-style-type: none"> <li>• Phase I: Installation of nine test piles at three locations at water depths of up to 40 m</li> <li>• Phase II: Restrike and pull out tests</li> </ul>



OUR SOLUTIONS

# »INFRA- STRUCTURE

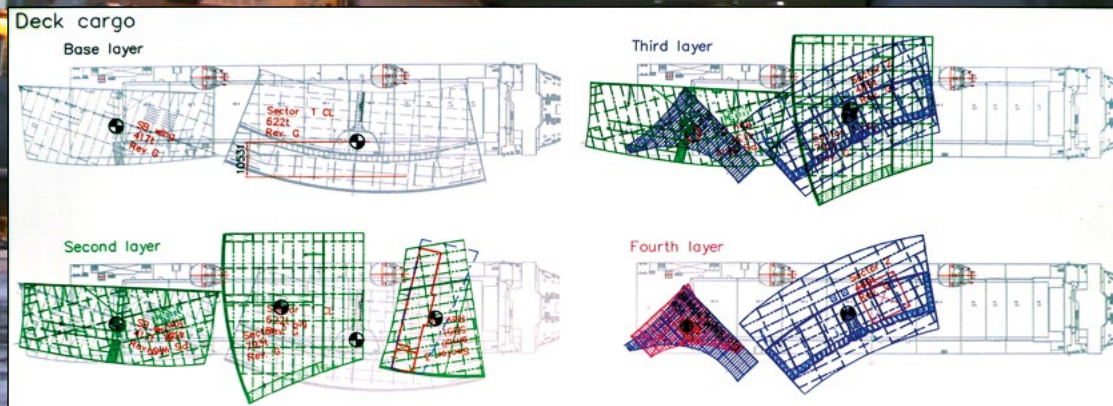
We have outstanding expertise in supporting port infrastructure construction. We transport and install ground piles and place platforms on them. We transport harbour cranes and shiploaders and install them directly onto the jetty. Often they don't even have to be dismantled for transport. We can lift and transport them in one piece. Innovative shipping brought to you.





## “THE NORTH DECK”

Stacking eight pieces ...  
and an overhang of 16 metres







## ■ BEACH PLATFORM

<b>Vessel</b>	MV Svenja, Type 183
<b>Cargo</b>	<ul style="list-style-type: none"> <li>• Beach platform of over 10000 m<sup>2</sup> (6 modules)</li> <li>• Land bridge (2 pieces)</li> </ul>
<b>Weight</b>	Up to 740 t
<b>Dimensions</b>	Up to 79 × 35 × 4 m
<b>POL</b>	Rauma, Finland
<b>POD</b>	Dubai, UAE
<b>Specials</b>	<ul style="list-style-type: none"> <li>• Heaviest piece: 740 t and 52 × 44 × 4 m</li> <li>• Biggest piece: 640 t and 79 × 35 × 4 m</li> <li>• Total weight: 3500 t (all 8 pieces)</li> <li>• Overhang in the aft: 16 m</li> <li>• Special 26-metre lifting beams in use to load/discharge cargo</li> </ul>

SAL has extensive experience in transporting infrastructure pieces from their place of manufacture to the project site, including even direct installation. Take for example the shipment of the enormous modular platform structure known as the “North Deck”, which was subsequently to become the luxurious beach deck of Dubai’s iconic Burj Al Arab hotel.

The platform structure was designed and manufactured in eight sections in Finland and had a heaviest piece of 740 tons and largest of 79 × 35 × 4 metres. No wonder then that to get the pieces to Dubai in one go, the enormous and irregularly shaped pieces had to be stacked three high on MV Svenja’s deck. This was a complex engineering challenge made more so by the need for support frames and sensitive load spreading equipment to deal with overhangs of 16 metres aft, 15 metres port side and 9 metres starboard. But after nearly two weeks of on-site preparation and loading activity in sub-zero arctic temperatures, all eight pieces were successfully stowed on board exactly as planned.





## ■ KARARA IRON ORE PROJECT ◀

<b>Vessel</b>	MV Svenja, Type 183
<b>Cargo</b>	5 wharf modules
<b>Weight</b>	Up to 700 t
<b>Dimensions</b>	Up to 54.25 × 19.10 × 4.57 m
<b>POL</b>	Sattahip, Thailand
<b>POD</b>	Geraldton, Australia
<b>Specials</b>	<ul style="list-style-type: none"> <li>• Precision work: The modules were discharged directly onto stabbing piles</li> <li>• Challenging swell conditions</li> </ul>



## ■ ICHTHYS LNG PROJECT ▶

<b>Vessel</b>	MV Svenja, Type 183
<b>Cargo</b>	LPG and LNG platform
<b>Weight</b>	up to 1320 t
<b>Dimensions</b>	up to 45 × 40 × 8 m
<b>POL</b>	Batam, Indonesia
<b>POD</b>	Darwin, Australia
<b>Specials</b>	<ul style="list-style-type: none"> <li>• Overhang of 8.75 m</li> <li>• Exacting work with tolerances of less than 30 mm</li> <li>• Vertical tidal range of up to 7 m</li> <li>• Discharge directly to nine piled foundations</li> </ul>





