

# HUISMAN

PRODUCT  
PORTFOLIO



Equipped for impact.





## FIXED FIRMLY ON THE FUTURE

It is our pleasure to welcome you to the Huisman Product Portfolio.

Our company has come a long way since our grandfather took the lead of it in 1979. Back then, we were a 20 people design and steel construction company producing hoisting equipment in Rotterdam. Growing over the years, our teams have a track record of numerous proud achievements to its name. Today, as a global operator, we deliver a wide range of products, which you will find detailed within these pages.

Our focus, however, is fixed firmly on the future. We constantly strive to find new, innovative solutions relevant for today and tomorrow.

Our view towards the future is guided by our commitment to sustainability. We are working hard to accelerate the energy transition in all its diversity, developing the next generation in equipment. This book gives you a glimpse of our innovations.

Of course, we do not perform our work alone; our product portfolio is what it is thanks to our partners and our clients, with whom we cooperate in the development of our products and in their aftercare. With a continually evolving portfolio of services, we aim to collaborate with you throughout the lifecycle of your Huisman equipment.

As the third generation to lead our family company, we look forward, together with our team throughout the world, to making an impact and realising Huisman's ambitions for the future.

David Roodenburg  
CEO

Charlotte Roodenburg  
Manager New Build Sales

**Equipped for impact.**



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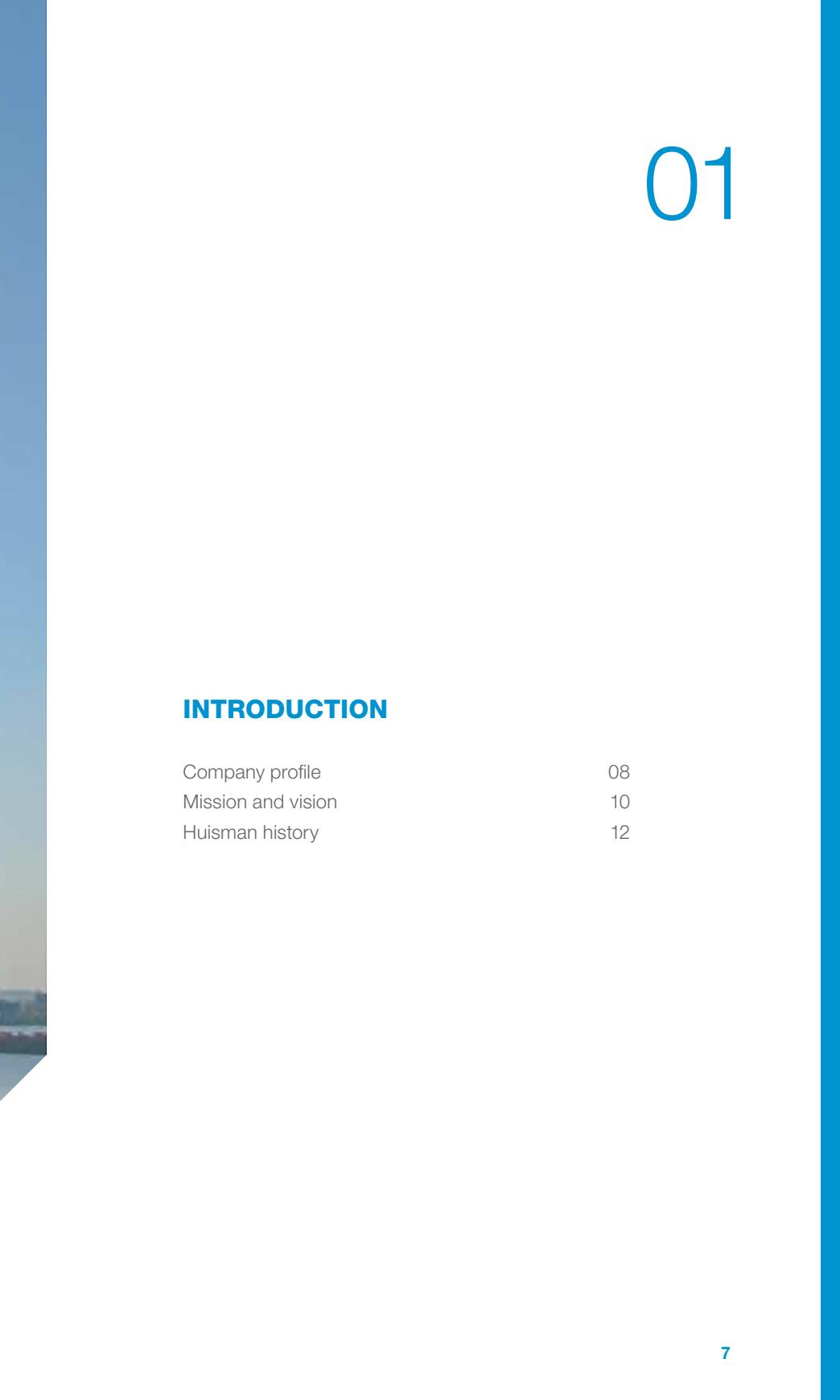
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## INTRODUCTION

- Company profile
- Mission and vision
- Huisman history

01

# COMPANY PROFILE

We are Huisman. We design, manufacture and service heavy construction equipment for the world's leading companies in the renewable energy, oil and gas, civil, naval and entertainment markets. Our products range from cranes, pipelay equipment, drilling equipment and winches, to vessel designs and specials.

The history of Huisman is one of setting new industry standards. Of making impact, since 1929. With step changing technical solutions that vary from stand-alone components to highly engineered integrated systems. From concept to installation and lifetime support.

With our passionate workforce and worldwide production, service and sales facilities, we are equipped for impact in these times of transition.



## 01 INTRODUCTION

Per June 2022

### COMPANY

90+



90-year track record



Operating from 7 locations



225+ vessels are equipped with our products

### SOLUTIONS



Step changing technical solutions



Turnkey delivery



Life cycle support

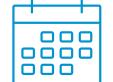
### PEOPLE



2,200 employees worldwide

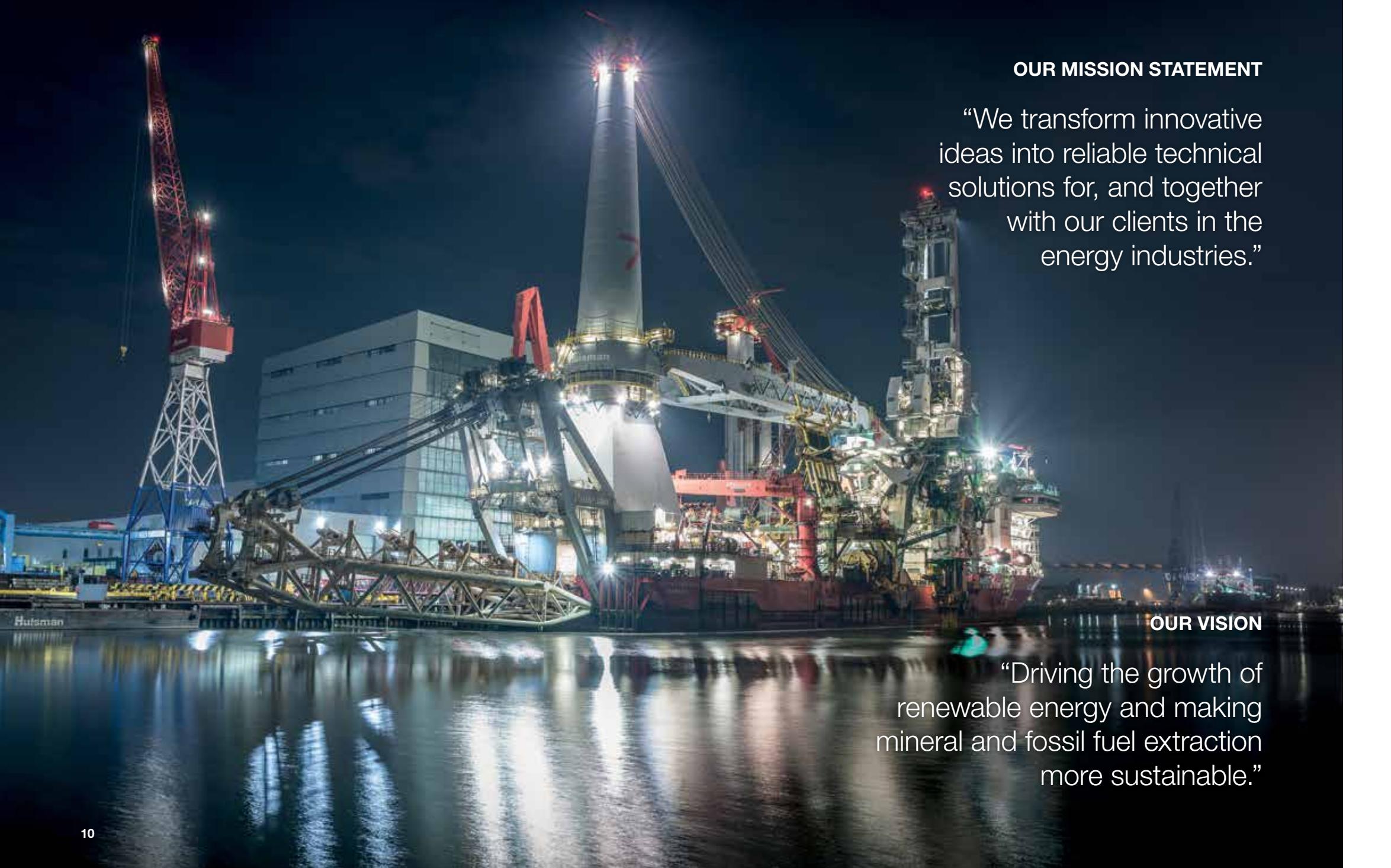


500+ employed engineers



9 Average years of employment for engineers

# MISSION AND VISION



## OUR DRIVERS

- Facilitate scalable offshore wind capacity, enable socially accepted and viable geothermal energy, and boost other new scalable energy sources.
- Boost performance and lower emissions in O&G operations, advance low carbon mineral extraction.
- Challenge the status quo and optimise logistic handling, supporting the global energy transition future.

## OUR MARKETS



New scalable  
energies



Geothermal  
Energy



Offshore Wind



Current  
resources



Oil & Gas



Minerals



Upcoming  
logistics



Civil Works



Leisure

## OUR VALUES



Safety by design



One team, one company



Quality always wins



Build on innovation



Show ownership



Cherish our clients

# HUISMAN HISTORY



Huisman was established in 1929 by Mr. M.M. Huisman as a steel construction company. In 1980 Joop Roodenburg started engineering company ITREC that specialised in the development of transport and lifting systems.

One year later in 1981, les Roodenburg, Joop Roodenburg's father, became 100% owner of Huisman after gradually buying all shares. The first joint Huisman and ITREC project turned into a huge success: the design and production of the 'Taklift 4' sheerleg for Smit Tak.

In 1980 ITREC developed the mast crane concept, a compact and innovative design for heavy lift cranes which proved to be a real step change in the heavy lift industry. The first two 550mt cranes were delivered in 1984 for

Mammoet's 'Happy Buccaneer'. Since then over 100 cranes of this type have been manufactured.

In 1984 Huisman and ITREC introduced active heave compensation (AHC). The cranes onboard the 'Amethyst' and Smit semi's were the first ones to be equipped with a secondary controlled hydraulic AHC system. Nowadays, the system is also available in an electric driven version with frequency controlled motors.

The first passive heave compensated 300mt Offshore Mast Crane was completed for Allseas' pipelay vessel 'Lorelay'. This concept proved to be successful as well, resulting in many offshore mast crane projects with ever increasing lifting capacities. In 2012 a 5,000mt crane was completed

for Subsea 7's 'Seven Borealis'. In 2014 we were awarded the contract to build world's largest cranes, two 10,000mt Tub Mounted Cranes for Heerema's 'Sleipnir'.

In 1987, Huisman and ITREC officially merged into Huisman-ITREC, offering tailor-made solutions from concept to lifetime support.

In the beginning of 1990 a number of skid and lifting systems for bridge construction projects were designed and built. Another special project in those years was the delivery of the grippers for the salvage of the Russian submarine 'Kursk' in 2001. Huisman entered the market for pipelay systems in 1996 with a Rigid-lay system for Stolt Offshore's 'Falcon'. This was the start of an impressive number of Flex-lay, S-lay, J-lay and



A major milestone for Huisman Brazil in 2017 –  
the delivery of its first complete crane.



Reel-lay systems, of which the Saipem 7000 J-lay tower was the highest and Heerema's Aegir Multi-lay tower the most complicated, combining an 800mt Reel-lay system, including 3,000mt portable reels, and a 2,000mt J-lay system.

The Huisman facility in Sviadnov, Czech Republic opened in 1997 and has played an important role in Huisman production and engineering ever since. The facility manufactures entire products including knuckle boom cranes, winches, hydraulic power units, special lifting applications and the LOC 400 drill rig as well as components.

In 2007, Huisman China became fully operational. The facility aimed to serve clients in Asia and to expand overall engineering, production and service capability.

Expansion continued in 2011, with the opening of Huisman Brazil. The location, in Navegantes on the Southern Atlantic, is easily accessible for seagoing vessels.

semi's. The next step was the design of the Multi Purpose Tower (MPT), a revolutionary new concept compared to the traditional drilling derrick and a real step change in the drilling mast principle. The first MPT was delivered in 2001 for the 'Q4000', followed by two more DMPT's for Noble/Shell in 2010/2011.

In 2012 the Huisman MPT received the Maritime Innovation Award. The compact box type drilling tower (MPT) allows for a significantly smaller sized vessel compared to other deepwater drill ships of similar capacity. One vessel in accordance with this design, Noble Drilling's 'Noble Globetrotter I', was delivered in 2012, the 'Noble Globetrotter II' was delivered in 2013. The 'Noble Bully I', with onboard a Huisman designed MPT, was awarded by Shell with the 2013 'Global Floating Rig of the year' award. Recognising her as the best performing rig for Shell worldwide. In 2014 the award was won by her sister vessel 'Noble Bully II'. The LOC 250, a compact and fast movable land and containerised drill unit, was another innovative rig concept and was produced in 2005 for the first time. The upgraded version LOC 400 finished her first project in June 2009.



The LOC 400 is also ideal for drilling geothermal wells due to the very small footprint and containerised design, making it extremely mobile. The first geothermal project was conducted in the city centre of The Hague, the Netherlands. Currently we are working on a new highly mobile automated land drilling unit, the Innorig.

Since the turn of the century Huisman has grown into a major provider of lifting, pipelay and drilling equipment with production facilities in the Netherlands, Czech Republic, China and Brazil. Additionally, Huisman opened sales and service offices in Houston (USA), Bergen (Norway) and Singapore.



In 2015, Joop Roodenburg was awarded a Royal distinction. He was appointed 'Officier in de Orde van Oranje Nassau' among others for his vision and perseverance, his technical contribution to the Dutch maritime industry and his valuable contribution to the Dutch economy.

Early 2016, the Huisman Innovation Tower, a full scale (90m high) drilling test tower located at the quayside of our facility in the Netherlands, was launched. This latest example of game changing technology, capable of handling 55m (180 ft) stands, 46m (150 ft) risers and with the ability to simulate dynamical vessel movements, is used to demonstrate the Huisman drilling equipment. Furthermore, it serves to develop and test future equipment and systems and can be used for the training of operators and Huisman staff.

Although Huisman has been successfully delivering geothermal energy projects since 2010, our dedicated business line Huisman Geo was only established in 2018. This to guarantee a full focus on the development of sustainable solutions towards affordable and clean energy and as one of Huisman's contributions to the energy transition. Building on the extensive experience in designing and producing equipment for the offshore and onshore drilling market, Huisman designs and delivers equipment for drilling geothermal wells and operates as an engineering, procurement, and construction (EPC) contractor in this industry.

In 2019, Huisman celebrated its 90-year anniversary. The start of the anniversary year coincides with an impressive

milestone: reaching a combined total of 150,000mt lifting capacity. This remarkable number is an add up of the capacity of all cranes built by Huisman during the last 90 years, of which the very first crane is still in service. Successes of Huisman in 2019 are the delivery of a cutting-edge monopile gripper for Jan De Nul's Vole au Vent, a contract for the design, engineering, construction and delivery of the world largest Leg Encircling Crane on Jan De Nul's newest offshore wind turbine installation vessel 'Voltaire' and setting a world record with the final completion of 2x 10,000mt Tub Mounted Cranes for Heerema's Sleipnir.

In April 2020, David Roodenburg who has been active in the company since 2008, takes up the position of Huisman CEO, becoming the third generation of his family to lead the company. In this year, Huisman lifts the first batch of offshore wind monopiles with its 2,600mt Skyhook quayside crane at



its facility in China. The monopiles with a length of approx. 100m have a weight of approx. 1,700mt excluding rigging.

Huisman and Jan De Nul Group join forces for the heavy lift equipment on board of Jan De Nul's Next Generation offshore installation vessels Les Alizés and Voltaire. Upon the order of both vessels in 2019, Jan De Nul Group awarded the contract for the engineering, construction and delivery of two highly innovative cranes to Huisman. For these cranes, which are the largest in their class, Huisman developed the Universal Quick Connector (UQC) based on the expertise of Jan De Nul Group's operational and engineering team. The result is a ground-breaking innovation, resulting in a major step change in safer offshore hoisting activities.

During 2021 and 2022, Huisman strengthens its position in the Offshore Wind Industry with various orders for the

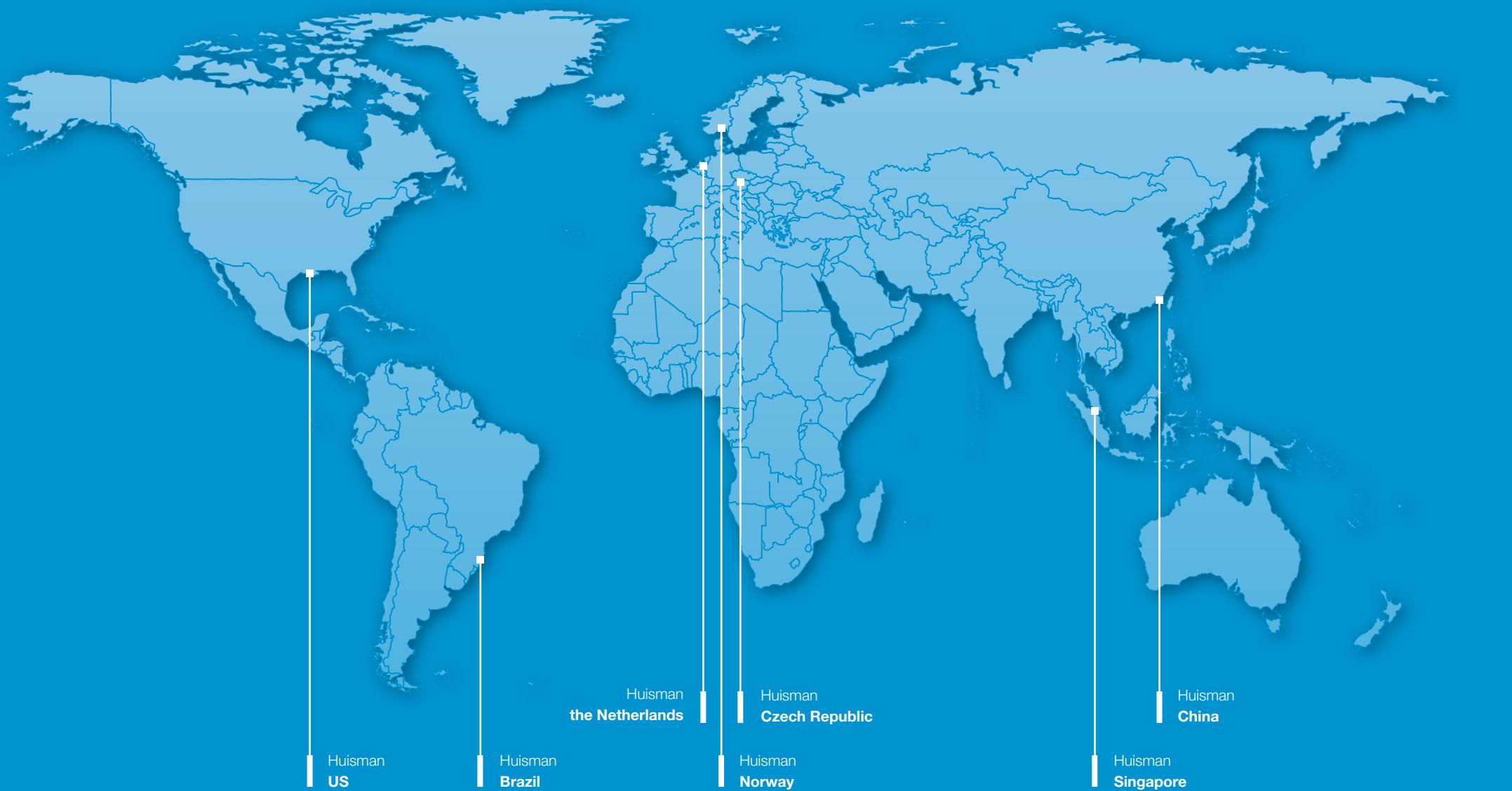
delivery of increasingly higher capacity Leg Encircling Cranes. To meet the growing demand for large diameter slew bearings, an integral part and key component of its Heavy Lift Cranes, Huisman doubles its slew bearing capacity in the Netherlands. As part of the Life Cycle support services, Huisman introduces scaffolding free inspections through fully digitalised drone inspection services.

