



PROJECT SHEET

HAVEN JACK-UP UPGRADE

HEAVY LIFT PROJECT, REMOVAL AND INSTALLATION OF JACK-UP LEGS AND SUCTION CAISSENS

BOSKALIS

Royal Boskalis Westminster is a leading global marine contractor and services provider. With safety as our core value, we offer a wide variety of specialist activities to the oil & gas and renewables sectors. These activities include marine installation and decommissioning, seabed intervention, marine transport and services, subsea services and marine survey. In addition, Boskalis is a global dredging contractor, provides towage and terminal services across the globe and delivers marine salvage solutions.

By understanding what drives our clients we are able to provide the solutions that enable them to meet their specific business goals. For this reason we are constantly looking for new ways to broaden and optimize our offering and are committed to expanding our proposition, supported by our financial strength.

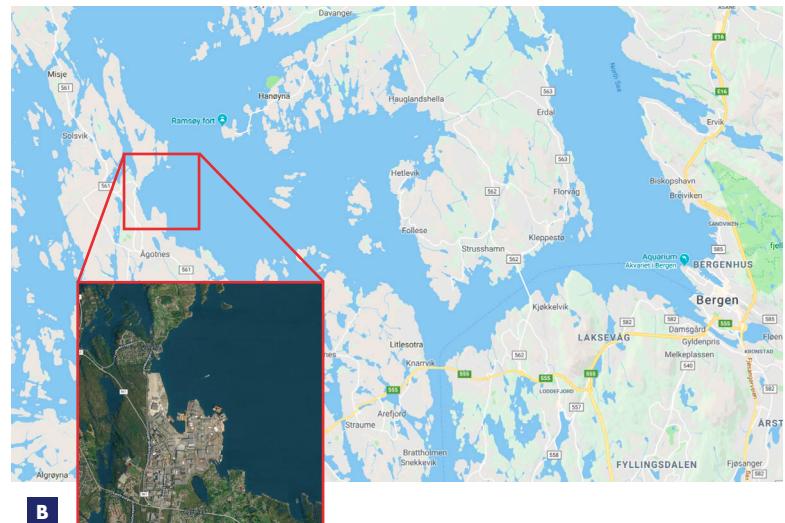
With our committed professionals in engineering, project management and operations, 900 specialized vessels and an unprecedented breadth of activities in 90 countries across six continents we help our clients in the offshore industry push boundaries and create new horizons.

HAVEN PROJECT

The Master Marine accommodation unit HAVEN required an upgrade for operations at the Johan Sverdrup Field. The upgrade included the extension of the existing legs from approx. 130 m to 160 m and the replacement of the existing spudcan & add-on tanks by new suction caissons. The main contractor of the project was Lamprell, who fabricated all the new leg sections and suction caissons at their yard in Hamriyah, UAE.

FEATURES

Client	Lamprell
Company	Master Marine - Statoil
Location	CCB Ågotnes, Norway
Period	January - February 2018



- A** Suction caisson installation by Asian Hercules III removed leg sections in foreground
B Location map

After which all materials were transported to Ågotnes, Norway. Boskalis was awarded the Heavy Lift scope with the Asian Hercules III consisting of 20 lifts up to 2,500 t and lifting heights up to 120 m down to 65 m below sea level.





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HEAVY LIFT

The scope of Boskalis was comprised of all lifting works necessary for the upgrade of the Haven, which consisted of:

- Removal of 2,400 t existing lower leg with Spudcan & Add-on from seabed, place on CCB quay.
- Removal of existing 35 m upper leg sections & place on CCB quay.
- Lifting and upending of new 67 m leg sections from Heavy Transportation Vessel & install on existing leg above jack case.
- Lifting of 2,500 t Suction Caisson from Heavy Transportation Vessel, ballasting and placement on seabed in 60 - 65 m water depth.
- Removal of Spudcan from Add-on (after removal of its connection with add-on by Lamprell) and transferring to adjacent area.