*“The loading operation was characterized by great efficiency thanks to the intensive preparatory work and professional handling by SAL.”*

Gregor Levold, Head of Shipping and Logistics, Liebherr



## ■ TWO MOBILE HARBOUR CRANES ▲

<b>Vessel</b>	MV Trina, Type 176
<b>Weight</b>	540 t each, plus accessoires
<b>Dimensions</b>	75.35 × 17.00 × 47.90 m
<b>POL</b>	Rostock, Germany
<b>POD</b>	Saqr Port, UAE

### Specials

- Lift and transport of two fully assembled LHM 800 Pactronic® cranes, over 75 metres in length
- Task: to deliver a nearly 100% functional crane to the discharging port
- Special engineering solution to adapt the existing lifting gear to the increased size, weight and COG positions of the cargo





# OUR SOLUTIONS

## SIX FULLY ERECTED RTGs ▶

Vessel	MV Frauke, Type 176
Weight	139.5 t each
Dimensions	30 × 12.06 × 26 m each
POL	Changxingdao, China
POD	Vancouver, Canada
Specials	<ul style="list-style-type: none"><li>Fitting the six RTGs (rubber tyred gantry cranes) without any further deck modifications or extensions</li></ul>



## SHIPLOADER ◀

Vessel	MV Lone, Type 183
Weight	775 t
Dimensions	57.89 × 23.2 × 34.8 m
POL	Bremen, Germany
POD	Cartier, Canada
Specials	<ul style="list-style-type: none"><li>Special water pockets were fixed on the cargo to generate counterweight</li></ul>



OUR SOLUTIONS

# »MARINE

Taking a boat out of its natural element – water – comes with its challenges. Years of experience have helped us to become a reliable and competent partner in shipping marine cargo. We not only have knowledge of special loading techniques for yachts, tugs, catamarans, ferries, dredgers or even pontoons and barges – we will also handle them with particular care. We make sure your boat is safe standing on our deck. Whatever challenge – our solution.





## NINE YACHTS – A CASE STUDY



MARINE





# SUPER YACHT TRANSPORT

Nine yachts,  
the largest 56 metres long,  
weighing 775 tons

*“Transporting very large superyachts on a lift-on, lift-off basis asks for outstanding equipment and crew. SAL’s very reliable vessels and its highly professional crew ensure smooth transport of the largest of yachts every time.”*

Costa Thuring, Senior Loadmaster,  
Sevenstar Yacht Transport

## ■ NINE YACHTS

Vessel	MV Regine, Type 176
Weight	Up to 775 t
Dimensions	Up to 56 × 10.6 m
POL	Several ports in the Mediterranean Sea
POD	South East Asia
Specials	<ul style="list-style-type: none"><li>• Full deck</li><li>• Extensive lifting gear with an overall weight of 95 tons</li><li>• Particular care to be taken to not damage the sensitive cargo</li><li>• Slight movements of vessel might have severe consequences on the behavior of the rigging during slinging process</li></ul>

Marine cargo transport is complex. Out of the water, vessels are sensitive and fragile. At SAL we know how to load, transport and unload your delicate marine cargo. From designing customized cradles for ensuring stable support up to the construction of special lifting frames and arrangements – we are experts in developing the right solution for you. All our vessels are equipped with special lifting gear for your sensitive cargo, and our experienced engineers and crew know what it will take to lift and tightly secure your valuable possessions.

An example of this was the transport of nine yachts on deck of MV Regine from several Mediterranean ports to South East Asia. The dimensions of the yachts ranged from 12 metres in length up to a 56 metres motor yacht weighing 775 tons. The loading of the yachts, especially of the longest one, was a complex procedure which we successfully performed in close cooperation with Sevenstar Yacht Transport.



# OUR SOLUTIONS

## ■ TWELVE DAMEN TUGS ▶

<b>Vessel</b>	MV Lone, Type 183
<b>Weight</b>	Up to 610 t
<b>Dimensions</b>	Up to 33 × 13 × 15 m
<b>POL</b>	Haiphong & Danang, Vietnam
<b>POD</b>	Rotterdam, The Netherlands
<b>Specials</b>	<ul style="list-style-type: none"><li>• Extremely tight stowage due to the amount of tugs on deck</li><li>• Close cooperation with Damen</li></ul>

MARINE





*“SAL’s professional, safe and efficient way of handling our many different ship types shows their long term expertise in this field – a true pleasure to work with them.”*