Early 2022, Huisman signs a contract for the delivery of a 3,000mt Ringer Crane, with an option for a second unit. The crane has a lifting capacity of 1,200mt at heights of up to 225m and heavy structures of 3000mt at reduced height. The crane setup has been optimised for operations in the wind industry and makes Denmark-based BMS Heavy Cranes equipped for the installation of the next generation of wind turbines on- and offshore and on floating foundations.



# GLOBAL OPERATIONS

02



- 3** active in three strategic markets 
- 7** operating from seven locations 
- 114** soccer fields of yard space 
- 1,667** elephants can be lifted at once by our largest crane 
- 853** patents and 265 patent families 

Per June 2022

## GLOBAL OPERATIONS

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# HUISMAN THE NETHERLANDS

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## GLOBAL OPERATIONS



### IN GENERAL

Our head office and Dutch Service & Assembly facility are located in Schiedam (Rotterdam region). The General Management, Engineering, Sales, Concepts and other corporate disciplines are based here. Also Huisman Services and Huisman Geo operate from Schiedam.

Huisman Schiedam is certified according to ISO 9001, ISO 45001 and ISO 3834-2, etc.

### STRATEGIC LOCATION

Our Dutch facility is accessible for seagoing vessels and has heavy lift capacity available, allowing us to install equipment at our quayside. Our premises also offers quick access to the road and rail networks.

### PRODUCTION CAPABILITIES

In 2012 Huisman Schiedam completed the construction of the new 66m high, 57m wide and 59m long production hall. Since the halls' official opening it enables us to manufacture, test and commission most products indoors, making production far less dependent on weather conditions and allowing for fast installation, commissioning and testing onboard later on.

### IN-HOUSE TESTING

The equipment is thoroughly tested throughout the process and before delivery to allow for fast installation, commissioning and testing onboard. The products can be load tested at our test facilities up to a certain capacity. After installation, and before it is released to our clients for operation, the equipment is tested during harbour and sea trials.

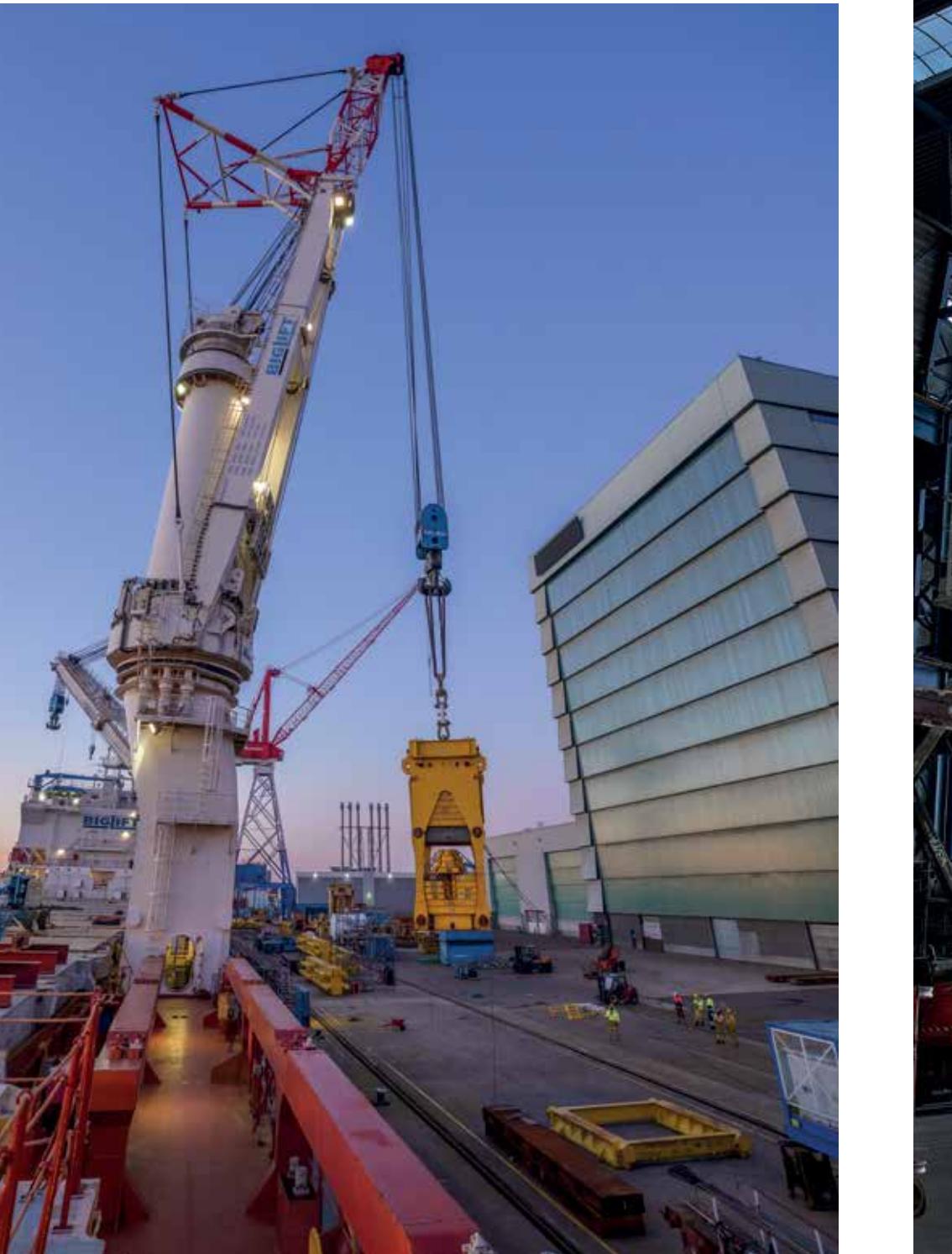
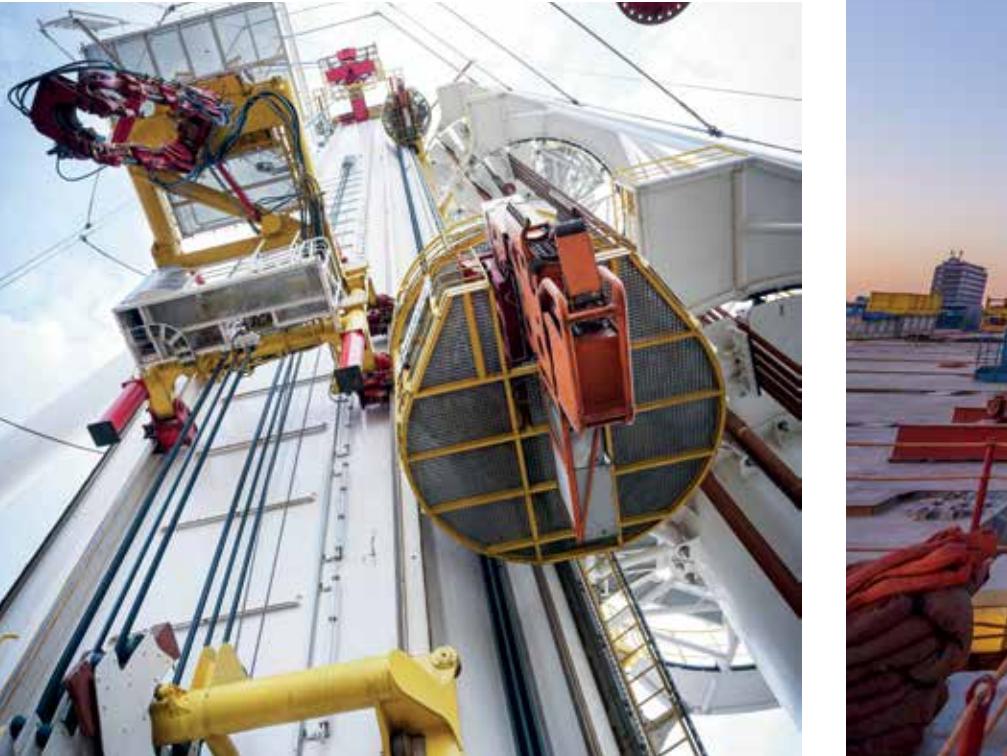
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# HUISMAN THE NETHERLANDS

The Dutch facility operates in line with the strict maritime security requirements for vessels and port terminals as set in the ISPS code.

## HUISMAN INNOVATION TOWER (HIT)

Huisman expanded its testing and commissioning facilities in Schiedam with the build of a new 90m high drill tower. This tower is capable of handling 55m (180ft) stands and 46m (15ft) risers and has the ability to simulate dynamic vessel movements. The Huisman Innovation Tower (HIT) is used to demonstrate Huisman drilling equipment, to develop and test future equipment and systems and for the training of operators and Huisman staff.



Functionally tested crane prior to single lifting operation

Total yard area  
**90,000M<sup>2</sup>**

Total covered production area  
**20,500M<sup>2</sup>**

Fabrication and assembly shops  
**15,000M<sup>2</sup>**

Office area  
**13,300M<sup>2</sup>**

Warehouse  
**3,500M<sup>2</sup>**

Paint shop  
**2,200M<sup>2</sup>**

Maximum hoisting capacity in shop  
**1,200MT**

Quay length  
**300M**

Quayside cranes  
**364MT @ 17M**  
**35MT @ 30M**



# HUISMAN CZECH REPUBLIC



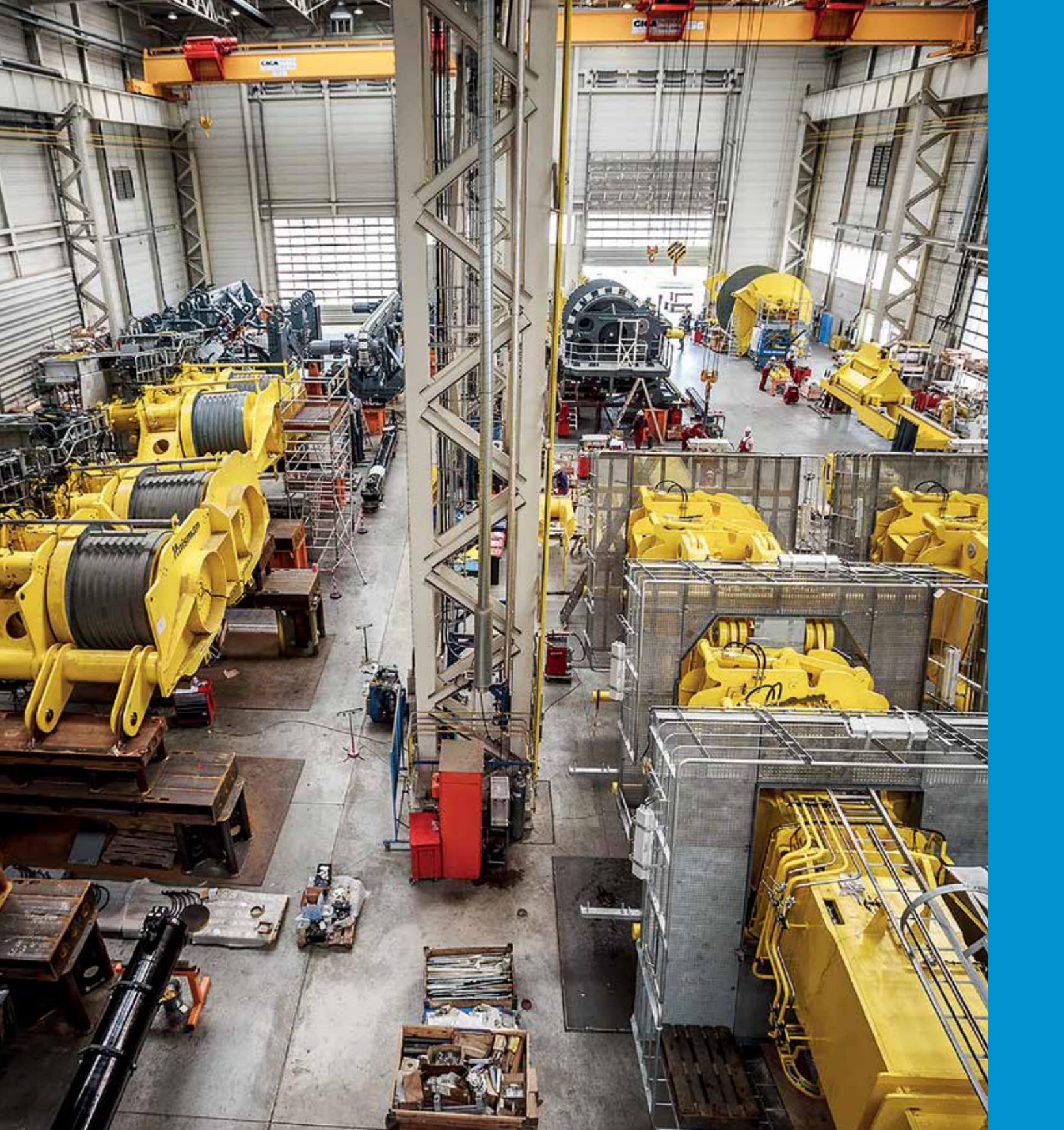
## IN GENERAL

This Huisman facility, located in Sviadnov (Ostrava region), Czech Republic, opened in 1997 and has since then played an important role in the Huisman production and engineering force. The facility, operating under the name Huisman Manufacturing, constructs entire products such as Knuckle Boom Cranes, winches, hydraulic power units, special lifting applications and the LOC 400 drill rig. It also builds components (such as tensioners, adjusters, traction and storage winches) that are completely assembled, commissioned, tested and installed at a Huisman facility with quayside in the Netherlands or China.

The Huisman facility in the Czech Republic is specialised in the production of high tensile strength steel constructions (slewing platforms, winch frames, jibs, etc.) and critical components (large hydraulic cylinders, loadcells, etc). The facility contains a cutting shop with robotic plasma cutting technology, a fabrication shop where manual, semi-automatic welding is performed and a machining shop where parts up to 100mt and up to 5m height can be machined. In addition, a state-of-the-art shot blasting hall, a paint shop, machining shop, loadcell shop and excellent testing facilities are at our disposal.

In 2012 a new assembly hall was opened along with a new engineering office and an extension and reconstruction of the production preparation buildings.

Huisman Czech Republic is certified according to ISO 9001, ISO 45001, ISO 3834-2 and EN 15085-2. Furthermore, Huisman Czech Republic has API Monogram licenses for components under 4F, 7K and 8C.



Total yard area  
**106,000M<sup>2</sup>**

Total covered production area  
**26,800M<sup>2</sup>**

Outside storage capacity  
**21,500M<sup>2</sup>**

Inside storage capacity  
**3,800M<sup>2</sup>**

Office area  
**5,000M<sup>2</sup>**

Maximum hoisting capacity in shop  
**120MT**

Yard cranes  
**300MT @ 9M**  
**2x 33MT @ 10M**  
**25MT @ 10M**

**HUISMAN BRAZIL**  
Ideal well maintained yard



Total yard area  
**340,000M<sup>2</sup>**

Total covered production area  
**20,000M<sup>2</sup>**

Maximum hoisting capacity in workshop  
**570MT**

Crawler crane  
**2x 250MT**

Quay length  
**200M**

Water depth  
**9M**

# HUISMAN CHINA



## IN GENERAL

Huisman expanded its operations to Zhangzhou (Xiamen region) in China to facilitate clients in Asia and to increase the overall production capacity. The facility has been fully operational since April 2007 and delivers a significant contribution to the overall Huisman engineering, production and service capacity.

Huisman China is certified according to ISO 9001, ISO 14001, OHSAS 18001, etc.

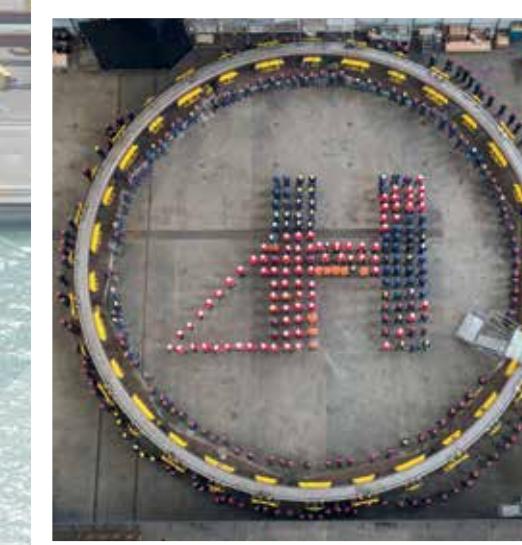
## PRODUCTION CAPABILITIES

Huisman China has more than excellent production facilities at its disposal. The largest workshop, out of a total of 17 production halls, is 205m long, 54m wide and 62m high and has an internal lifting capacity of 2,000mt. This makes it possible to assemble complete products in a vertical position. Huisman China's own self propelled modular trailers make it possible to transport these products over the premises and beyond. The other workshops include a pre-treatment shop, cutting shop, rolling and bending shop, machining shop, shot blasting hall, painting hall and a maintenance facility.

Our welders are trained in Huisman China's own welding school and raw materials are tested in the in-house laboratory.

## QUAYSIDE

In December 2012 a 380m long quayside with deep water access became operational allowing us to install our products with the 2,600mt quayside crane 'Skyhook'. Besides the enormous lifting capacity of the 'Skyhook', the quayside is equipped with a Ro-Ro facility and a heavy duty test facility.



