# BIN $\triangleleft$ ഗ









#### WHO WE ARE



We bring +35 years of experience to your project.

SAL Engineering provides the most comprehensive marine engineering services in the industry.

We offer you:

- → Engineering Solutions
- → Consultancy Services
- → Survey & Site Support



### SAL ENGINEERING IN BRIEF

With SAL Engineering you get an independent Engineering house, born from one of the world's leading technical project carriers – SAL Heavy Lift.

SAL Engineering does not only develop concepts – we implement our solutions. Essentially conduct plans ready for execution.

We have a track record of thousands of successful projects behind us. For more than 35 years we have developed marine heavy lift and installation solutions. We are able to provide you with our knowhow.

Our expert team of 30 experts is ready to tackle your challenges.





### WHY SAL ENGINEERING?



State-of-the-art marine engineering and technology



A team consisting of naval architects, master mariners, structural and welding engineers and hydrodynamic experts



Thousands of successfully executed projects



Know-how developed from +35 years of deployed engineering in heavy lift shipping and offshore work



We cover all disciplines of heavy lift engineering – from A to Z



We offer you independent and fully customized solutions



# OUR SERVICES





### **OUR SERVICES**

## ENGINEERING

NMF

What we can deliver

#### → Heavy Lift Transport Engineering

Lo/Lo • Flo/Flo • Ro/Ro • door-to-door • skidding • sliding • installation and decommissioning

#### → Structural design & calculations

Sea fastening • temporary structures • vessel structures

#### $\rightarrow$ Hydrodynamic / Hydrostatic calculations

Route specific analyses • dynamic forces • mooring designs • motions analyses • stability analyses • loss of load • dynamic positioning

- → Industry partner for technology development Lifting appliances • software solutions
- Technical visualisations & animations 3D animations of designs and solutions



### **OUR SERVICES**

- $\rightarrow$  Logistics Concepts
- → Transport Engineering
- → Installation & Decommissioning Concepts
- → Salvage Solutions
- $\rightarrow$  Front End Engineering Design (FEED) Studies
- → Dockyard Planning
- → Repairs & Vessels Modifications
- → Failure Mode & Effects Analysis (FMEA)
- → Failure Mode Effects & Critical Analysis (FMECA)

## CONSULTANCY

What we can deliver



### **OUR SERVICES: SURVEY & SITE SUPPORT**

### SURVEY & SITE SUPPORT

What we can deliver

→ Cargo operations
→ Damage & incident assessment
→ Condition surveys
→ Route and site assessments
→ Dockyard assistance







- $\rightarrow$  Naval architects
- $\rightarrow$  Fluid, structural and welding engineers
- → Master mariners, seafarers and super cargo experts

# "Our team consists of 30 employed experts"



### "+300 years of combined experience"

- → Our experts provide you with thoroughly engineered and well documented solutions
- → We seek the most practical and cost-effective solutions in close cooperation with crews onboard, clients and warranty surveyors



- Our experts are involved in all project stages from inception and planning to on-site realisation
- Our in-house expertise allows us to master the most technically challenging projects

### "All our engineers have hands-on experience"







# OUR TRACK RECORD





### OUR TRACK RECORD

Our experience comes from a long track record of executed projects. As we originate from a worldwide leading heavy lift carrier – SAL Heavy Lift –, we have put concepts to the test and delivered the unimaginable.

The clients we have served through thousands of projects by SAL Heavy Lift account for world leading oil & gas, renewables and engineering consortiums.





### **BURJ AL ARAB TERRACE**

Vessel	MV Svenja
Weight	Up to 740 t
Dimensions	Up to 79 x 35 x 4 m
POL	Rauma, Finland
POD	Dubai, UAE
Specials	<ul> <li>8 pieces of cargo, total weight: 3252 t</li> <li>Heaviest piece: 740 t, 55 x 44 x 4 m</li> <li>Biggest piece: 640 t, 79 x 35 x 4 m</li> <li>Overhang of 16.2 m (aft), 15.0 m (starboard), 9.1 m (portside)</li> </ul>







TRANS	SITION	PIECE	TRANS	PORT
	A TR - Labor			in the second
Vessel		MV Trina		

365 t (TPs)

Weight

POL

Specials

Dimensions

22.2 x 6.8 m

Aalborg, Denmark

POD Eemshaven, Netherlands

12 consecutive voyages

- Specially designed lifting tool
- Special grillages

"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

FRINA













	CAROUSELS	
--	-----------	--

Vessel	MV Frauke	A MARK
Weight	Empty: 620 t Fully spooled: 1475 t respectively 1875 t	
Dimensions	12 m high, diameter 26 m	Carlos Con
POL	Rotterdam, Netherlands	
POD	Project site offshore West Africa	MH N
Specials	<ul> <li>Spooling of over 2000 t of umbilicals in Panama City, US</li> <li>On-site support for installation vessel over 2 months</li> <li>Precise weight spreading on hatch covers with tailor made steel supports</li> </ul>	A DESCRIPTION OF







PROJECT PLATFORM INSTALLATI	ON
-----------------------------	----

Project scope

- Lift and installation of Monopod in 45m water depth
- Piling
- Lift and positioning of connection
   pipe
- Lift and installation of Project
   Platform and Helideck

ClientCrowley Marine SolutionsClient-provided<br/>item (CPI)Monopod (1100 t), Project Platform<br/>and Helideck

Location Cook Inlet, Alaska

"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









### WANT TO LEARN MORE?

#### Contact us:

SAL Engineering GmbH Brooktorkai 20 20457 Hamburg Germany

Phone +49 40380 380-0

engineering@sal-engineering.de www.sal-engineering.de

– A member of the Harren & Partner Group –





## WE INNOVATE SOLUTIONS