Rimmert Berlijn,  
Service Coordinator Heavy Lift,  
Damen Shipyards Gorinchem

## ■ TWO CATAMARANS ▼

<b>Vessel</b>	MV Grietje, Type 161A
<b>Weight</b>	232.6 t
<b>Dimensions</b>	54.6 × 12.3 × 15 m
<b>POL</b>	Balamban, Philippines
<b>POD</b>	Abu Dhabi, UAE





# OUR SOLUTIONS

## ■ STAN LANDER

Vessel	MV Trina, Type 176
Weight	780 t
Dimensions	57.12 × 12 × 17 m
POL	Haiphong, Vietnam
POD	Nassau, Bahamas



MARINE

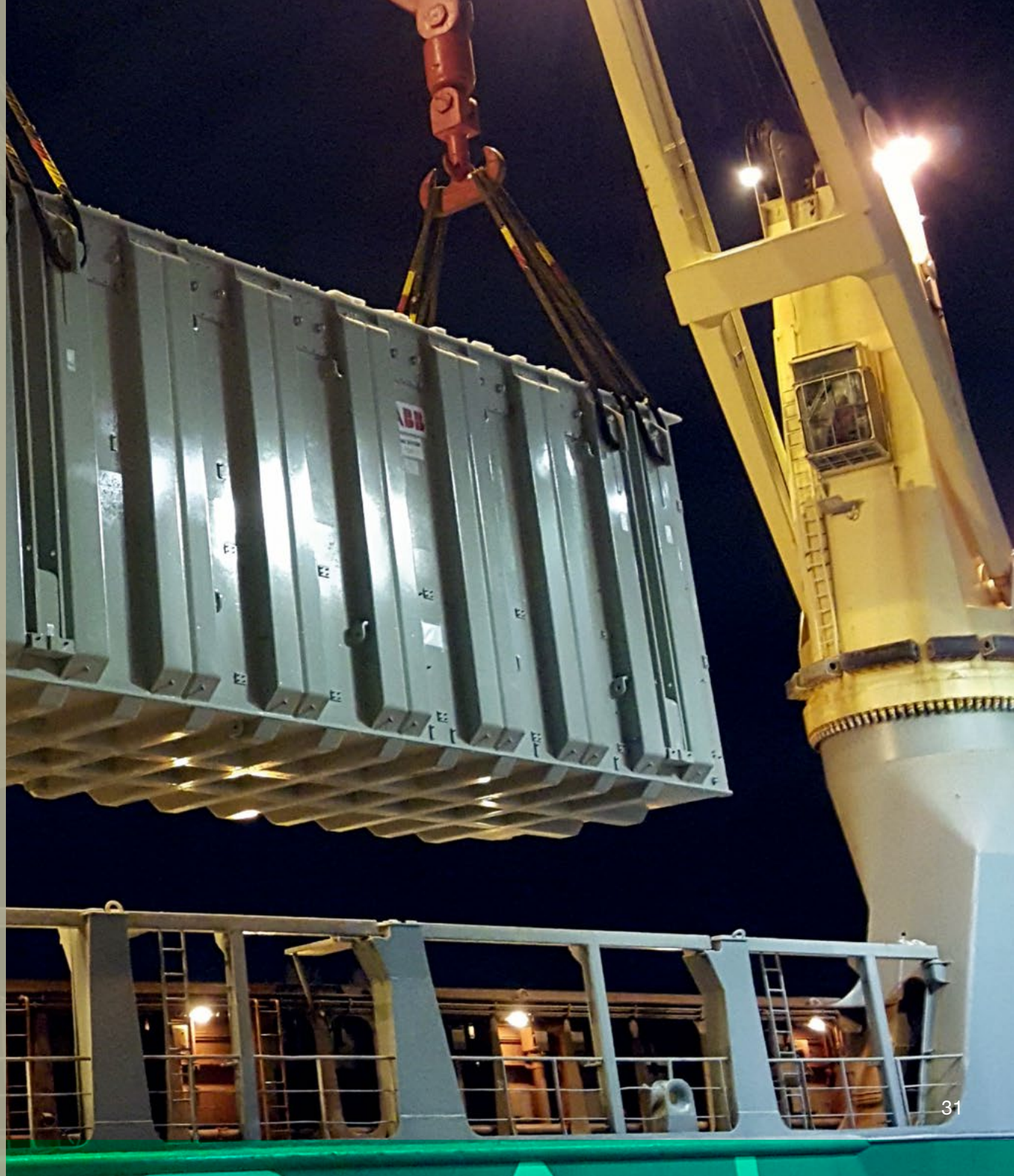




OUR SOLUTIONS

# »INDUSTRIAL

Lifting engines, generators, trains, drilling and mining equipment or other sensitive industrial cargo can be challenging: Loading train sections requires special lifting arrangements to avoid it bending like a snake – so we handle that. With adjustable tween decks and a spacious hold our vessels allow multiple stowage solutions – ready to transport your sensitive heavy cargo.