# HUISMAN CHINA

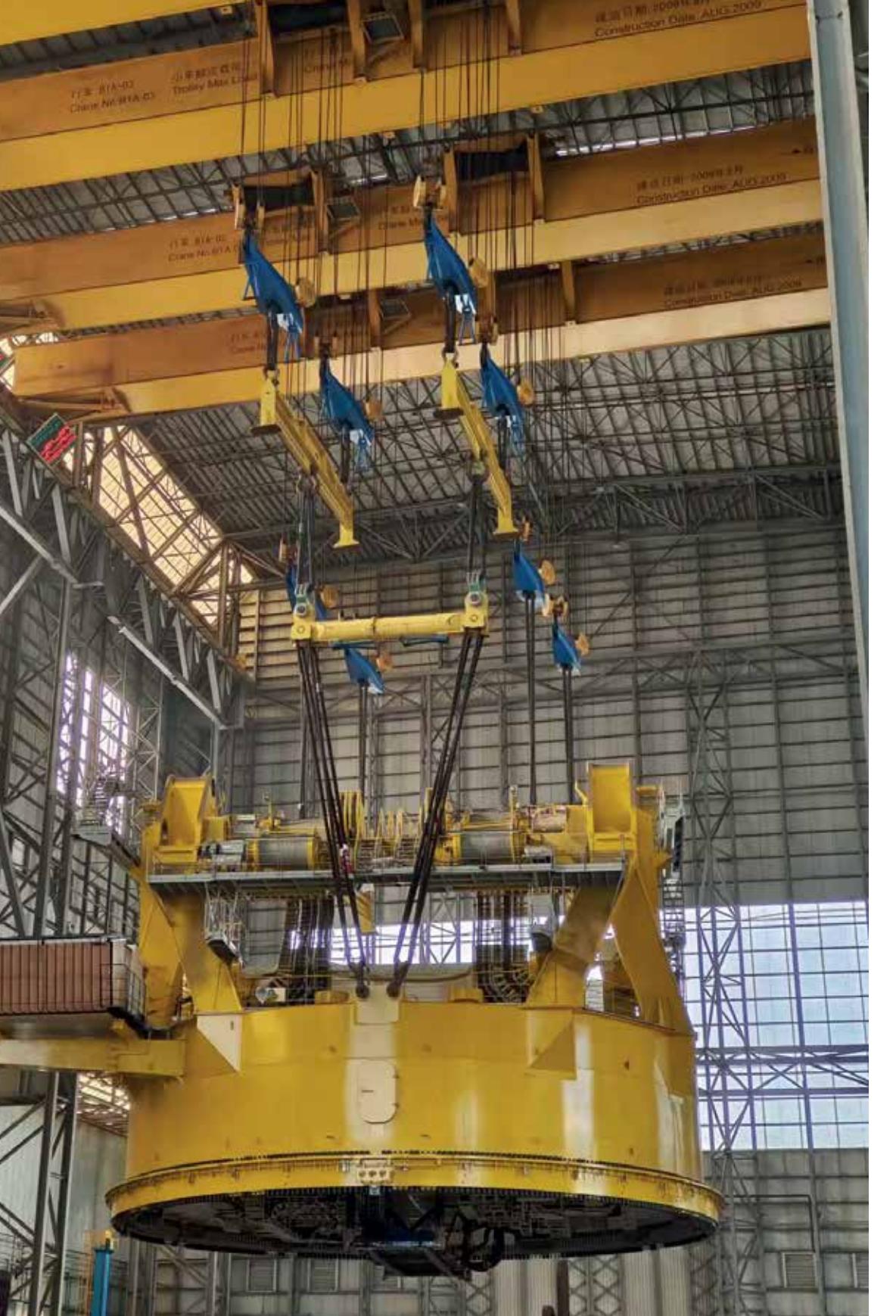
## ENGINEERING

Huisman China also offers a full range of engineering disciplines. The mechanical-, electrical- and control systems engineering departments fully participate in Huisman's global engineering capacity and guarantee short response times to local facility support. The commissioning engineers thoroughly test individual subsystems prior to full load tests either at the quayside or during offshore trials.

## HUISMAN TESTING LABORATORY

The Huisman Testing Laboratory plays a key role in providing and facilitating timely test services to clients. At the same time, Huisman provides technical support to establish a more compact design, superior performance, improved stability and reliability.

The test centre consists of four functional areas, including sample preparation, mechanical testing, chemical and metallography testing. Services mainly include material testing, application processing evaluation and relevant technical support. Technical support includes material application research and development, such as long-term reliability under different deformation or stress conditions. The testing services focus on the evaluation of materials, mainly materials related to structural and mechanical parts in the marine environment. For any potentially unknown factors, or any uncertain factors, the test centre will organise the necessary verification and analysis to ensure that the material is suitable for any specific production process and application.



Skyhook lifting a 1,440mt monopile



Material testing laboratory

## 02 GLOBAL OPERATIONS

Total yard area  
**284,000M<sup>2</sup>**

Total covered production area  
**58,000M<sup>2</sup>**

Office area  
**13,000M<sup>2</sup>**

Maximum hoisting capacity in shop  
**2,000MT**

Quayside crane  
**2,600MT @ 30M**

Quay length  
**380M**

Quayside water depth  
**17M**

Yard cranes  
**100MT @ 25M**  
**30MT @ 25M**

# GLOBAL PRODUCTION, SALES & SERVICE LOCATIONS

## HUISMAN EQUIPMENT BV

Head Office  
Production & Service Facility  
Huisman Services  
Huisman Geo  
Huisman Academy  
  
Admiraal Trompstraat 2  
3115 HH Schiedam  
P.O. Box 150  
3100 AD Schiedam  
the Netherlands  
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info@huisman-nl.com  
sales@huisman-nl.com

## HUISMAN KONSTRUKCE S.R.O.

Production Facility  
  
Nadrazni 289  
739 25 Sviadnov  
Czech Republic  
Phone: +420 (0)558 440611  
sales@huisman-cz.com

## HUISMAN (CHINA) CO., LTD.

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Service Office  
  
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People's Republic of China  
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www.huisman-cn.com

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United States of America  
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service@huisman-na.com



# HUISMAN GEO

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## HUISMAN GEO

Huisman has been involved with geothermal energy projects since 2009. In 2018, we established Huisman Geo to give this sustainable and affordable energy sector the focus it deserves. With Huisman Geo we combine our experience in designing and manufacturing with our operational experience gained during the drilling of multiple wells for both hydrocarbon and geothermal markets.

We have set ourselves the goal of decreasing the investment and operational costs of the geothermal sector; a key factor in enabling the large portfolio projects required to achieve the ambitious targets of the energy transition.

Huisman Geo operates Huisman manufactured drilling rigs, executing complete design, build, finance, maintain and operate (DBFMO) projects, together with our strategic partners. Additionally, we supply a range of products for the geothermal sector, including the Enhanced Casing Installation (ECI) system. This is a drilling while casing level 3 device, which significantly increases operational efficiency, minimising open hole time and associated risks.

We also supply Huisman Composite Tubulars. Inert to downhole corrosion, the tubulars preserve well integrity and offer an everlasting smooth pathway for production fluids, minimising the cost of operations.





# SERVICES

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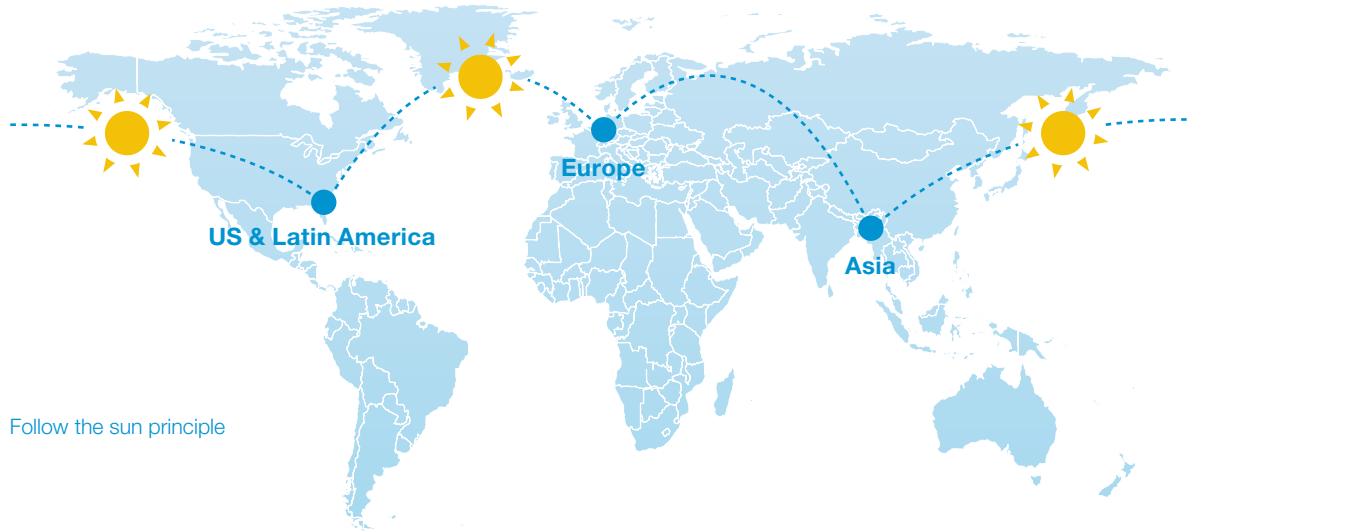
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## SERVICES

- Remote trouble shooting and support 36
- On-site support 37
- Upgrades and modifications 38
- Parts delivery and advice 39

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## REMOTE TROUBLE SHOOTING AND SUPPORT



Maximising uptime is key. We can support you with achieving that, offering a full range of services for efficient and quick troubleshooting and fault finding. We offer 24/7 support as we work according the follow the sun principle where a service professional will be on standby to help you solve your operational issues at all times.

### EMERGENCY TELEPHONE SUPPORT

Huisman has a first line emergency telephone support service to assist you in case of emergency. A multidisciplinary technical support employee will help you troubleshooting and fault-finding to prevent or reduce time loss.

### REMOTE ACCESS

With Remote Access, we extend the remote troubleshooting and support options beyond e-mail and telephone support. Our service professionals make a digital connection with you and your equipment to assist, support, analyse and troubleshoot you in normal and/or emergency situations.

This way we can monitor the PLC, SCADA, and drive system of your equipment.

### BENEFITS

- Remote Access for your operations whenever, wherever needed.
- Support through a safe and quick connection enables fast trouble shooting.
- Remote insight in digital landscape of a large part of the equipment.
- Remote implementation of software modifications which reduces travel movement.

### DIGITAL GLASSES SERVICES

We monitor the equipment through your eyes. This service makes use of virtual glasses and enables us to assist and train you from a distance. We can find solutions easier and quicker so you can resume your operations. This service will be available as per 2<sup>nd</sup> quarter 2022.



## ON-SITE SUPPORT



Being a technical service provider, Huisman is best equipped to provide assistance to any of your operations. We understand the need to avert downtime and the varying challenges you as equipment owner might experience. Huisman Services provides on-site support to help you in these challenges during the lifetime of the equipment. We are able to assist you onsite with a wide range of services, varying from ad-hoc to well advance planned, such as;

- Corrective and preventive maintenance
- Emergency repairs
- Failure investigation
- Operational support
- Functional testing
- Modifications and upgrades

Huisman field service technicians are recognised for their high-class quality and client orientated mind-set to get the work done. All work performed is in accordance with OEM standards. In extend of Huisman branded equipment,

Huisman Services can also provide on-site support for other branded technical equipment.

### SCAFFOLDING FREE INSPECTIONS

To increase safety and enable scaffolding free inspections, we offer world-class inspection services for technical equipment by using drones. Flown by qualified drone pilots, it offers a safe and remote visual inspection in any environment, avoiding the need for workers to access dangerous and hazardous locations.

The collected images will be analysed and processed in a report. Our Artificial Intelligence (AI) software 'Equipment Inspector' analyses the collected data. This reduces time for inspections so repairs can commence sooner.

- Save cost
- Mitigate safety risks
- Optimise efficiency

## UPGRADES AND MODIFICATIONS

Remaining competitive in a changing environment can be a challenge. Huisman's goal is to build valuable relationships with clients throughout the life of your equipment. By providing turn-key technical solutions for ever changing equipment requirements, users of Huisman equipment stay ahead of the pack.

- Huisman is continuously developing innovative technologies and solutions.
- The latest technical innovations are not solely to be found on new builds.
- Many innovations can be retrofitted on existing equipment, providing the desired step ahead of the competition.

Whether the modifications are large or small, early, or late in the lifetime of the equipment, Huisman can offer the solution.

Want to learn more about our upgrades and modifications offerings? Scan the QR code.



## PARTS DELIVERY AND ADVICE

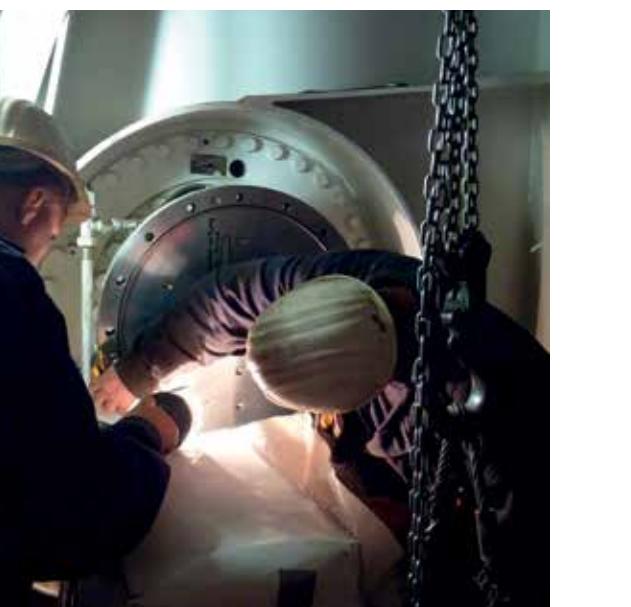
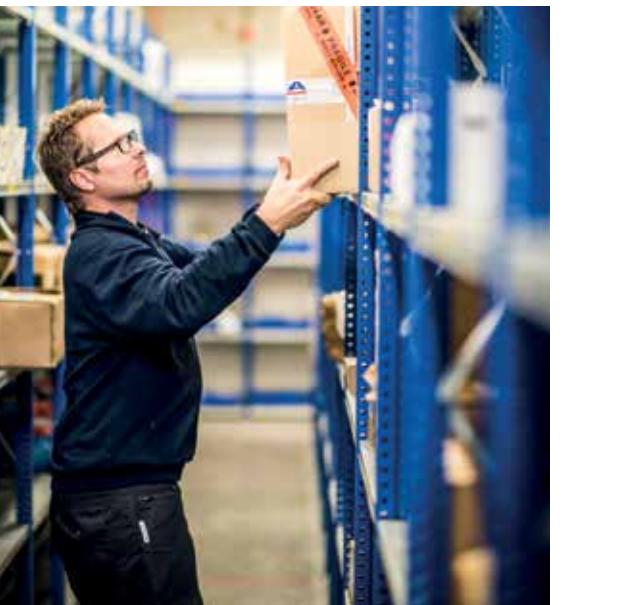
The availability of parts is vital to safe and correct functioning of equipment. When delivering the equipment, Huisman Services can provide a new built spare parts advice. Next to that we can arrange parts availability on the vessel (or preferred client location) before start of operations.

During the lifecycle of the equipment, the possibility arises whereby parts are needed for preventive maintenance, in case of failure (corrective maintenance) or for special operations. In an effort to avoid or reduce downtime Huisman services is able to provide a number of services to aid in the selection, purchasing, stock keeping and tracking of parts throughout the lifetime of the equipment.

The equipment can be examined on the theoretical failure behaviour in form of a risk assessment. The risk assessment focuses on reliability, availability, maintainability, and safety of the equipment. The objective for a risk assessment is to demonstrate that no single point of failure will lead to unacceptable effects on the system. As a result of the risk assessment, maintenance tasks and spare parts can be determined.

### Training

Knowledge is key for safe and efficient operations. We are able to set up a training programme to achieve that. The training can have an operational or more theoretical approach to achieve your learning goals. The most suitable learning method will be chosen together. This can be a practical hands-on training, classroom training or an online learning experience (or combination). The training will be provided by a technical (field) engineer knowledgeable on the specific subject.



### Service agreement

We value our clients and strive for a long-term relationship between equipment owner and Huisman Services; a Service Agreement is a way to transparently commit to such a relationship. A Service Agreement is customised to fit the needs of the operational organisation in terms of scope of work and service levels that we agree upon. As a Service Agreement brings financial benefits, the agreement is a cost-effective method to partially cover your asset management, enabling you to focus on operations.

Due to our years of experience, we expect the unexpected. If a full-service package is taken out, an extended warranty can be offered. Any unexpected repairs will be taken care of by us. We will maintain and monitor your equipment so you can focus on operations.

### MyHuisman portal

MyHuisman portal offers you a range of (digital) services. From ordering spare parts with fixed pricing and delivery times, 24/7 access to your manuals and drawings, up to equipment specific performance dashboards. All with the aim to unburden you, make your operations more efficient by means of automation, and foresee you with maximum transparency and control measures. This service will be available as per 3<sup>rd</sup> quarter 2022.

# CRANES



**>222,800**

mt is the total lifting capacity  
of all Huisman cranes



**>41,070mt**

tonnage on order



**313**

cranes built and  
still 90% in service



**22**

cranes on order



**136**

full electric cranes



**>46**

active and passive  
heave compensation



**190**

heavy lift cranes



Per June 2022

04

## CRANES

Heavy Lift Mast Cranes	44
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# OUR TRACK RECORD

Per June 2022



# 60

## HEAVY LIFT MAST CRANES

200 - 1,500mt

Full Electric  
Electro-hydraulic  
Active Heave Compensation



# 47

## OFFSHORE MAST CRANES

150 - 5,000mt

Full Electric  
Secondary hydraulic  
Active Heave Compensation  
Passive Heave Compensation



# 17

## LEG ENCIRCLING CRANES

1,540 - 3,200mt

Full Electric



# 4

## TUB MOUNTED CRANES

5,000 - 10,000mt

Full Electric  
Active Heave Compensation  
Passive Heave Compensation



# 7

## RINGER CRANES

1,600 - 2,000mt

Full Electric



**128**  
**PEDESTAL MOUNTED CRANES**

30 - 1,250mt

Full electric, Secondary hydraulic, Electro-hydraulic and Active Heave Compensation

**13**  
**KNUCKLE BOOM CRANES (SUBSEA CRANES)**

12 - 250mt

Electro hydraulic, Secondary hydraulic, Hydraulic and Passive Heave Compensation

**8**  
**SHEERLEG CRANES**

1,350 - 4,000mt

Full Electric

**“Huisman cranes are the standard in the design and construction of heavy lift cranes.”**





# HEAVY LIFT MAST CRANES

TRACK RECORD  
60

04  
CRANES



2X 500MT HEAVY LIFT MAST CRANE



Vessel: Brouwersgracht and Bloemgracht

Owner: Spliethoff / BigLift

Delivery: 2022

Capacity: 2x 500mt @ 16m

## FEATURES

- Full electric

2X 700MT HEAVY LIFT MAST CRANE



Vessel: Happy Buccaneer

Owner: BigLift Shipping

Delivery: 1984 (2x 550mt Heavy Lift Mast Crane)

Upgrade: 2006 (2x 700mt Heavy Lift Mast Crane)

Capacity: 700mt @ 29m

# HEAVY LIFT MAST CRANES

TRACK RECORD  
60

04  
CRANES



2X 900MT HEAVY LIFT MAST CRANE



Vessel: Happy Sky  
Owner: BigLift Shipping  
Delivery: 2013  
Capacity: 900mt @ 25m

2X 1,100MT HEAVY LIFT MAST CRANE



Vessel: Happy Star  
Owner: BigLift Shipping  
Delivery: 2014 (2x 900mt Heavy Lift Mast Crane)  
Upgrade: 2018 (2x 1,100mt Heavy Lift Mast Crane)  
Capacity: 1,100mt @ 23m

2X 1,500MT HEAVY LIFT MAST CRANE



Vessel: Jumbo Kinetic  
Owner: Jumbo  
Delivery: 2015  
Capacity: 1,500mt @ 20m



# OFFSHORE MAST CRANES

TRACK RECORD  
47

04  
CRANES



400MT OFFSHORE MAST CRANE



Vessel: **Hai Yang Shi You 286**  
Owner: **COOEC**  
Delivery: **2014**  
Capacity: **400mt @ 16m/200mt @ 31m**

**FEATURES**  
Deepwater hoist system on main hoist:  
■ Hook travel up to 3,000m (5,300m optional)  
■ Active and passive heave compensation

400MT OFFSHORE MAST CRANE



Vessel: **Seven Waves**  
Owner: **Subsea 7**  
Delivery: **2014**  
Capacity: **400mt @ 16m/200mt @ 29m**