PROJECT CHALLENGES

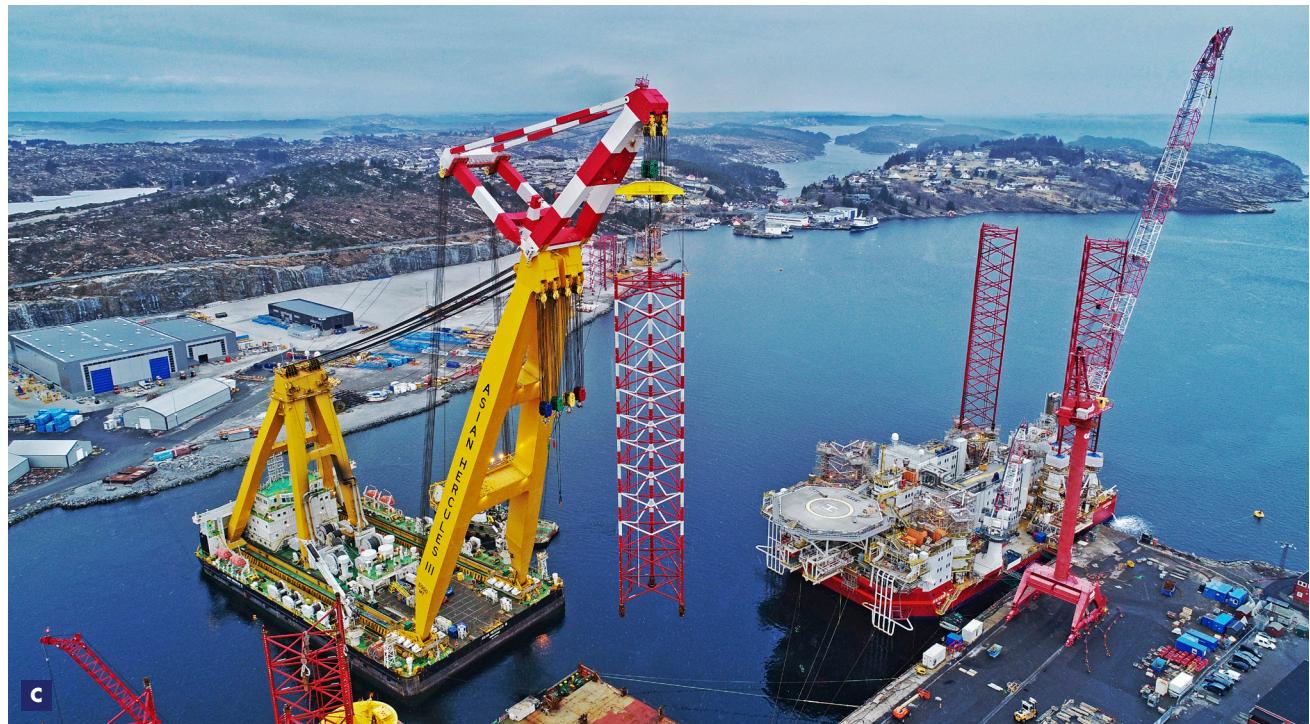
The project scope has been a unique combination of lifts pushing limits of the Asian Hercules with lifting heights up to 120 m in temperatures below zero. With subsea lifts that were positioned within centimeters of the target and lifts up to 2,500 t.

SAFETY

Safety was the main driver during the execution of the project. The Boskalis NINA (No Injuries No Accidents) program was implemented in an early stage and kicked off with a NINA kick-off at the start of the project which was highly appreciated by client and company. Resulting in a project without incidents.

CONCLUSION

The strong cooperation between all parties resulted in successful lifting works and a project executed to the satisfaction of the client. A strong focus on engineering, safety and sound operational excellence ensured the timely completion of this project.



C Installation of 67m new upper leg section after upending
D Ballasting suction caissons