## OUR SOLUTIONS

### ■ ELEVEN ENGINES ◀

<b>Vessel</b>	MV Anne-Sofie, Type 176
<b>Weight</b>	290 t
<b>Dimensions</b>	14.35 × 4.10 × 6.10 m
<b>POL</b>	Trieste, Italy
<b>POD</b>	Mongla, Bangladesh
<b>Specials</b>	<ul style="list-style-type: none"> <li>• Total shipment of 10 852 m³ cargo under deck (11 engines and 11 generators)</li> <li>• Just in time delivery to Mongla</li> </ul>

### ■ TRAINS ▼

<b>Vessel</b>	MV Lone, Type 183
<b>Cargo</b>	6 Light Rail Vehicles
<b>Weight</b>	416 t in total
<b>Dimensions</b>	41 × 3 × 4 m
<b>POL</b>	Bremen, Germany
<b>POD</b>	Montreal, Canada
<b>Specials</b>	Lifting frames and special fasteners had to be designed, manufactured and also certified at short notice





OUR SOLUTIONS

# »OTHER SERVICES

We are experts in creating tailor-made transport and installation solutions for our clients, and sometimes, those can be under unusual circumstances. Our team of experts has successfully mastered decommissioning projects as well as challenging offshore installation work. And to provide a wide range of skill sets far beyond heavy lift skills, we partner with complementary companies when necessary to offer a complete solution.







Installation of subsea platform (1 000 t)



Lifting of blister tank (1 500 t)

## WRECK DECOMMISSIONING

<b>Vessel</b>	MV Svenja & MV Lone, Type 183
<b>Project</b>	Costa Concordia Wreck Removal
<b>Location</b>	Giglio Island, Tyrrhenian Sea, Italy
<b>Client-provided items</b>	Four subsea platforms 11 floatation sponsons One blister tank
<b>Maximum weight</b>	Subsea platforms: 1 000 t Sponsons: 550 t Blister tank: 1 500 t

<b>Scope of work</b>	<p>Subsea platforms:</p> <ul style="list-style-type: none"> <li>• Collection of three of the subsea platforms from port, receipt of the fourth at site</li> <li>• Installation at 45 m depth in the pre-piled seabed</li> </ul> <p>Sponsons:</p> <ul style="list-style-type: none"> <li>• Collection from port</li> <li>• Lifting onto the wreck of the Costa Concordia</li> </ul> <p>Blister tank:</p> <ul style="list-style-type: none"> <li>• Lift from a barge at site</li> <li>• Placement in the water for collection by tugs</li> </ul>
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## ■ SUBSEA INSTALLATION ◀

<b>Vessel</b>	MV Lone, Type 183
<b>Location</b>	European Marine Energy Centre (EMEC), Orkney Islands, UK
<b>Client-provided items</b>	Tidal turbine (VOITH Hytide 1000-13)
<b>Max. weight</b>	220 t
<b>Vessel modifications</b>	Deck equipment: <ul style="list-style-type: none"> <li>• One light work-class ROV</li> <li>• Various tugger winches</li> </ul>
<b>Scope of work</b>	<ul style="list-style-type: none"> <li>• Collection of tidal turbine from port</li> <li>• Transport to the offshore installation location</li> <li>• Installation on a pre-installed monopile</li> </ul>
<b>Challenges</b>	A high cyclic tidal range through which the vessel was able to operate whilst remaining within its DP Class II operational limitations