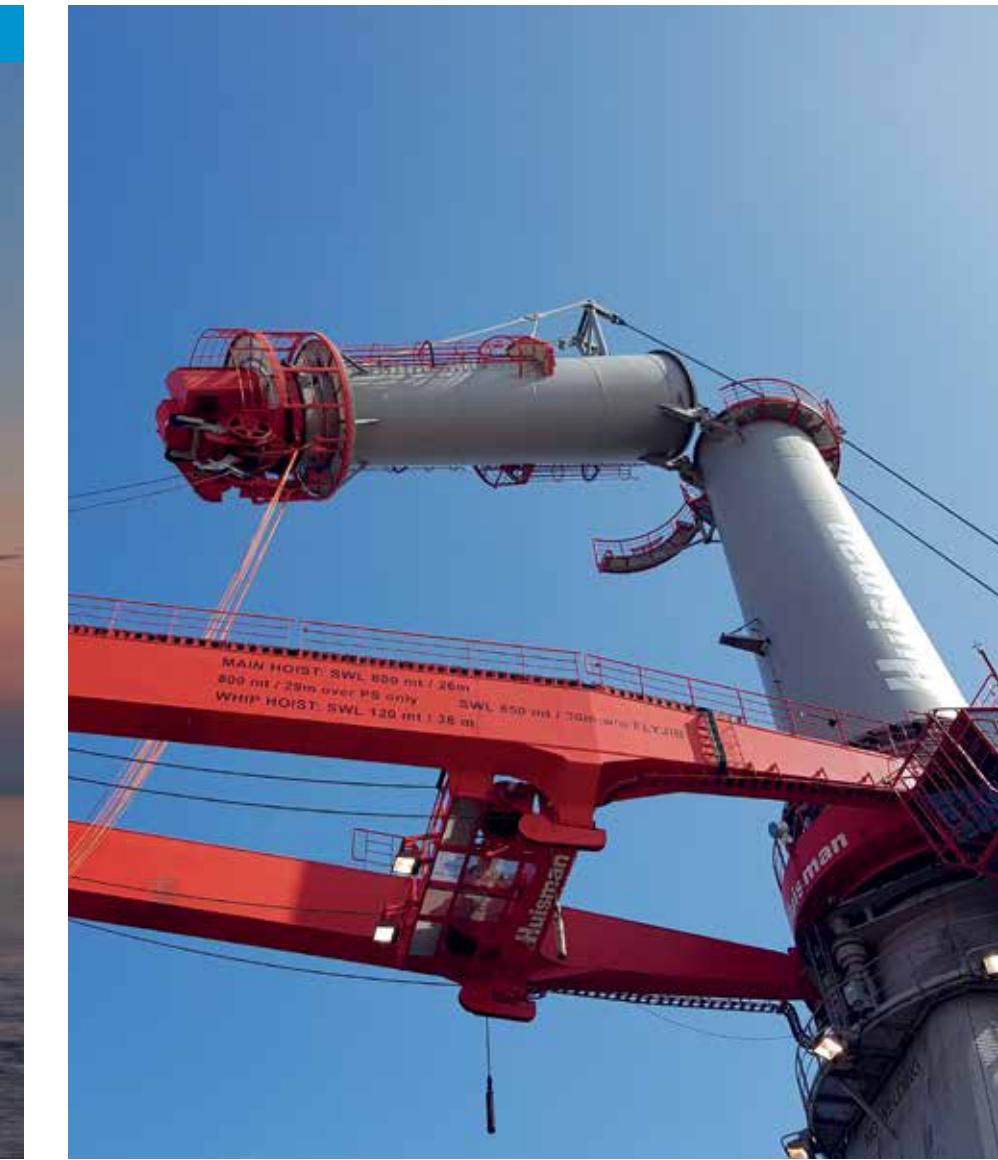
**FEATURES**  
■ Hook travel up to 3,000m (5,300m optional)  
■ Active and passive heave compensation

850MT OFFSHORE MAST CRANE



Vessel: **Solitaire**  
Owner: **Allseas**  
Delivery: **2017**  
Capacity: **850mt @ 30m**

**FEATURES**  
■ Bridge passage mode



# OFFSHORE MAST CRANES

TRACK RECORD

47

04  
CRANES



4X 2,200MT OFFSHORE MAST CRANE



Vessel: Zhao Shang Hai Shi 3/Zhao Shang Hai Shi 5,  
formerly known as OOS Serooskerke/Walcheren  
Owner: Hailong Sixteen Tianjin  
Delivery: 2019  
Capacity: 2,200mt (4x) incl. AHC

## FEATURES

- Full electric
- Active heave compensation

3,000MT OFFSHORE MAST CRANE



Vessel: Bokalift 1  
Owner: Boskalis  
Delivery: 2017  
Capacity: 3,000mt @ 30m

4,000MT OFFSHORE MAST CRANE



Vessel: Bokalift 2  
Owner: Boskalis  
Delivery: 2022  
Capacity: 4,000mt @ 28m

# OFFSHORE MAST CRANES

TRACK RECORD

47



Vessel: **Aegir**  
Owner: **Heerema**  
Delivery: **2012 (4,000mt)**  
Upgrade: **2020 (from 4,000mt)**  
Capacity: **5,000mt @ 34m**

- FEATURES**
- Dual main hoist with weight saving splittable blocks
  - Crane can be fitted with single main hoist hook
  - Suitable for 3-point lift with main and auxiliary hoist



Vessel: **Seven Borealis**  
Owner: **Subsea 7**  
Delivery: **2011**  
Capacity: **5,000mt @ 34m**

**FEATURES**

Deepwater hoist system on auxiliary hoist:

- Capacity 300/600/1,200mt
- Hook travel up to 6,000m single line
- Active and passive heave compensation



# LEG ENCIRCLING CRANES

TRACK RECORD

17



Vessel: **Seajacks Scylla**  
Owner: **Seajacks**  
Delivery: **2015**  
Capacity: **1,540mt @ 32m**

**FEATURES**

- Low own weight
- In-house made slew bearing
- Twin boom
- Full electric drive system



Vessel: **Aeolus**  
Owner: **Van Oord**  
Delivery: **2018**  
Capacity: **1,600mt @ 32m**

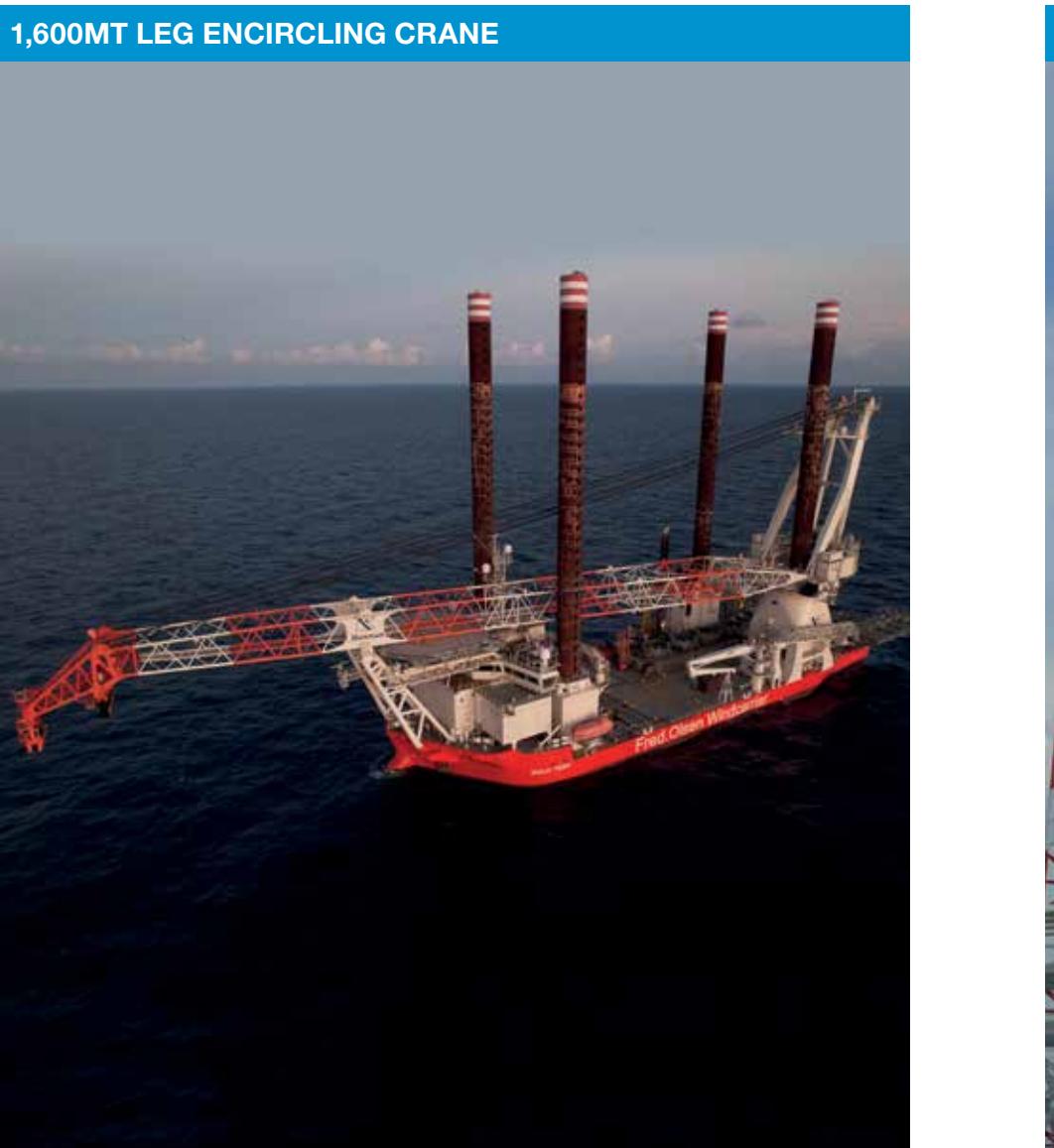
**FEATURES**

- Low own weight
- Tapered boom
- Splittable blocks for higher block speeds
- Full electric
- In-house made slew bearing
- World's largest leg encircling crane

# LEG ENCIRCLING CRANES

TRACK RECORD

17



**FEATURES**  
■ Full electric  
■ 140m Boom  
■ Segemented slew bearing



**FEATURES**  
■ Full electric



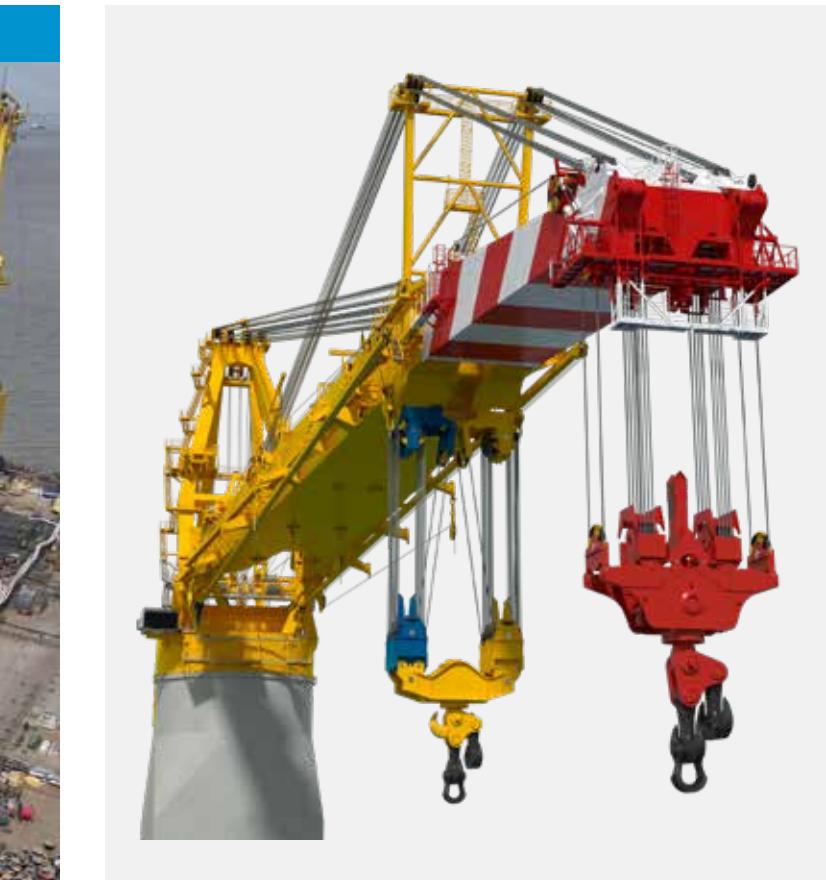
# TUB MOUNTED CRANES

TRACK RECORD

4



**FEATURES**  
■ Universal Quick Connector  
■ Heave compensation  
■ Bridge passage mode  
■ Low own weight  
■ Full electric  
■ In-house made slew bearing



# TUB MOUNTED CRANES

TRACK RECORD

4



Vessel: **Pioneering Spirit**  
Owner: **Allseas**  
Delivery: **2019**  
Capacity: **5,000mt @ 32m**

**FEATURES**

- Low own weight
- In-house made slew bearing
- Full revolving with maximum capacity



Vessel: **Sleipnir**  
Owner: **Heerema**  
Delivery: **2019**  
Capacity: **10,000mt @ 48m**

**FEATURES**

- Low own weight
- In-house made slew bearing Ø30m
- Bridge passage possible using a foldable back frame
- Full revolving with maximum capacity
- World's largest revolving offshore crane



# PEDESTAL MOUNTED CRANES

TRACK RECORD

128



Vessel: **ENSCO 6001**  
Owner: **ENSCO**  
Delivery: **1998**



Vessel: **Q5000**  
Owner: **Helix**  
Delivery: **2014**

# PEDESTAL MOUNTED CRANES

TRACK RECORD  
128

04  
CRANES



Vessel: GMS Endeavour  
Owner: Gulf Marine Services  
Delivery: 2010  
Capacity: 230mt @ 20m



Vessel: Crest Station 3  
Owner: Pacific Radiance  
Delivery: 2009



Location: Flexi France, Le Trait (France)  
Owner: Technip  
Delivery: 2013  
Capacity: 500mt @ 30m



Vessel: Neptune  
Owner: GeoSea  
Delivery: 2011  
Capacity: 600mt @ 25m

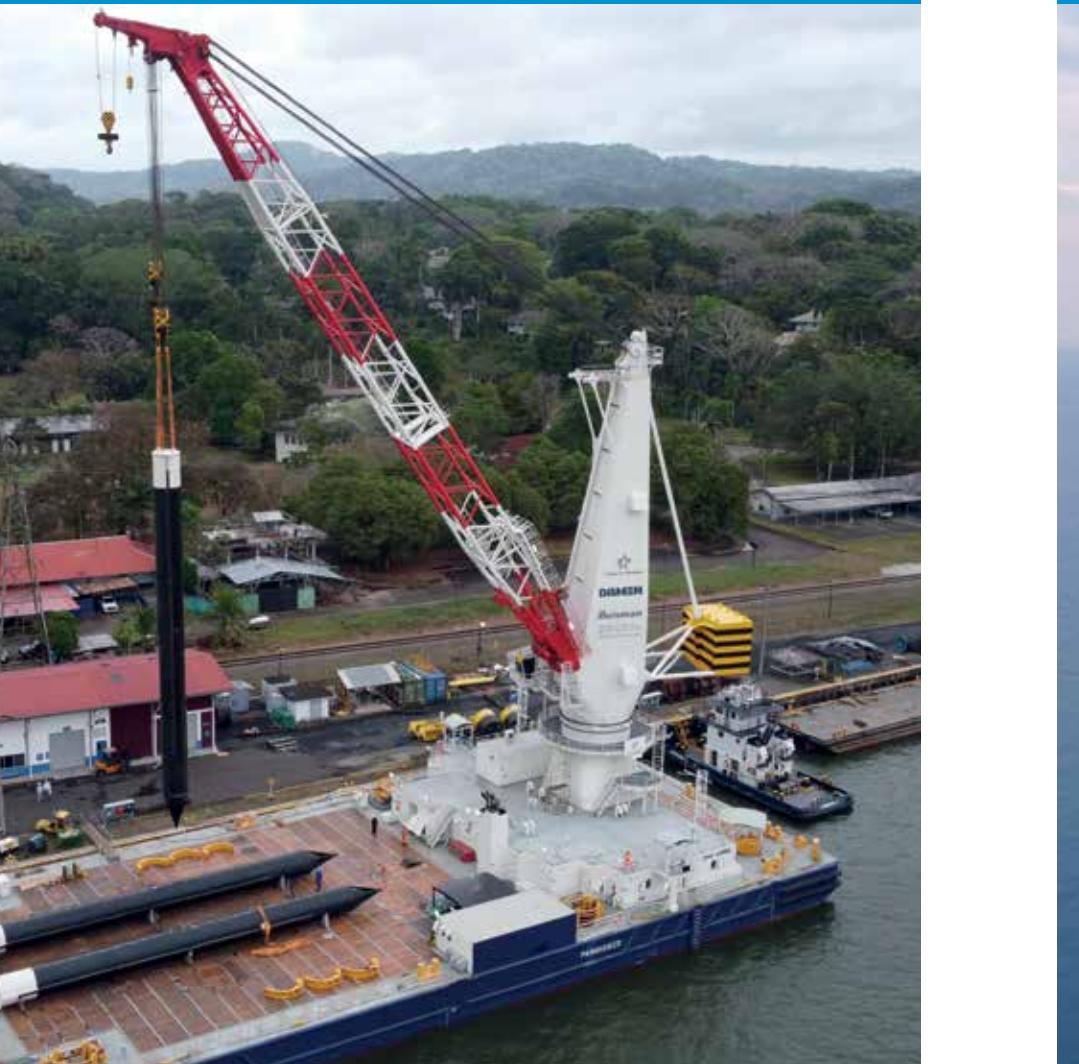
# PEDESTAL MOUNTED CRANES

TRACK RECORD  
128

04  
CRANES



625MT PEDESTAL MOUNTED CRANE



Vessel: Panquaco  
Owner: Panama Canal Authority  
Delivery: 2021  
Capacity: 625mt @ 25m

**FEATURES**

- Full electric

800MT PEDESTAL MOUNTED CRANE



Vessel: CP-8001  
Owner: Penta Ocean  
Delivery: 2019  
Capacity: 800mt @ 26m

**FEATURES**

- Customised design for Japanese market
- ClassNK certification
- Extremely lightweight design
- Full electric driven

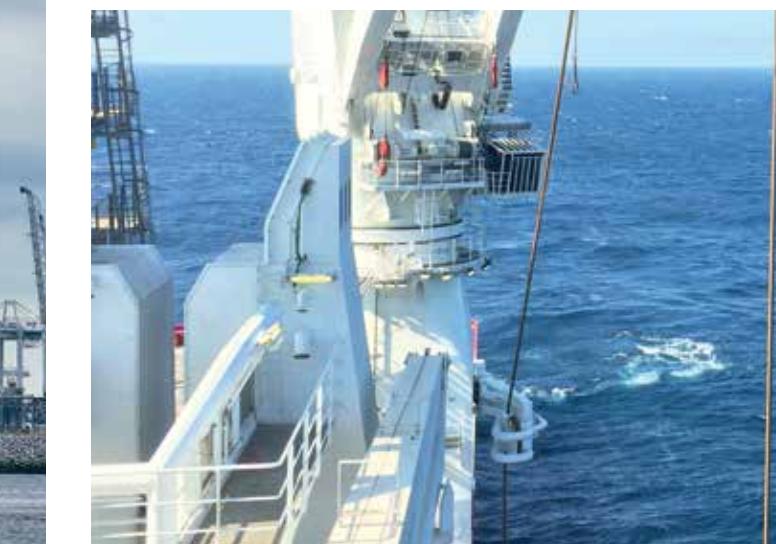
900MT PEDESTAL MOUNTED CRANE



Vessel: Skandi Africa  
Owner: DOF  
Delivery: 2015  
Capacity: 900mt @ 17m dual fall  
450mt @ 32m single fall

**FEATURES**

- Hook travel up to 4,400m
- Active and passive heave compensation
- Equipped with wire rope spacer to prevent entanglement





# SUBSEA CRANES

250MT KNUCKLE BOOM CRANE



Vessel: **Seven Pacific**

Owner: **Subsea 7**

Delivery: **2010**

Type: **KBC 6200-250**

## FEATURES

- 2,500m hook travel main hoist
- Up to 1,850m hook travel auxiliary hoist
- Active heave compensation and constant tension on both winches
- Secondary Controlled Hydraulics

TRACK RECORD  
**13**

# FIBRE ROPE SYSTEM

FIBRE ROPE SYSTEM



**04**  
CRANES



The system includes a Hybrid Fibre Rope System which combines the advantages of subsea deployment with fibre rope systems, while the heave compensation is done with traditional steel wire rope systems.

Proper spooling of the sensitive fibre rope is done by Huisman's well-known Traction Winch and Storage Winch setup, while active heave compensation is done with a steel wire rope on a direct winch. The system is available in various capacities. For traditional knuckle boom cranes, a 120mt and 200mt version is available, while the recently introduced Hybrid Boom Crane can be delivered with larger capacities of 400mt and 600mt. This can provide a significant step change in subsea deployment capabilities, as the full load is available at all depths, as subsea deployment up to 600mt is now possible at depths of 4,000m and beyond.

# HEAVE COMPENSATION SYSTEMS



ACTIVE HEAVE COMPENSATION ON WINCHES



Huisman delivers a unique, in-house developed, secondary controlled hydraulic active heave compensation system. A secondary controlled hydraulic winch enables compensation of the heave motion of the vessel with an extremely fast response time at low power consumptions. In response to the signal of a motion reference unit the winch will pay in or pay out wire rope. Huisman has over 30 years of successful experience with this system.

With a secondary controlled hydraulic system, both active heave compensation and constant tensioning are available on the winch. Huisman delivers hydraulic winches with a safe working load up to 400mt and up to 3,000m wire storage capacity. Examples are hydraulic winches as installed on the Knuckle Boom Crane onboard Subsea 7's Seven Pacific.

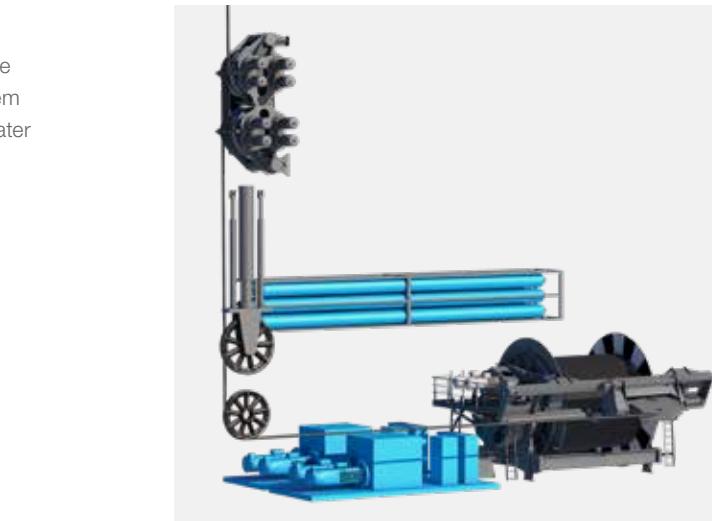
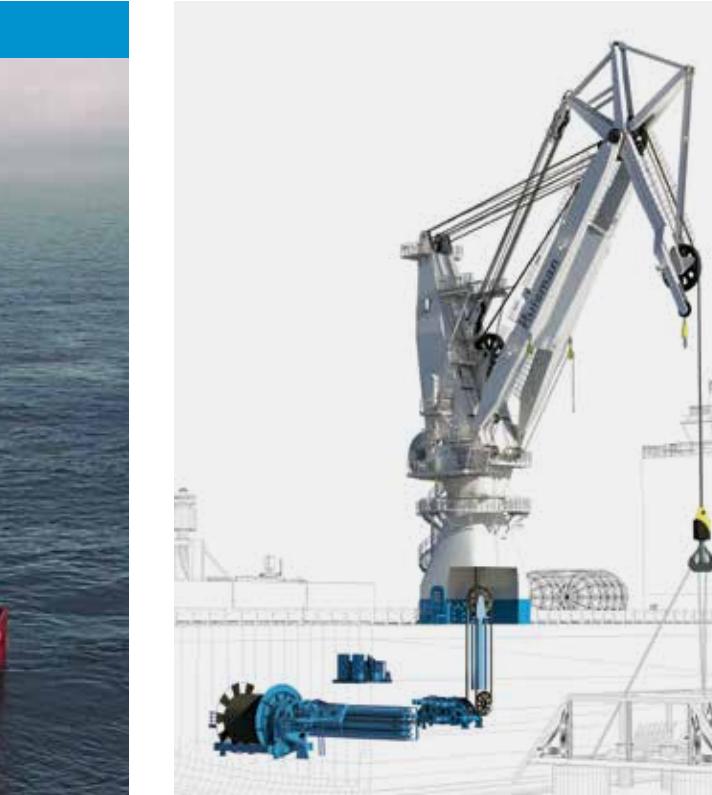


PASSIVE & ACTIVE HEAVE COMPENSATION BY CYLINDERS



Huisman also delivers active heave compensation systems which make use of a combination of active and passive cylinders. The heave compensator consists of a passive main cylinder, two additional active cylinders, and a sheave over which the main hoist wire runs. The main cylinder is connected via a medium separator to a pressure vessel unit. This passive system is balanced with the load in the wire that reduces the power requirement of the system considerably.

The active cylinders are connected to a hydraulic power unit. In response to the signal of a motion reference unit the active cylinders will extend or retract to keep the load at a constant elevation. Since the main load is compensated by the passive main heave cylinder, the active cylinders only have





# SHEERLEG CRANES

TRACK RECORD  
8

04  
CRANES



2,200MT SHEERLEG CRANE



Vessel: **Taklift 4**  
Owner: **Boskalis**  
Delivery: **1981 (1,600mt Sheerleg Crane)**  
Upgrade: **2010 (2,200mt Sheerleg Crane)**

3,300MT SHEERLEG CRANE



Vessel: **Rambiz**  
Owner: **Scaldis**  
Delivery: **1996**

4,000MT SHEERLEG CRANE



Vessel: **Gulliver**  
Owner: **Scaldis**  
Delivery: **2018**



# LAND CRANES

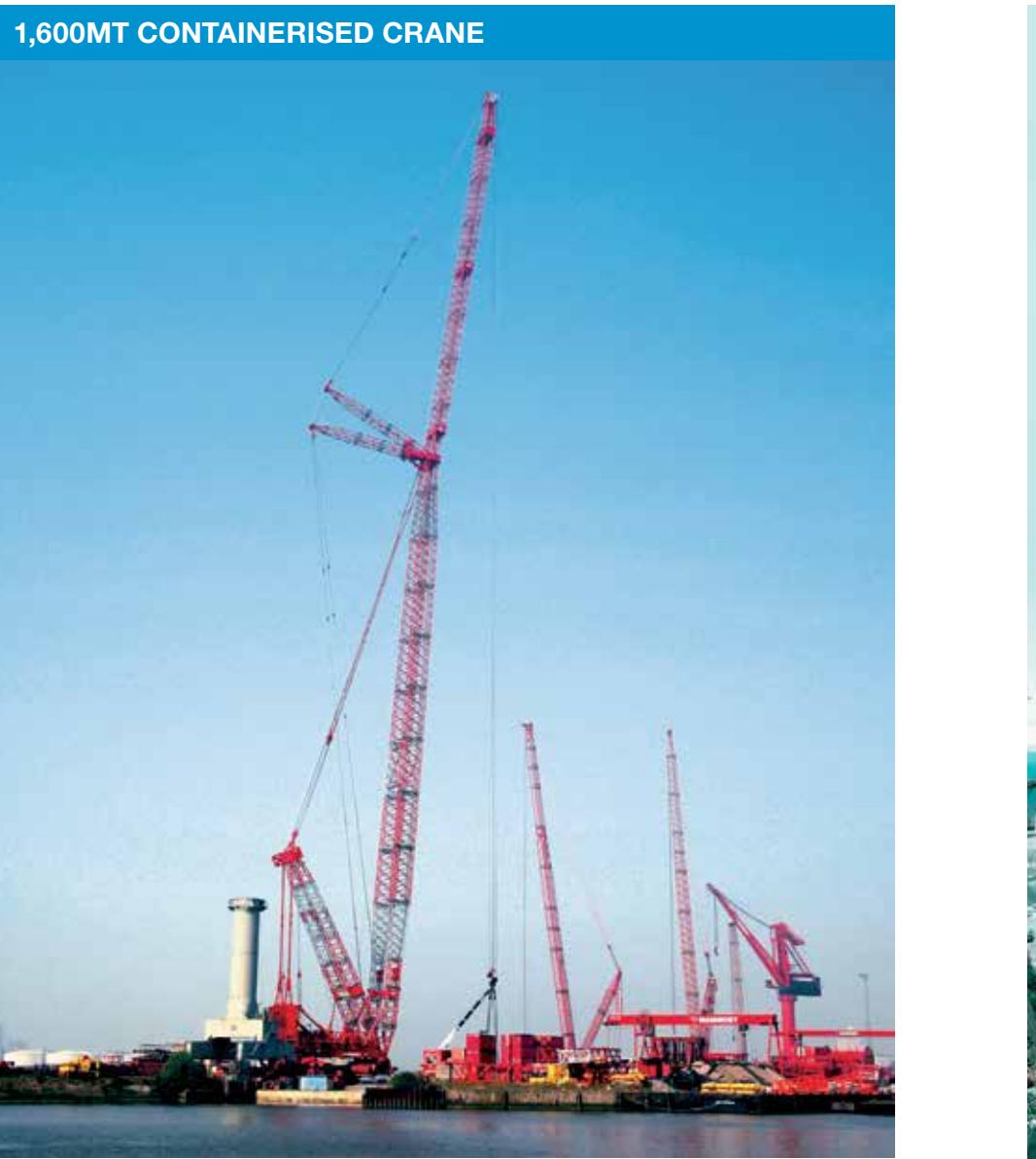
TRACK RECORD

7

04  
CRANES



1,600MT CONTAINERISED CRANE



Owner: Mammoet  
Delivery: 2000

#### FEATURES

- Optional containerised (ISO Containers)
- 21m Twin ring with hydraulic jacks for even load distribution



2,600MT SKYHOOK CRANE



Destination: Huisman China  
Owner: Huisman  
Delivery: 2013

#### CAPACITIES

- Main hoist 1,200mt @ 23m without super ballast
- Main hoist 2,600mt @ 30m with super ballast
- Auxiliary hoist 200mt @ 57m without super ballast
- Auxiliary hoist 200mt @ 96m with super ballast
- Trolley 40mt

#### FEATURES

- Allows for single lift installation

SKYHOOK XL



Capacity: 2,600mt @ 38m

#### FEATURES

- Lifting height 180m with 1,000mt flyjib

# LAND CRANES



## FEATURES

- Small footprint
- Modular design
- Full electric drive system



Owner: BMS Heavy Cranes  
Delivery: 2023

## FEATURES

- Small footprint
- Modular design
- Full electric drive system

TRACK RECORD  
7

04  
CRANES



# OFFSHORE WIND TOOLS



72

Huisman can deliver the full range of equipment required for installation of current and future sized wind turbines. Tools can be adjusted or designed to meet project specific requirements. The control systems of the tools can be integrated with the crane so that all equipment functions as one system, allowing for central control and monitoring. This interaction between the complete set of installation tools increases safety on board and reduces installation time. A selection of our wind turbine installation tools is included in this chapter.

05

## OFFSHORE WIND TOOLS

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# OUR TRACK RECORD

Per June 2022



05

OFFSHORE WIND TOOLS



# 1

## PRE-PILING TEMPLATE

### MAIN SPECIFICATIONS

- Number of pockets: 3, extendable to 4
- Footprint: 26.75m and 28.25m
- Maximum pile diameter: 3.5m



# 3

## MONOPILE GRIPPERS

### MAIN SPECIFICATIONS

- Static and motion compensated
- With or without integrated upend functionality
- Up to 3,000mt monopile weight

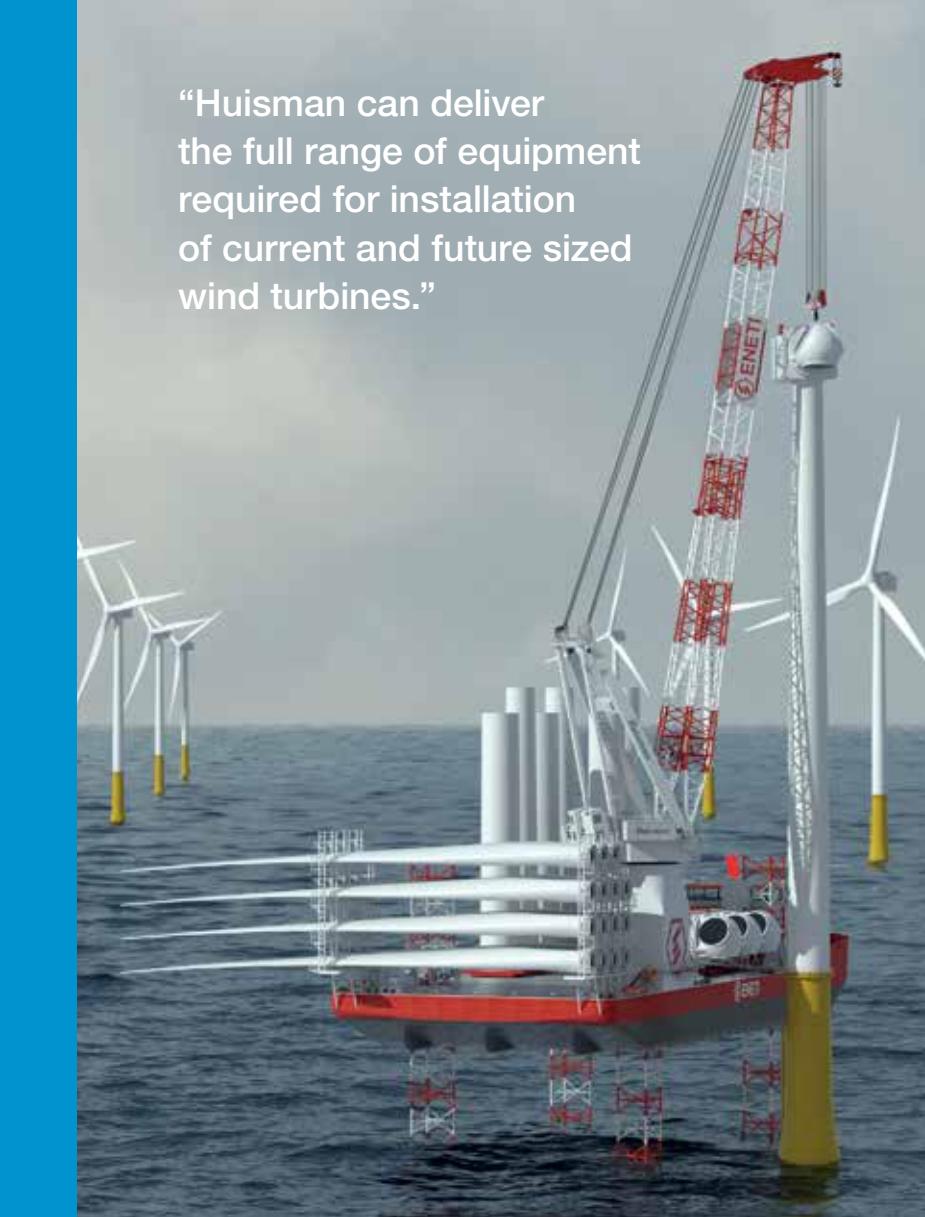


# 2

## LIFTING TOOLS

### MAIN SPECIFICATIONS

- Safe and efficient handling of monopiles
- using automated sling handling system.



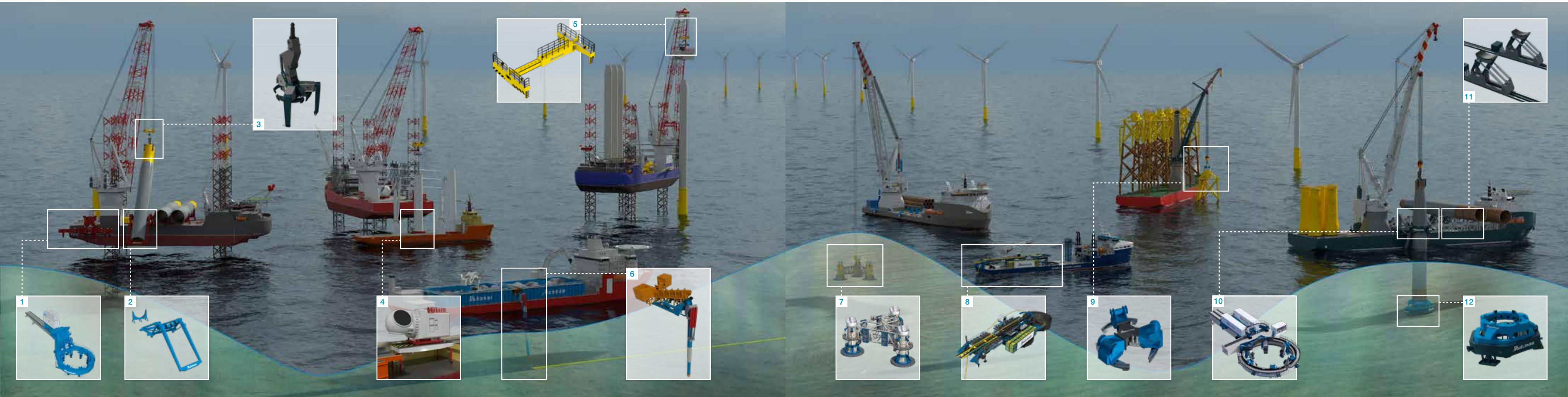
"Huisman can deliver the full range of equipment required for installation of current and future sized wind turbines."



# OFFSHORE WIND TOOLS

05

OFFSHORE WIND TOOLS



## 1 MONOPILE GRIPPER

- Adjustable in the horizontal directions as well as vertical
- Compatible with noise mitigation systems
- Large opening to safely catch and release monopiles

## 2 UPEND FRAME

- Can be equipped with a gimbal or damping system to increase workability
- Upending sequence can be synchronized with the crane

## 3 FLANGE LIFTING TOOL

- Fail safe locking mechanism
- Does not require an umbilical
- Powered stabbing aid for easy installation

## 4 MOTION COMPENSATED PLATFORM

- Can compensate up to five degrees of vessel motion
- Can be integrated in the vessel with platform flush with the main deck
- Actuated sling length adjustment
- System can be designed containerized

## 5 NACELLE SPREADER

- For lifting nacelles
- Adjustable lifting points for different sizes of nacelles
- Motion compensated inclined fall pipe
- Designed for multiple projects, not single use

## 6 FALLPIPE SYSTEM

- Accurate position of rock deposit
- Modular
- Designed for multiple projects, not single use

## 7 PRE-PILING TEMPLATE

- Auto levelling
- Fast footprint change
- Motion compensation increase workability considerably
- Fully mechanized quadrant handling
- Quadrant cursor system
- Short mobilization time

## 8 MOTION COMPENSATED CABLE LAY SYSTEM

- Motion compensation
- Does not require an umbilical
- Safe operation by high level of redundancy
- High accuracy with absolute position / verticality measurement

## 9 JACKET LIFTING TOOL

- Fail safe locking mechanism
- Does not require an umbilical
- Safe operation by high level of redundancy

## 10 MOTION COMPENSATED PILE GRIPPER

- Enables installing monopiles from a floating platform
- Safe operation by high level of redundancy
- Supports the full weight of the monopile

## 11 MONOPILE TRANSPORT SYSTEM

- Combined skidding and lifting motion
- Fast and semi-automatic skidding

## 12 MONOPILE DRILLING TEMPLATE

- Positions and lowers the monopiles into the drilled hole
- Supports the full weight of the monopile

# MOTION COMPENSATED PILE GRIPPER

MOTION COMPENSATED PILE GRIPPER



Vessel: **Orion**  
Owner: **DEME**  
Delivery: **2022**

**MAIN SPECIFICATIONS**  
Maximum monopile diameter: **12m**  
Maximum monopile weight: **2,250mt**

**FEATURES**  
■ Integrated upend functionality  
■ Double ring design for increased workability



In addition to these two, we have another pile gripper on order.