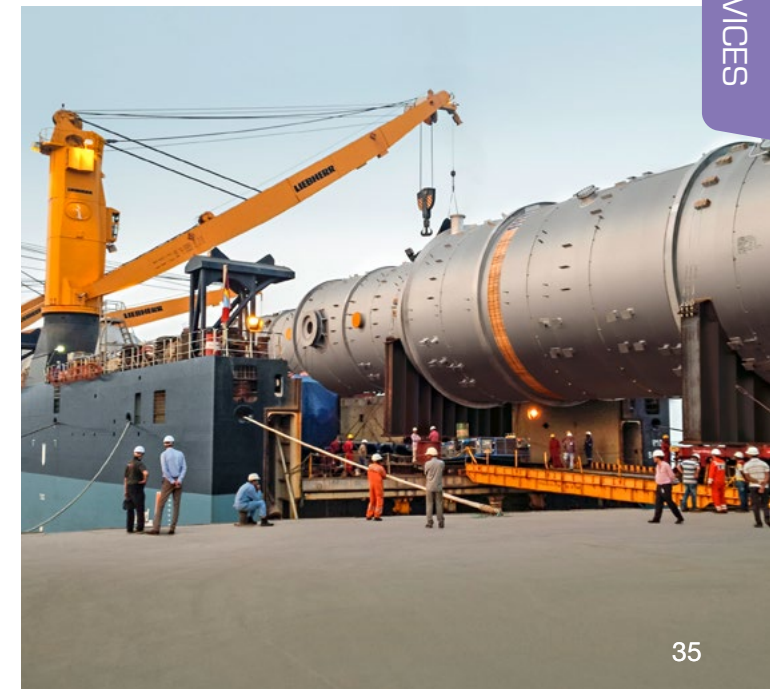
## ■ SUBSEA INSTALLATION ◀

<b>Vessel</b>	MV Lone, Type 183
<b>Location</b>	Mediterranean Sea
<b>Client-provided items</b>	One pipeline protection cover and one pipeline end manifold
<b>Max. weight</b>	120 t
<b>Vessel modifications</b>	Hang off point with maximum rating 1 000 t
<b>Scope of work</b>	<ul style="list-style-type: none"> <li>• Collection of the CPI from port and transportation to the offshore location</li> <li>• Installation of the pipeline end manifold and the protection cover at water depths of 80 m and 120 m respectively</li> </ul>



## ■ RO-RO ▶

<b>Vessel</b>	Combi Dock Type
<b>Cargo</b>	Refinery equipment
<b>Volume</b>	400 000 freight tons in total
<b>Weight</b>	Up to 1 050 t
<b>Dimensions</b>	Up to 115 m length
<b>POL</b>	Diverse (80 % Asia, 20 % Europe)
<b>POD</b>	Sikka, India
<b>Specials</b>	<ul style="list-style-type: none"> <li>• Shallow water (water depth of 4.8 m LAT)</li> <li>• Tidal range: small Ro-Ro/Lo-Lo discharge windows</li> <li>• Under keel clearance for every discharge operation</li> </ul>







## SAL'S INDEPENDENT SISTER COMPANY

SAL Engineering provides comprehensive marine engineering services. We do not only develop concepts – we implement our solutions.

[www.sal-engineering.de](http://www.sal-engineering.de)

## OUR PEOPLE – ENGINEERING



### SAL ENGINEERING GMBH

- Services available independently from SAL Heavy Lift's transport
- Naval Architects, structural and mechanical engineers, master mariners and draftsmen

#### Engineering

- Load and lift designs
- Hydrodynamic calculations
- Structural engineering
- Development of lifting tools

#### Consultancy

- Design reviews
- Installation concepts
- FEED studies, etc.

#### Site support

- Survey services for on-site cargo operations
- Damage and incident assessments
- Condition surveys
- Technical dockyard assistance





- IN-HOUSE ENGINEERING TEAMS
- CUSTOM-MADE SOLUTIONS

To accommodate the unique requirements of our clients, SAL's engineering teams provide individual and innovative solutions for heavy lift transport and installation operations. An experienced team of structural engineers, naval architects, master mariners, hydrodynamic specialists and welding experts provides a wide range of services to ensure safe and efficient operations, such as:

- CAD modelling in 2D and 3D
- Lift engineering according to latest standards and guidelines
- Integrated finite element analysis (FEA) and design of sea fastening, deck and support structures
- Planning of weather-restricted sea transportations of size and weight critical cargo including on-board motion monitoring
- Ship motion studies, dynamic lift analysis, installation analysis and mooring analysis using OCTOPUS OFFICE, Orcina OrcaFlex and WAMIT

The teams consider the most practical, sophisticated, cost-effective solution(s) in close cooperation with our crews on-board the vessels, our clients, and warranty surveyors. To ensure thoroughly engineered and well documented solutions, our experts are involved in all project stages from inception and planning through to on-site realisation. This in-house expertise allows us to master the most technically challenging projects.

*Specially designed lifting tool  
for Transition Pieces ►*





## QHSE POLICY

SAL Heavy Lift GmbH & Co. KG aspires to be the preferred carrier in the heavy lift shipping industry by providing our clients with an excellent quality service in every aspect of our operations, creating a safe working environment for people and minimizing our impact on the environment. SAL is committed to the prevention of all incidents, injuries, occupational illnesses to all our interested parties. SAL is equally committed to the protection of the environment and to adopt a safe and efficient operating process in managing our business.

SAL fully complies with and maintains ISO 9001:2015, 14001:2015, 45001:2018, ISPS, MLC and ISM certifications.



You can read the whole SAL QHSE policy here:  
[www.sal-heavylift.com/qhse-policy](http://www.sal-heavylift.com/qhse-policy)

## OUR PEOPLE – QHSE

### QUALITY, HEALTH, SAFETY & ENVIRONMENT

**The management of SAL is committed to ensuring healthy, injury-free workplaces and minimizing their impact on the environment. All of our staff are committed both to ensuring their own safety and to protect the environment.**



### OPERATIONAL EXCELLENCE IN QHSE

In line with our SAL QHSE policy, our Quality and Safety department strives for the implementation of the highest QHSE standards in our fleet. The culture of safety at SAL not only includes three key aspects – people, processes and tools – but also focusses on closely monitoring projects from the planning stages all the way to successful completion. Regular risk assessments, toolbox talks and the maintenance of critical equipment to optimize safety during loading, sea passage and discharge are part of our QHSE policy – aiming to fulfill the needs of your sensitive heavy lift cargoes.