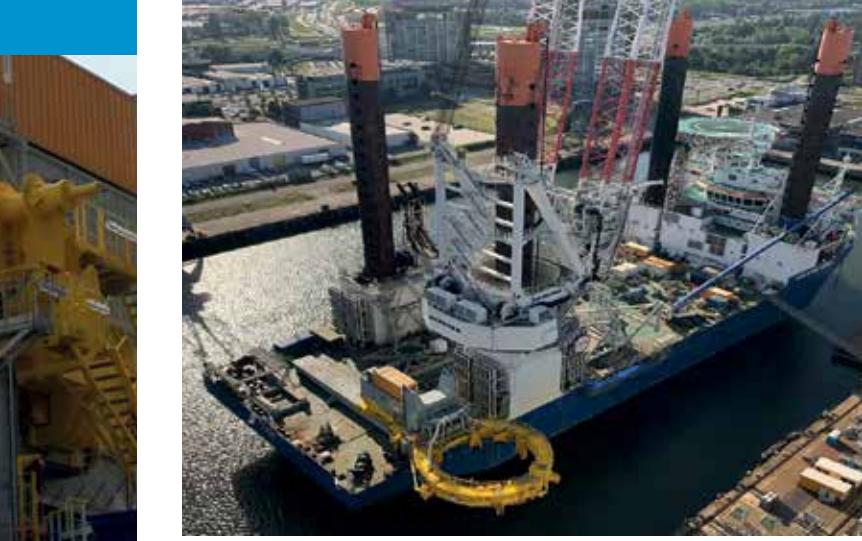
# MONOPILE GRIPPER

MONOPILE GRIPPER



Vessel: **Vole au Vent**  
Owner: **Jan de Nul**  
Delivery: **2019**

Huisman's Monopile Gripper is designed as mission equipment: instead of being designed for one specific project only, the gripper is highly versatile, allowing it to work in different configurations on future projects with varying requirements



**FEATURES**  
■ Versatility: designed to install large variety of monopiles in existing and future offshore wind farms  
■ Enclosed ring provides a fully fail safe system that accurately and safely holds the monopile in place  
■ Compatible with noise mitigation systems  
■ Large opening to safely catch and release monopiles, including transition pieces  
■ Rollers are individually retractable to allow trunnions and holes to pass through  
■ Optionally motion compensated



# PRE-PILING TEMPLATE



Vessel: **Bokalift 1**  
Owner: **Boskalis**  
Delivery: **2021**

**MAIN SPECIFICATIONS**  
Number of pockets: **3**  
Footprint: **26.75m and 28.25m**  
Maximum pile diameter: **3.5m**

**FEATURES**

- Auto levelling
- Fast footprint change
- Modular
- Designed for multiple projects, not single use

TRACK RECORD  
**1**

# MONOPILE SPREADER

## MONOPILE SPREADER



Under construction  
Vessel: **Alfalift**  
Owner: **Seaway 7**  
Delivery: **2023**

**FEATURES**

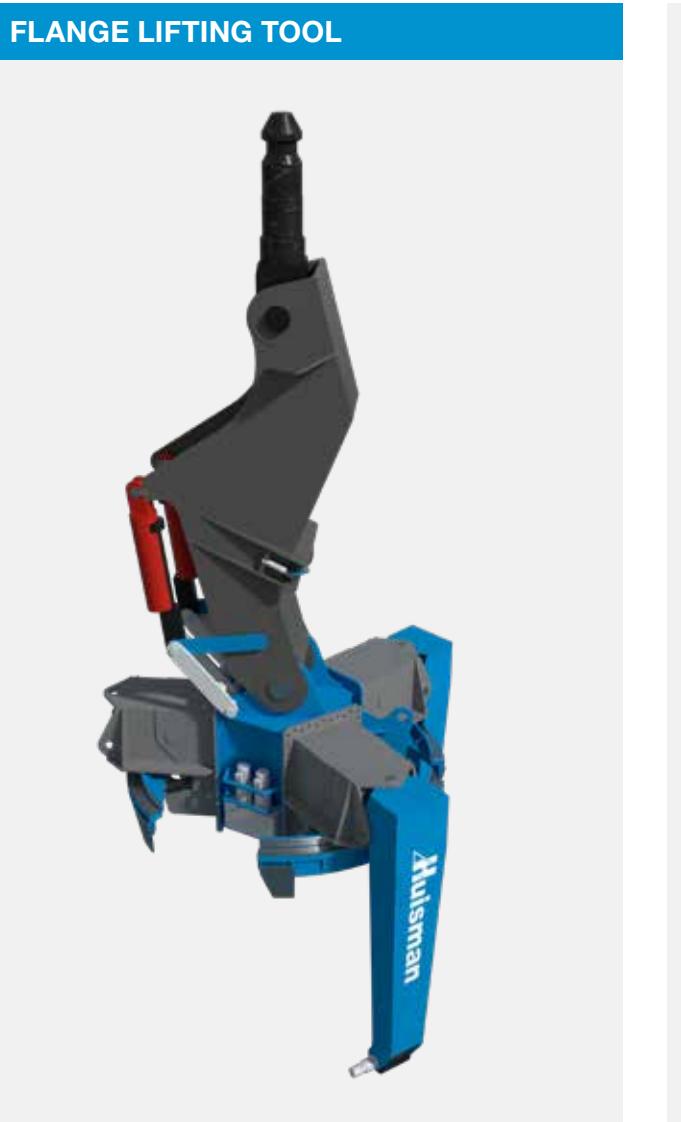
- Hands off sling handling keeps personnel away from harm's way of heavy slings
- Activated locking pins avoids handling of heavy pins at height
- SWL 3,000mt, System length 38m

05

OFFSHORE WIND TOOLS



# FLANGE LIFTING TOOL



## FEATURES

- Fail safe locking mechanism
- Self aligning clamping mechanism
- Powered stabbing aid for easy installation
- SWL up to 3,500mt
- Diameter up to 9.5m



# UNIVERSAL QUICK CONNECTOR



Name: **Voltaire**  
Owner: **Jan de Nul Group**  
Delivery: **2022**

## FEATURES

- Quick tool changes with the standardised pin interface
- Fail-safe: self-locking
- Rotation mechanism at full load
- Increased lifting height
- Integrated power supply
- Tools integrated into the crane's control system
- The crane's CCTV system extended with UQC cameras
- Retrofit Universal Quick Connector
- Suitable for subsea operations
- Single preparations for the total lifting scope



# WINDFARM INSTALLATION VESSEL



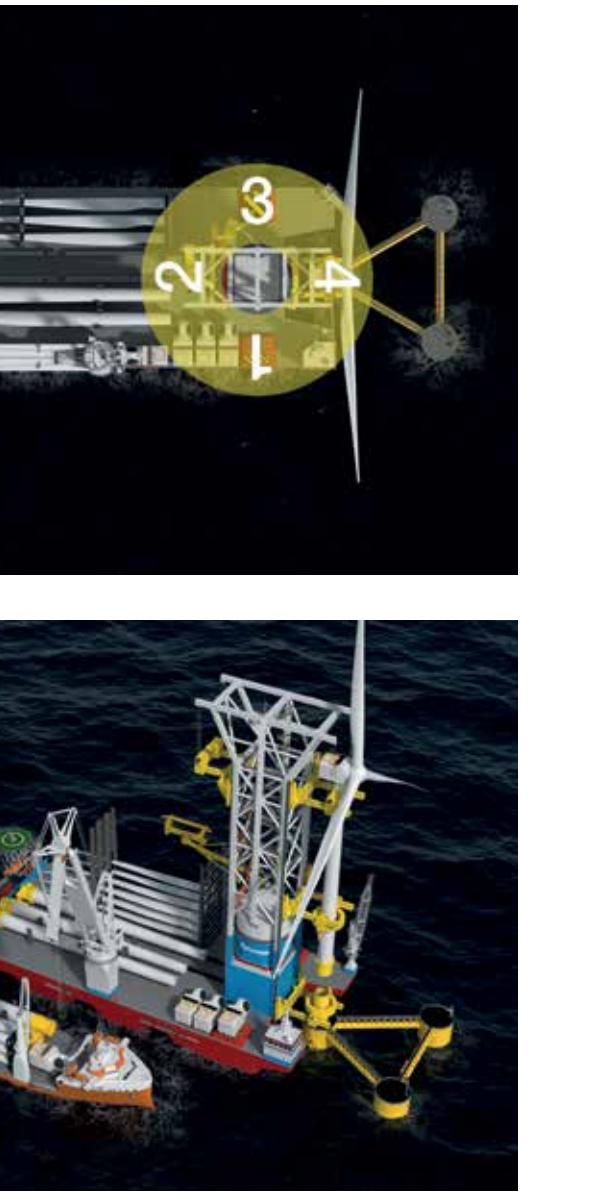
Vessel: WIV

**FEATURES**

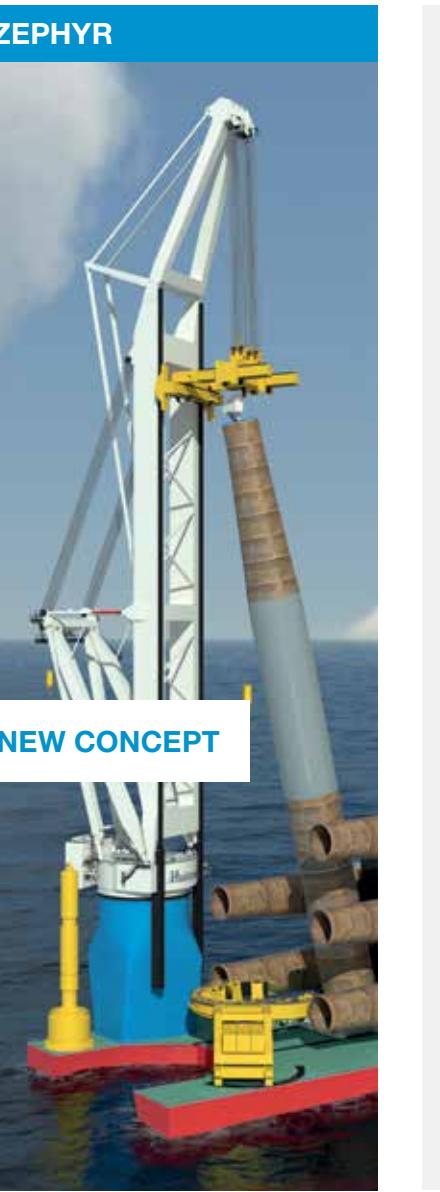
- Installing complete wind turbines
- All year operation in the North Sea
- Installing complete foundations (jacket or monopile)

**FEATURES**

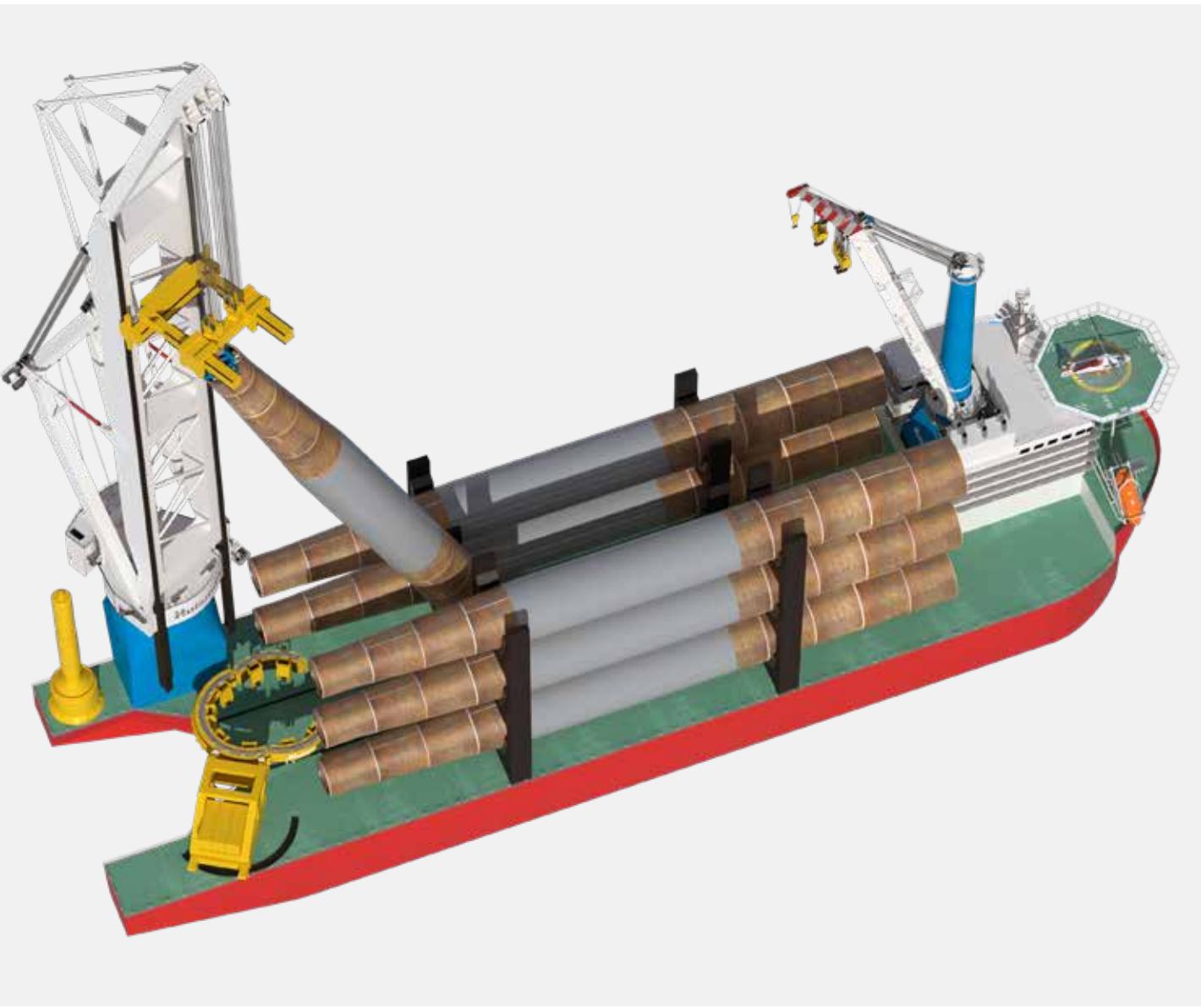
- Pile driving
- All year operation in the North Sea
- High yearly performance with very limited down time



# FOUNDATION INSTALLATION VESSEL



Vessel: Zephyr



**FEATURES**

- An integrated solution for large monopiles, significantly reducing installation time and cost



# MOTION COMPENSATED PLATFORM

## MOTION COMPENSATED PLATFORM



### FEATURES

- The dimensions and capacity of the Motion Compensated Platform are optimised for next-generation wind turbines, and are designed to compensate for five degrees of motion of the vessel.
- The Motion Compensated Platform can be integrated into the hold of a vessel and aligned with the main deck, making it easy to skid cargo across the platform.

- The combination of passive heave compensating cylinders and an active hydraulic system enables efficient and fail-safe compensation.
- The use of a feeder vessel reduces fuel consumption and CO<sub>2</sub> emissions compared to shuttling back and forth with a jack-up vessel.



# PIPELAY



88

06

Huisman is a worldwide market leader in the turnkey delivery of deepwater pipelay systems. We deliver dedicated systems such as Flex-Lay Systems, S-Lay Systems, J-Lay Systems and Reel-Lay Systems. We also deliver combined systems such as the Multi-Lay Systems. In addition to fully integrated pipelay systems, we can also provide a full package of related standalone equipment such as baskets, reel drive systems, etc.

## PIPELAY

J-Lay Systems	92
Multi-Lay Systems	94
Flex-Lay Systems	100
Reel-Lay Systems	104
S-Lay Systems	106

89

# OUR TRACK RECORD

Per June 2022



# 7

J-LAY & MULTI-LAY SYSTEMS

400 – 2,000mt



# 24

FLEX-LAY SYSTEMS

60 – 650mt



# 2

REEL-LAY SYSTEMS

160 – 400mt



# 2

S-LAY SYSTEMS

240 – 600mt



**“Huisman is a global market leader in turnkey delivery of deepwater pipelay systems.”**





# J-LAY SYSTEMS

TRACK RECORD  
3

06  
**PIPELAY**



525MT J-LAY SYSTEM



Vessel: **Saipem 7000**  
Owner: **Saipem**  
Delivery: **1999**

- FEATURES**
- 525mt Pipelay tower
  - External line-up tool and internal line-up tool
  - Pipe elevator system
  - Quad pipe loader
  - Ramp adjustment system

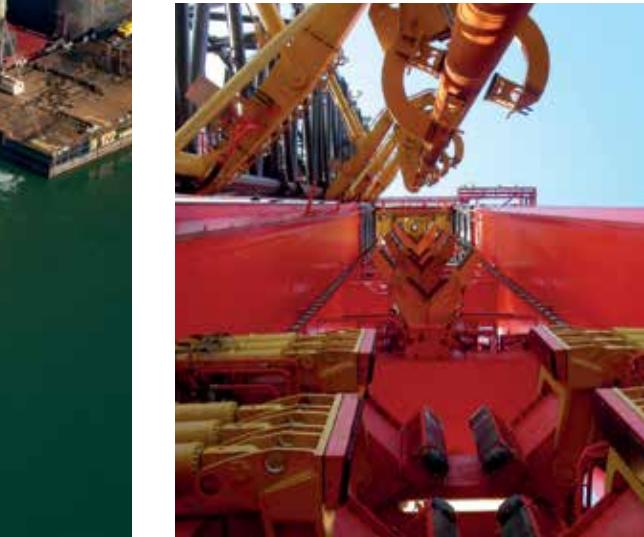
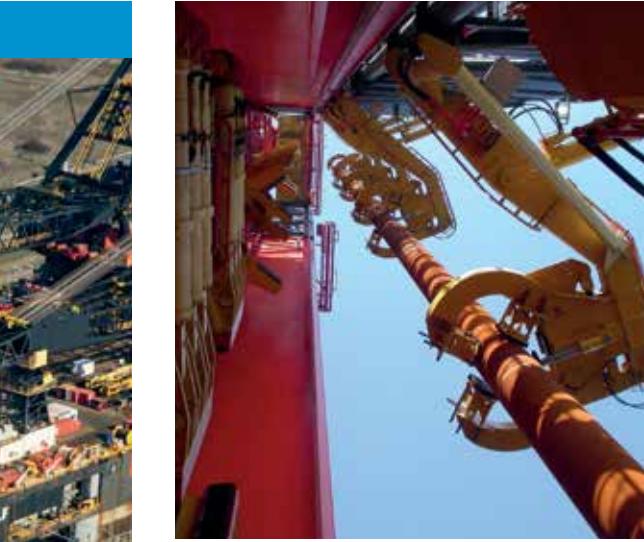


1,050MT J-LAY SYSTEM



Vessel: **Balder**  
Owner: **Heerema Marine Contractors**  
Delivery: **2002**

- FEATURES**
- 1,050mt Pipelay tower
  - 1,050mt Pipe lowering system
  - External line-up tool
  - 72m Pipe sections
  - Hex pipe loader
  - Ramp adjustment system





# MULTI-LAY SYSTEMS

TRACK RECORD  
4



Vessel: Deep Blue  
Owner: Technip  
Delivery: 2001

**CAPACITIES**  
550mt Rigid-lay  
420mt Flex-lay  
900mt J-lay

**FEATURES**

- 2x 275mt Tensioner
- 360mt A&R system
- 185mt secondary A&R winch
- Aligner with pipe straightening system
- Aligner for flexible pipe
- Hang-off module
- 900mt Pipe lowering system

- Quad pipe loader
- External line-up tool and internal line-up tool
- Ramp adjustment system
- 2x 3,000mt Rigid pipe reels
- 2x Rigid pipe spooling tensioner
- Flexible pipe spooling tensioner