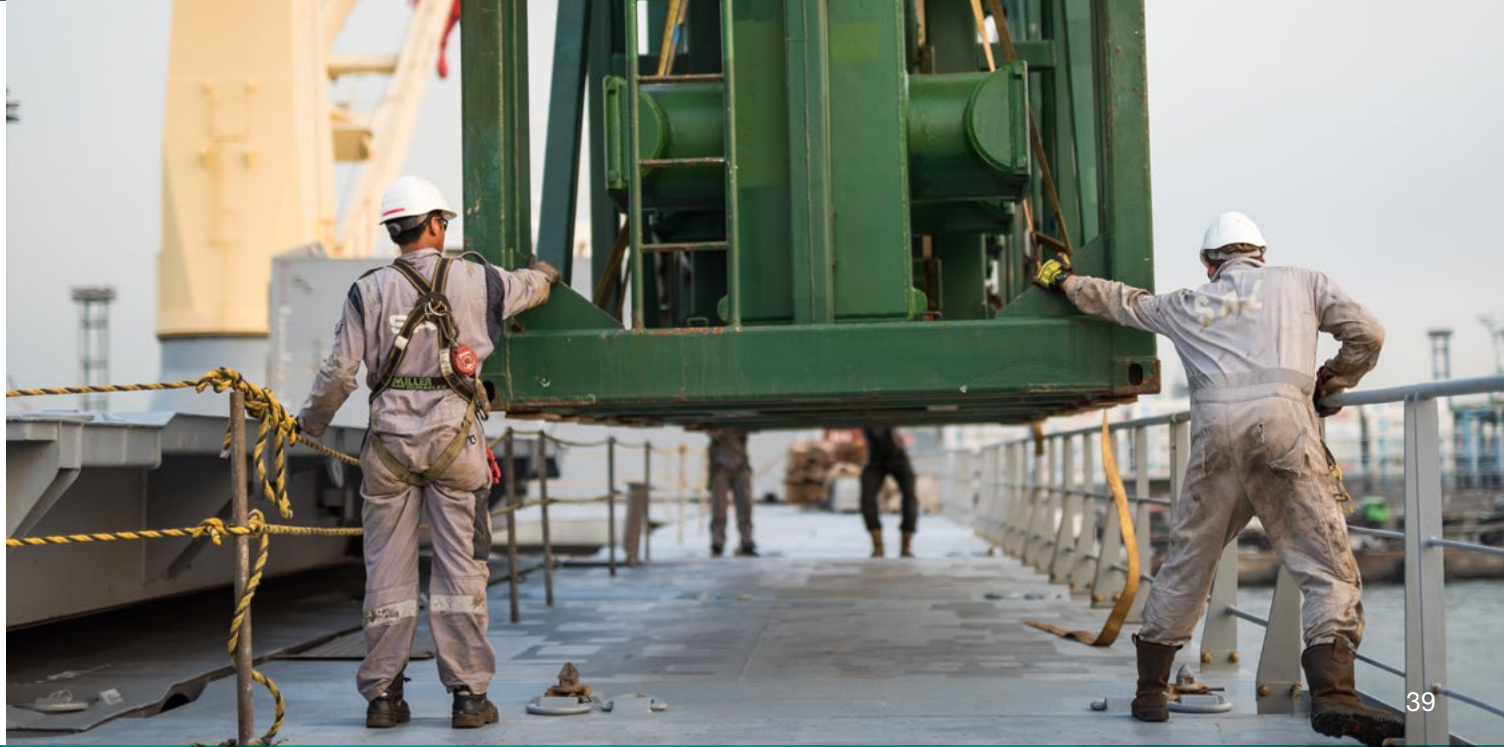
## OUR PEOPLE – CREWING

- IN-HOUSE TRAININGS
- HIGHLY SKILLED CREWS
- SPECIALISED CRANE DRIVERS
- INTERNATIONAL SEAFARERS
- CLOSE RELATIONSHIP BETWEEN GERMANY AND PHILIPPINES

Much of the success of SAL is down to the competence, experience and dedication of the vessels' crews. SAL is committed to offering opportunities for career advancement and longevity in employment. In addition, SAL provides comprehensive family and social services. All Masters have a strong background in heavy lift shipping, supervising the crew where some are with SAL in their second generation.

## QHSE TRAINING AND AWARENESS

Comprehensive training programs are run regularly to keep our shipboard teams fully informed about the latest QHSE practices. As quality reflects in everything we do, SAL is also committed to the prevention of all incidents, injuries, occupational illnesses to our employees and contractors. Therefore we follow eight SAL Safety Values, making a step towards zero tolerance of incidents and safety breaches.





# OUR FUNDAMENTAL VALUES

Our values define what we believe in as a company and as employees. It is this fundamental belief that guides us to realize our vision.

Our vision statement defines what we are aiming for as a company – you may call it the leading star for all of us – what we want to achieve:

**To become the industry reference  
for diversified Marine Transport  
and Engineering.**

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*“SAL shall be a happy  
and inspirational place  
to work and a seat  
of knowledge and  
education.”*

Dr. Martin Harren,  
Managing Director and Owner

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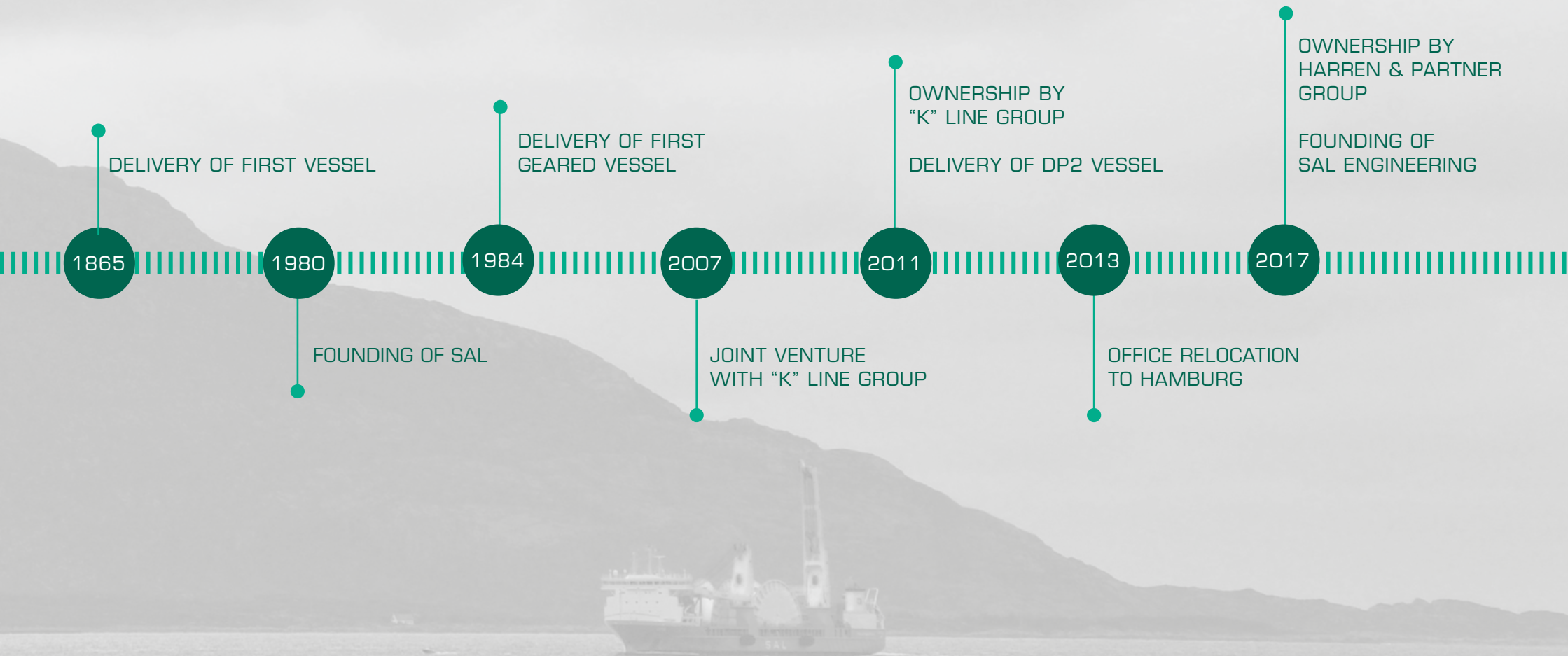




## HERITAGE AND CONTINUITY

**At SAL we are proud of our heritage! Based on our long lasting experience in heavy lifting shipping, we are able to deliver a continuous service to our customers – a heavy lift shipping service since 1980 and a shipping heritage since 1865.**