# MULTI-LAY SYSTEMS

TRACK RECORD

4



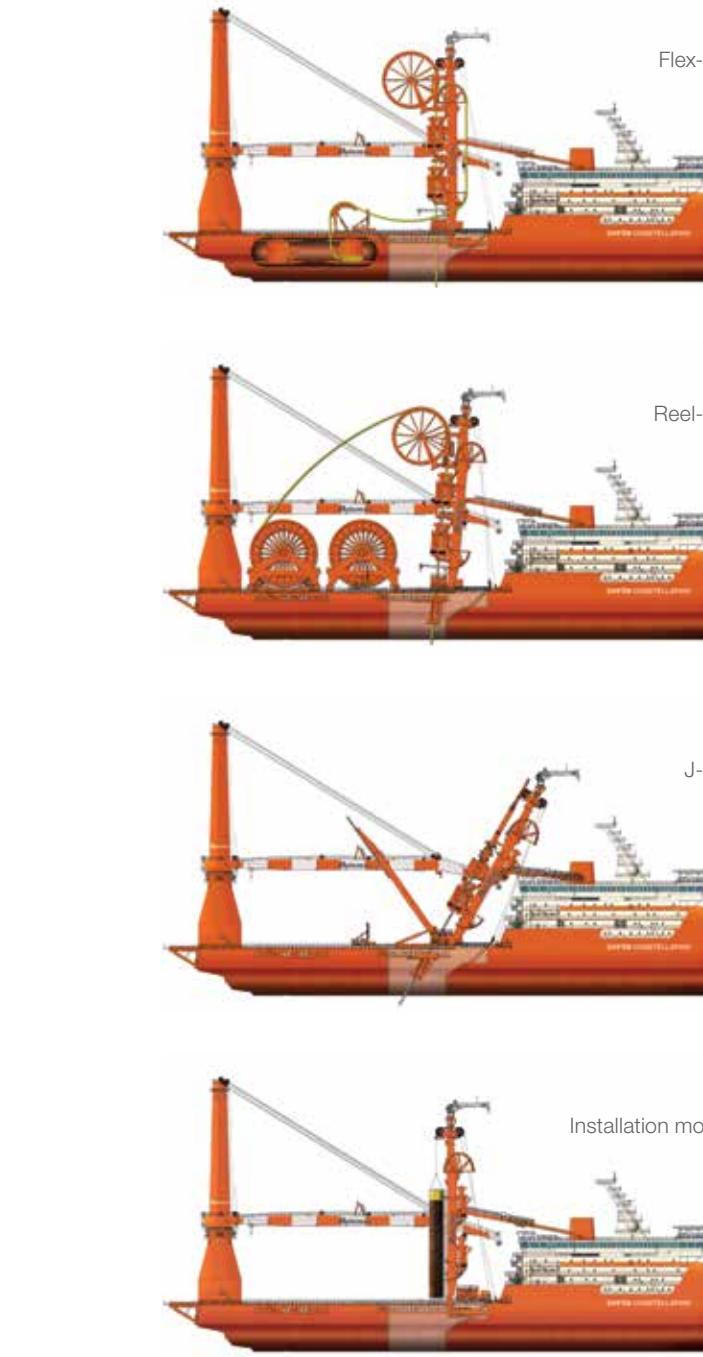
Vessel: **Saipem Constellation**  
Owner: **Saipem**  
Delivery: **2015**

**CAPACITIES**  
800mt Rigid Reel-lay  
520mt Flex-lay  
1,000mt Lowering system  
400mt J-lay (future option)

#### FEATURES

- 2x 400mt Retractable tensioner
- 1,000mt A&R system
- 185mt Secondary A&R system
- Aligner with pipe straightening system
- 2x Aligners for flexible pipe
- 750mt Moonpool hatches with integrated hang-off module

- Fully mechanised PLET handling system
- Ramp adjustment system
- Flexible pipe spooling system
- 2x 1,250mt Carousel system
- Multiple 1,200mt portable reels
- 3,000mt Offshore mast crane



# MULTI-LAY SYSTEMS

TRACK RECORD

4

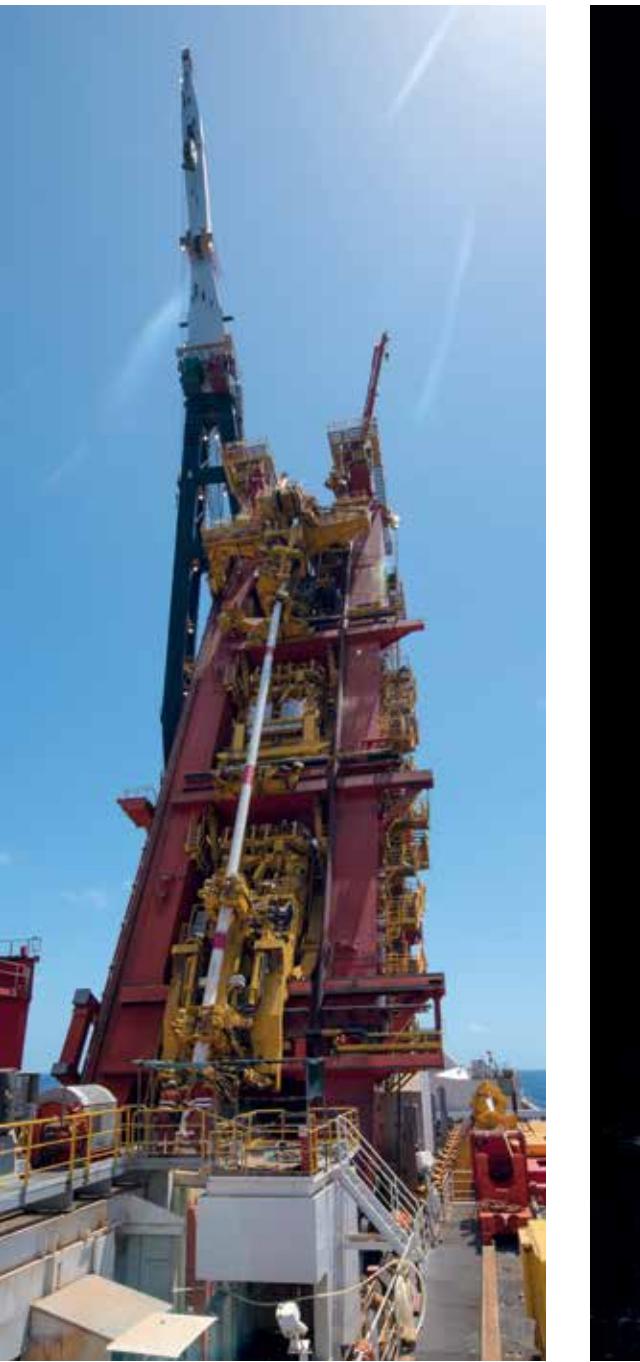


Vessel: Aegir  
Owner: Heerema Marine Contractors  
Delivery: 2013

**CAPACITIES**  
2,000mt J-lay  
800mt Reel-lay  
520mt Flex-lay  
2,000mt Lowering system

**FEATURES**  

- 2x 400mt Retractable tensioner
- 2,000mt A&R system
- Aligner with pipe straightening system
- 2,000mt Pipe lowering system
- Moonpool hatches
- 2,000mt Skidding hang-off module
- External line-up tool
- Quad pipe loader
- Integrated PLET handling system
- Ramp adjustment system
- Rigid pipe spooling system
- Multiple 2,000mt portable reels
- 4,000mt Offshore mast crane





# FLEX-LAY SYSTEMS

TRACK RECORD  
24

06  
PIPELAY



150MT FLEX-LAY SYSTEM



Vessel: **Toisa Proteus** (Originally)  
Owner: **Subsea 7**  
Delivery: **2008**

- FEATURES**
- 2x 75mt Tensioner
  - 185mt A&R system
  - Baseframe with integrated hang-off module
  - Ramp angle adjustment system

325MT FLEX-LAY SYSTEM



Vessel: **Hai Yang Shi You 286**  
Owner: **COOEC**  
Delivery: **2017**

- FEATURES**
- 325mt Retractable tensioner
  - 400mt A&R system
  - 360mt Moonpool hatch with integrated hang-off module
  - 100mt Auxiliary A&R system
  - 400mt Offshore mast crane

# FLEX-LAY SYSTEMS

TRACK RECORD  
24

06  
PIPELAY



650MT FLEX-LAY SYSTEM

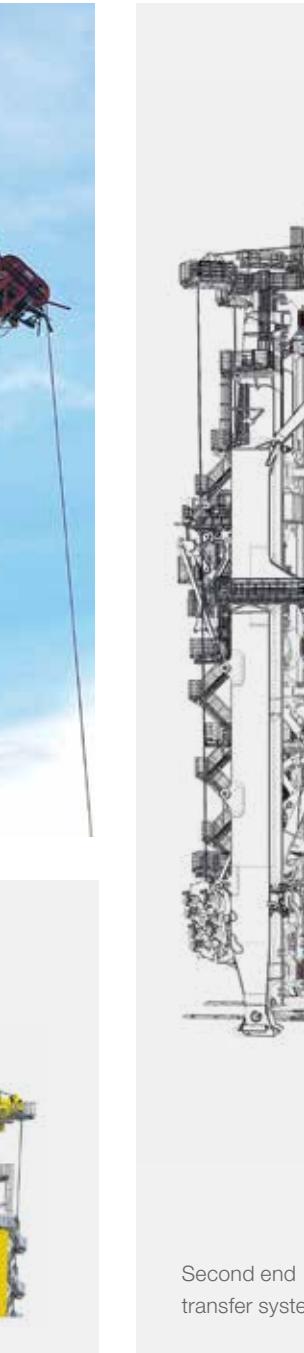


Vessel: **Skandi Africa**  
Owner: **Technip DOF**  
Delivery: **2015**

**FEATURES**

- 2x 325mt Retractable tensioner
- 2x 380mt A&R system
- 720mt Moonpool hatches with integrated hang-off module
- Ramp angle adjustment system

- Flexible pipe spooling system
- 3,500mt Basket system
- 900mt Pedestal mounted crane
- 150mt Knuckle Boom Crane



End connector  
handler  
  
Second end  
transfer system



# REEL-LAY SYSTEMS

TRACK RECORD  
2

06  
**PIPELAY**



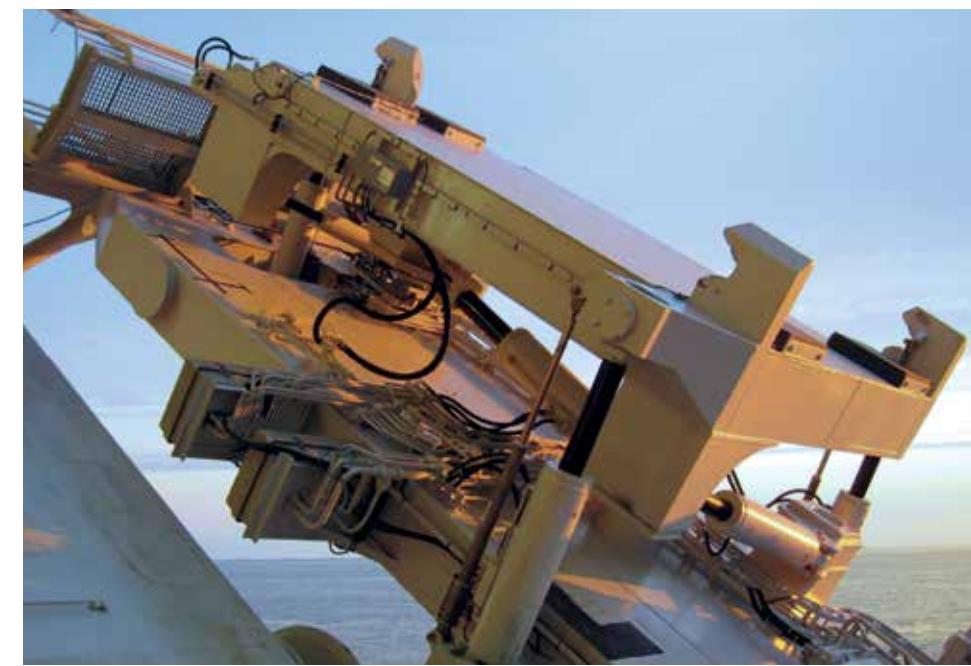
400MT REEL-LAY SYSTEM



Vessel: **Seven Oceans**  
Owner: **Subsea 7**  
Delivery: **2007**

**FEATURES**

- 400mt Tensioner
- 450mt A&R system
- 80mt Secondary A&R winch
- Aligner with pipe straightening system
- 600mt Hang-off module
- Ramp angle adjustment system
- 3,500mt rigid pipe reel with spooling device
- 75mt spooling tensioner
- Fully mechanised PLET handling system
- 400mt Offshore mast crane





# S-LAY SYSTEMS

TRACK RECORD  
2

06  
PIPELAY



600MT S-LAY SYSTEM



Vessel: Seven Borealis  
Owner: Subsea 7  
Delivery: 2012

FEATURES

- 3x 200mt Tensioner
- 600mt Stinger
- 600mt A&R system
- 3,600mt Stinger handling system
- 200mt Secondary A&R system
- 5,000mt Heavy Lift Mast Crane
- Pipe handling system



# DRILLING



108

Huisman has been designing and building equipment for the offshore drilling market for over 15 years. Initially Huisman delivered cranes and pipe handling equipment, but with the development of the Multi Purpose Tower (MPT) in the late 90s, Huisman created the means to drastically improve offshore drilling and equipment handling. What started off with the delivery of riser and pipe handling equipment has evolved into the design and delivery of four state of the art UDW drilling ships outfitted with Dual Multi Purpose Towers (DMPT), the Noble Bully and the Noble Globetrotter vessels. After delivery of these vessels, Huisman further developed the design, resulting in the HuisDrill 12000.

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07

## DRILLING

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# OUR TRACK RECORD

Per June 2022



## 4

### DYNAMIC POSITIONED SEMI SUBMERSIBLE DRILLING UNITS

- Structural design semi-sub
- Risers vertical in column
- Riser handling crane
- Rig cranes and skid systems

## 3

### DYNAMIC POSITIONED SEMI SUBMERSIBLE WELL INTERVENTION UNITS

- 820mt (1.8mln lbs) Multi Purpose Tower with active and passive heave compensation
- Riser tensioner system
- Guide wire system
- Rig cranes and skid systems

## 3

### DYNAMIC POSITIONED MONOHULL WELL INTERVENTION VESSELS

- 820mt (1.8mln lbs) Multi Purpose Tower with active and passive heave compensation
- Moonpool hatch
- Pipe handling system
- Setback drums with pipe handling systems
- Substructure with drill floors
- Riser tensioner system
- Rig cranes and skid systems

## 4

### DYNAMIC POSITIONED DRILL SHIPS

- 2 x 1,090mt (2 x 2.4mln lbs) Multi Purpose Tower with active and passive heave compensation
- Setback drums with multi functional manipulators
- Substructure with drill floors
- Riser tensioner system
- Rig cranes and skid systems

## 1

### SMART SEMI SUBMERSIBLE DRILLING UNIT

- 2 x 820mt (2 x 1.8mln lbs) Multi Purpose Tower with passive heave compensation
- Setback drum with multi functional manipulators
- Huisman topdrive, slips and iron roughnecks
- Riser tensioner system
- Rig cranes and skid systems

## 6

### CONTAINERISED LAND AND OFFSHORE DRILLING UNITS LOC 400

- 1x Substructure including drill floor
- 1x Modular mast 400 sht
- 1x AC drawworks
- 1x Automated pipe handler
- 1x BOP handler
- 1x Containerised mud system
- 1x Well control trailer
- 1x Trailerised mud system
- 2x Power trailers
- 2x Generators

## 1

### MOBILE TRAILERISED AUTOMATED DRILLING RIG HM100

- 1x Mast trailer 100 sht including AC top drive and Double drum drawworks
- 1x Automated pipe handler trailer including Drillfloor with cabin
- 1x Containerised mud system
- 1x Electric AC power unit (vfd)

**“Huisman is continuously exploring and realising new solutions to improve safe and efficient drilling operations.”**





# MODULAR DRILLING RIGS

TRACK RECORD  
6

07  
DRILLING



LOC 250



Name of unit: **Sparta**  
Owner: **Fidelity**  
Delivery: **2005**

LOC 400



Name of unit: **LOC 400**  
Delivery: **2009**

**SCOPE OF DELIVERY**  
**LOC 250 and LOC 400**  
Complete unit including:

- Substructure
- Mast
- Drawworks
- Wire line winch
- Pipe handling system
- Drillers cabin
- Mud treatment unit
- Mud tanks
- Mud pumps
- Electric AC power system
- Control system

**FEATURES**

- Fully automated tripping
- Rig moves in one or two days
- Very small footprint
- Advanced auto driller
- Highly integrated control system

LOC 400



Name of unit: **NGD Rig 405**  
Owner: **New Gen Drilling**  
Delivery: **2013**

# MODULAR DRILLING RIGS

TRACK RECORD  
6

07  
DRILLING



114

Owner: Huisman  
Delivery: 2021

## SCOPE OF DELIVERY

### HM100 Complete unit including:

- Telescopic drilling mast
- AC 100 tons top drive
- AC double drum drawworks
- Drill floor with cabin
- Power slips
- Iron roughneck
- Automatic pipe handling system
- BOP handler
- Well control equipment
- Complete mud system
- Electric power unit
- Generators

## FEATURES

- Fast rig moves 6-8 hrs
- Crane less rig-up
- Fully trailerised
- Highly automated pipe handling  
> 1800 ft/hr
- Advanced auto driller

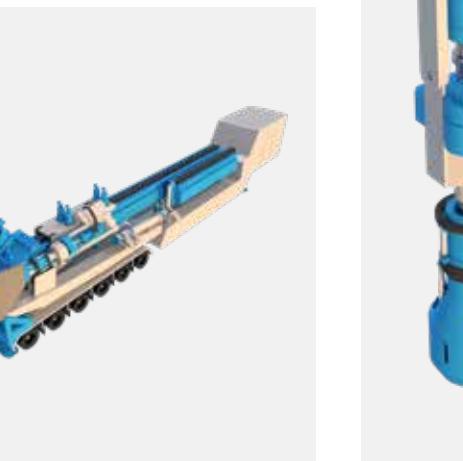


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# MODULAR DRILLING RIGS

TRACK RECORD  
6

07  
DRILLING



## SCOPE OF DELIVERY

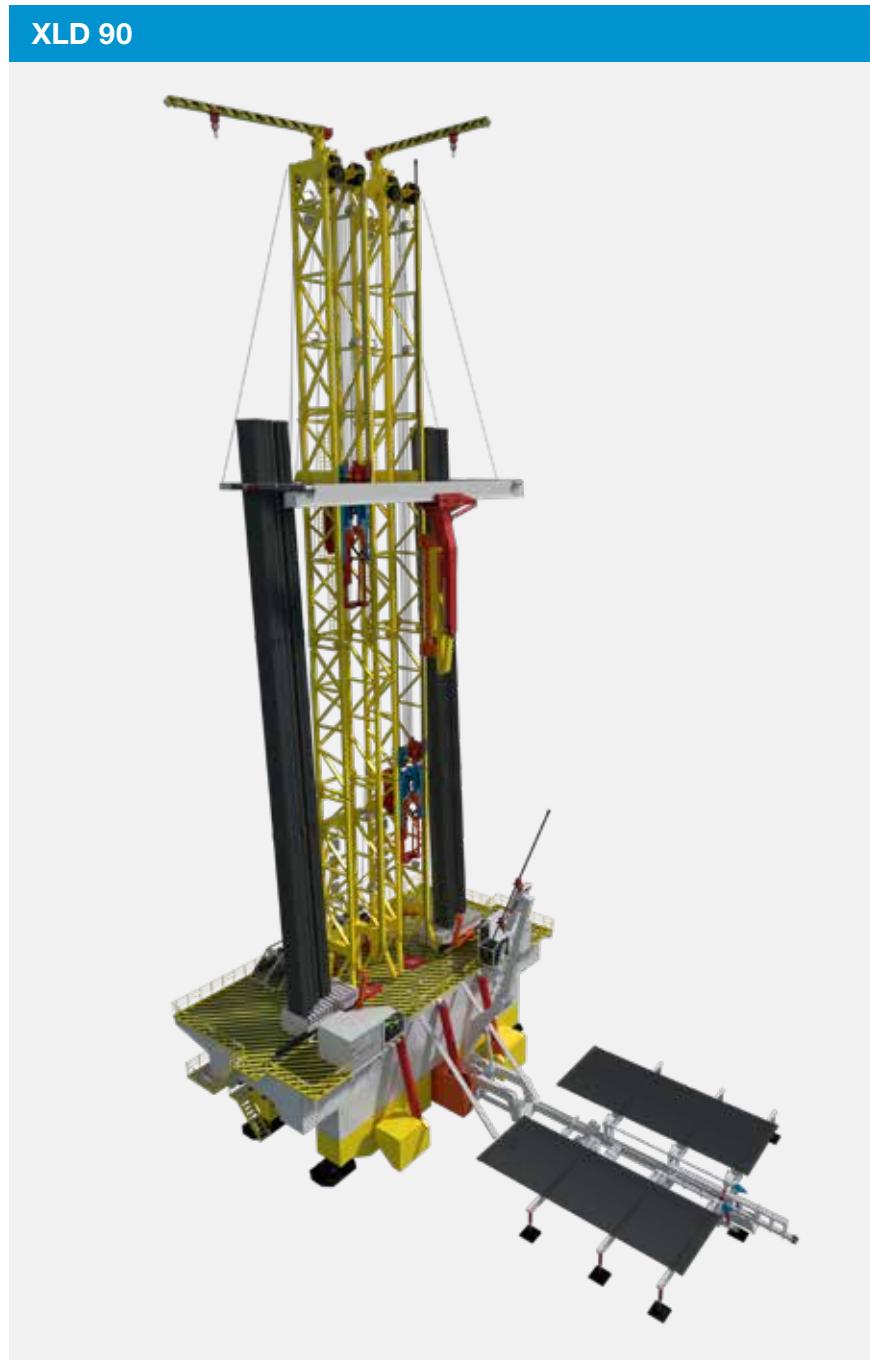
### HMR60-80

- Complete unit including:
- Foldable mast
- Compact rack & pinion drive
- High power top drive
- Integrated pipe handler
- Auto elevator and slips
- Pipe storage trailer
- Power supply trailer