**Your request – our solution.**





# OUR FLEET

## OUR FLEET – MODERN AND FAST

**Our modern fleet of heavy lift vessels lets us offer our clients highly flexible options.**

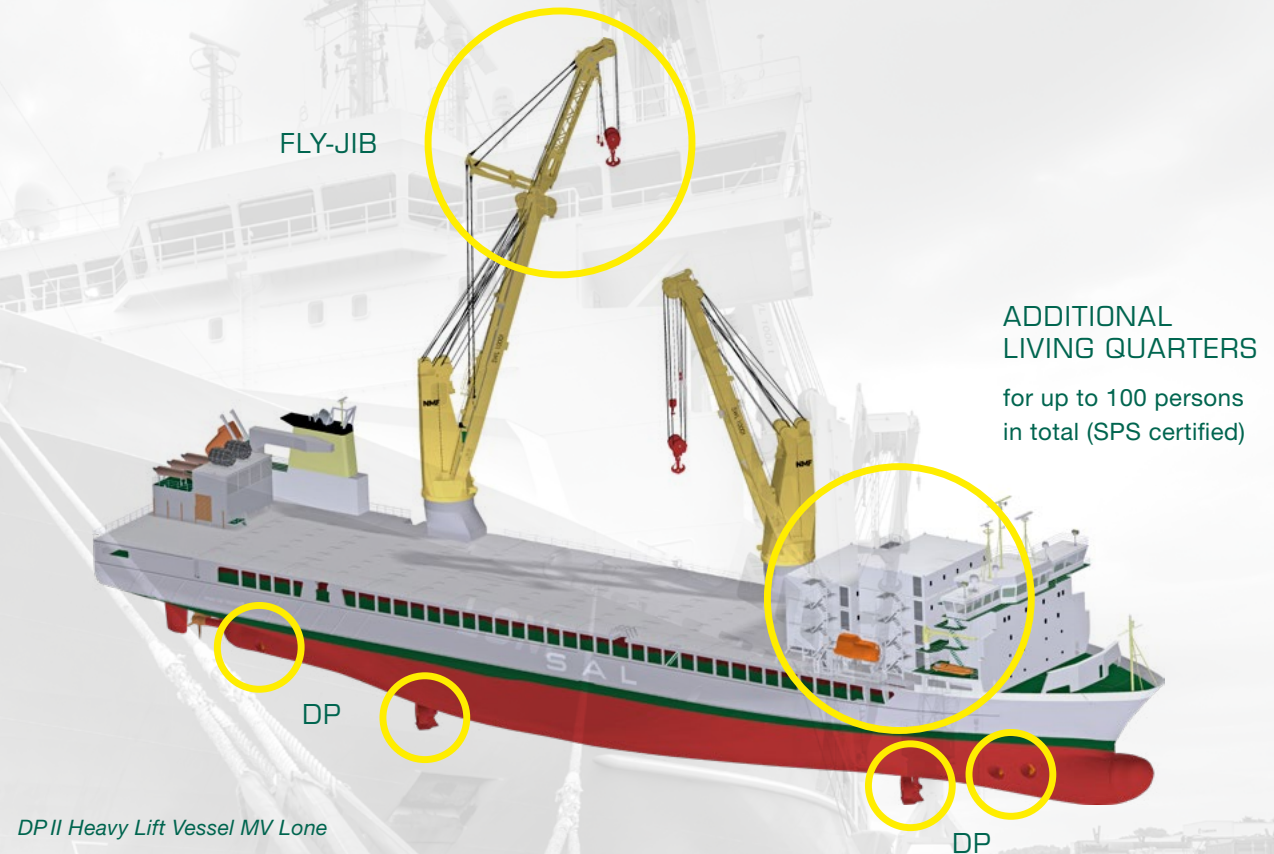
Our vessels are characterized by a lean structure and therefore boast an impressive transit speed of up to 20 knots. They also feature up to 3500 square metres of unobstructed main deck space and combined crane capacities ranging from 550 to 2000 tons. Our Type 116 vessels are equipped with ice class and a crane capacity of 900 tons.

All SAL vessels have an extensive range of cargo handling equipment including spreader bars, lifting beams, slings, shackles, and materials for lashing and securing items. All onboard equipment is approved by DNV GL (or equivalent).

## DOCK VESSELS AND DECK CARRIERS, SEMI-SUBMERSIBLE

SAL offers via its exclusive partners Ro/Flo services to customers worldwide. With industry-leading Dock and Deck carrier vessels, SAL is capable of offering a full scope heavy marine transport solution for ultra large and ultra heavy units.

## A VERSATILE MARINE PLATFORM FOR INSTALLATION AND TRANSPORTATION



### FLY-JIB: MORE CRANE HEIGHT, GREATER OUTREACH

#### Short configuration:

13 metres, maximum SWL of 625 tons

#### Long configuration:

23 metres, maximum SWL of 500 tons

### DYNAMIC POSITIONING

With its latest generation of high capacity Type 183 vessels, SAL Heavy Lift introduces a crane capacity of 2 × 1000 tons SWL. In addition, both heavy lift vessels are equipped with a class-leading Kongsberg Dynamic Positioning System: While MV Svenja is equipped with a DP I system, MV Lone has a DP II system providing more redundancy for safe offshore operations.



To learn more about our fleet, please visit our website: [www.sal-heavylift.com/fleet](http://www.sal-heavylift.com/fleet)





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All details are given in good faith but without guarantee of accuracy or completeness.

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Graphic Design: Claudia Badouin



# SAL HEAVY LIFT WORLDWIDE



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