Unit suitable for oil & gas, geothermal projects, and mining exploration

## FEATURES

- Efficient by automated tripping and drilling
- Fast moves
- Compact: only four trailers
- Craneless rig-up



**SCOPE**  
**InnoRig XL90D dual Derrick**  
Complete unit including:

- Dual substructure and mast
- Drill two wells with one equipment set
- Automated hands-off floor
- Large automated setback
- Automated tripping, drilling and casing running system
- Advanced dual BOP handling system
- Shared backyard and power supply system

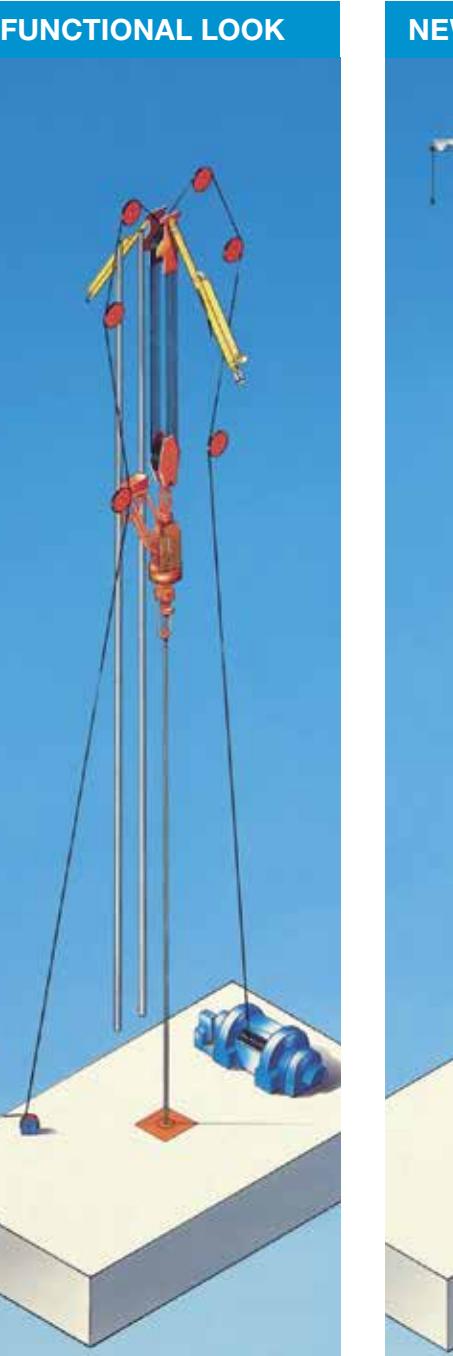


**FEATURES**

- Efficient drilling of deep geothermal wells
- Share one vertical setback for two wells
- Drill two wells with one equipment set
- Or Drill well nr. 01 while set casing on well nr. 02
- Share one crew
- Save time by preparing BOP's offline on next wells

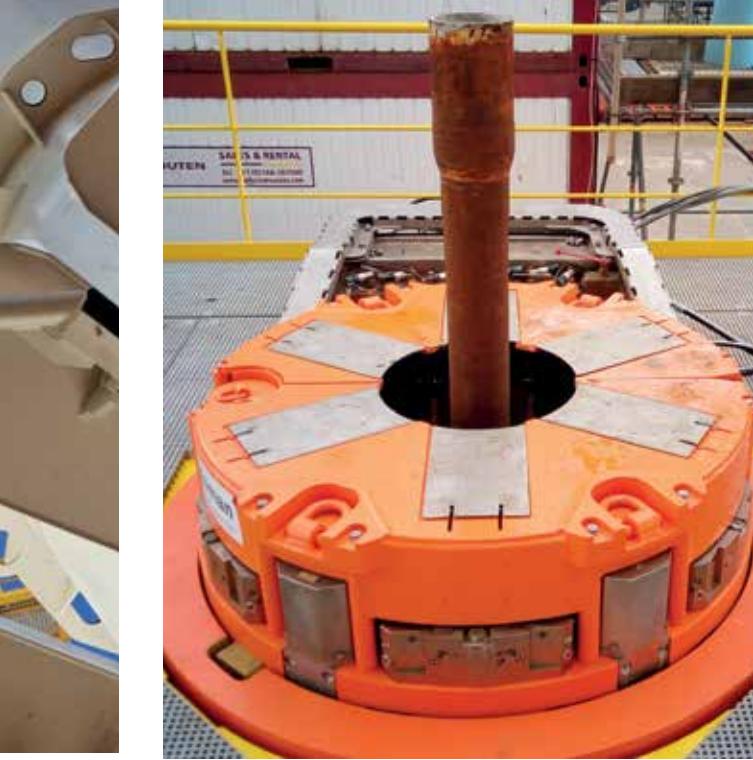


# MULTI PURPOSE TOWER



## FEATURES

- The Multi Purpose Tower can be outfitted with one or two hoist systems (dual MPT) for heavy offline activities
- Capacities up to 3,6mln lbs
- Height under crown up to 250ft (180ft stands)
- Travelling block can be split from 24 to 20, 16, 12, 8 or 4 falls. Splitting is a push-button operation. Splitting is achieved by detaching pairs of sheave blocks from the travelling block and attaching them to the crown-block
- No V-door limitation: free access from all sides
- Optional bolted flange connection allowing to pass the Panama Canal, Suez Canal and Bosphorus bridges
- Fully robotic
- Dual drum draw works
- Huisman independent load path topdrive
- Huisman wide-range autoslip





# DRILL SHIPS

**1,090MT DUAL MULTI PURPOSE TOWER**



Vessel: **Noble Bully I**  
Vessel: **Noble Bully II**  
Owner: **Noble Drilling/Shell**  
Delivery: **2010/2011**

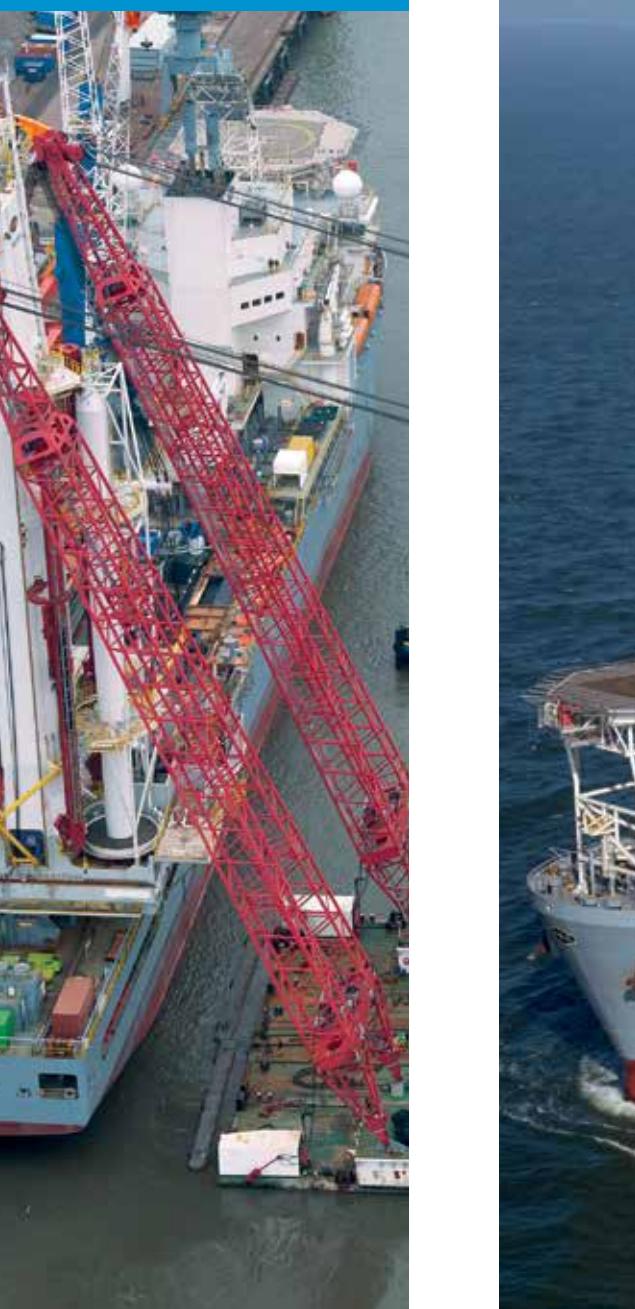
Winner of the Shell 'Global Floater Rig of the Year' award. Noble Bully I (GoM): Rig of the year 2013, Noble Bully II (Brazil): Rig of the year 2014.

#### SCOPE OF DELIVERY

- 1,090/550mt (2.4/1.2mln lbs) Dual Multi Purpose Tower with active and passive heave compensation
- Complete pipe handling system including rotating setback drums and pipe rackers
- Riser tensioner system
- BOP skid cart
- X-mas tree skid cart

- BOP gantry crane
- X-mas tree gantry crane
- Riser handling crane
- Pipe handling gantry crane
- Pipe hold overhead crane
- Riser catwalk machine
- Tubular catwalk machine
- 2x 100mt pedestal crane

**2X 1,090MT DUAL MULTI PURPOSE TOWER**



Vessel: **Noble Globetrotter I**  
Vessel: **Noble Globetrotter II**  
Owner: **Noble Drilling**  
Delivery: **2012/2013**

#### FEATURES

- Pay load 20,000mt
- Displacement 54,000mt
- Lower substructure
- Water depth 10,000ft (3,000m)
- Large open deck space

#### SCOPE OF DELIVERY PER VESSEL

Conceptual and basic design of complete vessel including stability, hull construction, seakeeping analysis, motion analysis, power plant, auxiliary systems, accommodation etc.

- MPT's top removable for bridge passage
- 2x 1,090mt (2x 2,4mln lbs) Dual multi purpose tower with active and passive heave compensation
- Complete pipe handling system including rotating setback drums and pipe rackers
- Substructure including drill floor
- Hoistable construction floor
- 2x riser / tubular catwalk machine
- Riser tensioner system
- Moon pool skid cart
- BOP skid cart
- X-mas tree skid cart
- Test stump elevator
- 185mt Pedestal mounted offshore crane with active heave compensation deep water hoisting system
- Riser handling crane
- 80mt Pedestal crane
- Pipe handling knuckle boom crane
- 2x Pipe hold overhead crane





# DRILLING SEMI-SUBMERSIBLE

TRACK RECORD  
1

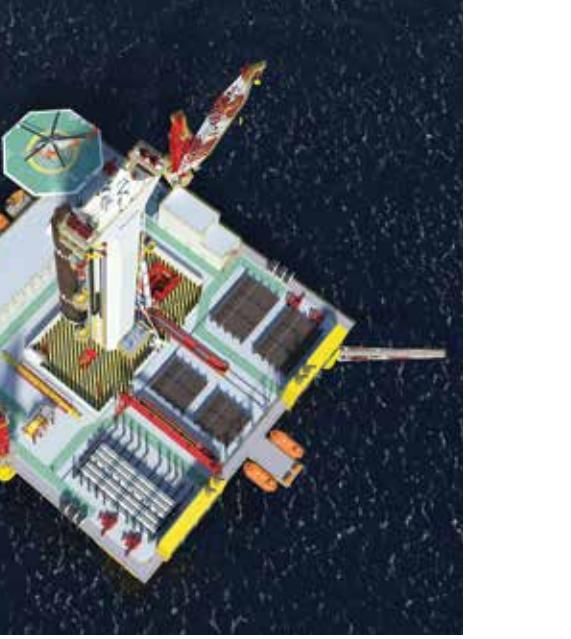
07  
DRILLING



Vessel: Drilling semi-sub TBN  
Owner: CMHI  
Delivery: 2020

## SCOPE OF DELIVERY

- 820/820mt (1.8/1.8 mln lbs) Dual Multi Purpose Tower with passive heave compensation
- Huisman topdrive
- Robotic pipe handling system including rotating setback drum and multi functional manipulators
- Huisman iron roughneck
- Riser gantry crane
- Riser tensioner system
- Catwalk machines
- Riser spider
- BOP skid cart
- Deck skid system
- Moonpool skid cart
- 60mt Pedestal crane
- 80mt Pedestal crane



## HUISMAN INDEPENDENT LOAD PATH TOPDRIVE

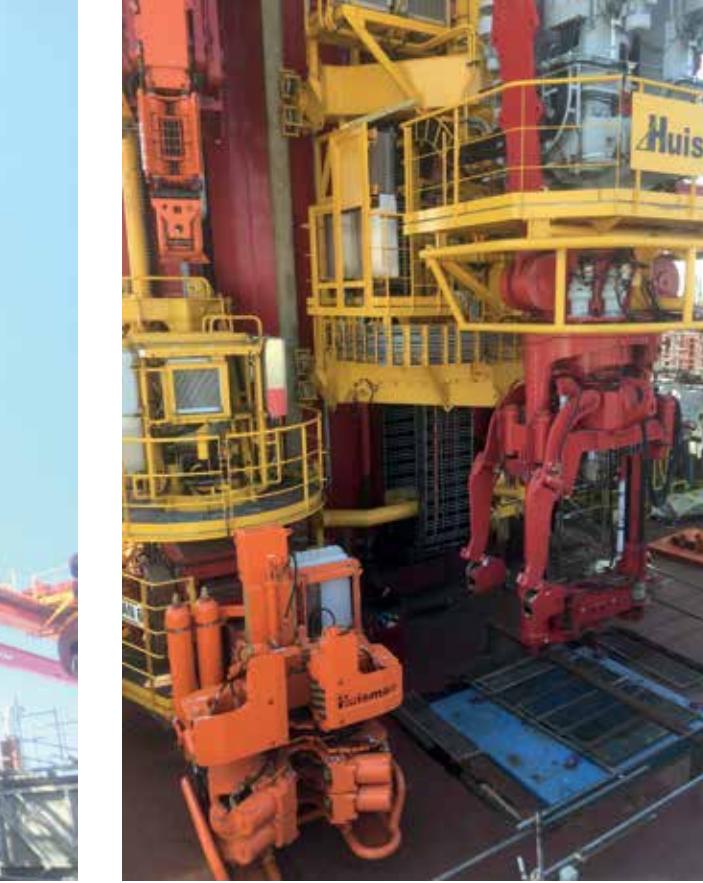
The Huisman Topdrive has an independent loadpath: the axial load from the tubular string never goes through the gearbox. Also, when tripping the pipe, the load from the elevators does not go through the quill. For this purpose, a patent pending, coaxial thrust bearing system is designed. The Huisman Topdrive is a modular designed topdrive with easy to maintain and replace components. When properly planned a costly major overhaul after three or five years can be avoided. The sheave assembly can be swung away for simple crane access to the topdrive parts.

Most topdrive models have four E-motors which can be clutched in and out when required. This provides increased redundancy and an adjustable inertia for optimised soft/Z-torque performance. The quill is mounted floating in the topdrive providing ultra precise thread compensation. Further the Kelly hose is hung off from the trolley eliminating load variation when hoisting or lowering the topdrive. Glass fibre optic load measurement provides +/- 0.1% accurate load measurement.



## HUISMAN IRON ROUGHNECK

The Huisman Iron Roughneck is designed for ultra-fast make-up and break-out, saving two days per year (based on 30,000 stands tripped). High performance spinner and extend wrench rotation avoids multiple jaw grips. The make-up wrench is rack and pinion driven, providing constant, measurable, torque. The complete



make-up and break-out cycle can be activated by a single button push or can be integrated in full AutoTripping system. Backup controls are mounted on the Iron Roughneck itself.

Increased drill pipe life time because of minimised tool joint damage by three grip jaws and torque dependent squeeze pressure.

The spinner can be used as stabbing guide reducing thread damage and enabling AutoTripping. The spinner can swing away for making up stabilisers for easy BHA make up.

The IRN module is mounted on a multi functional manipulator and can function as raised backup system and can break connections at height.

# HARSH ENVIRONMENT GREEN SEMI SUB



## INTRODUCTION

As fossil fuels will remain part of the energy mix in the near future, drilling will be required. Huisman is committed to perform these drilling operations in the greenest possible way. The emissions of a drilling rig are a product of the number of days required per well, the energy consumption per day and the type of energy used.

To reduce the number of days per well, the drilling operations have to be performed in an efficient, consistent, manner. This is achieved by robotic logistics (drilling system and deck logistics). Further Waiting on Weather (WOW), which can range from 15 to 35%, is reduced by a.o. introducing the Heave Compensated Floor (HCF), skidding operations and controlled BOP handling.

The emissions per day are reduced by a less wind loading, a highly efficient hybrid electric energy system which reuses regenerated energy, a zero-power active heave compensation system, a proportional electric power control (instead of on/off) and other features.

The rig can be powered with external electrical power via a cable connection to nearby electrified platforms. Alternatively, the rig can be powered by two floating wind turbines. Further alternative fuels, such as green methanol, can be used.

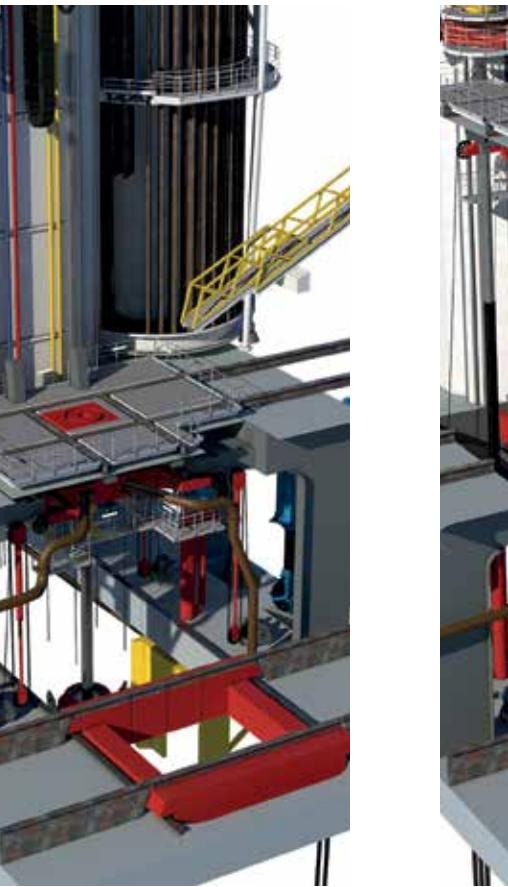
## Heave Compensated Floor

In certain fields (e.g. Barents Sea, partially depleted reservoirs, etc.) Managed Pressure Drilling (MPD) might be required or advanta-



geous. MPD on floaters is difficult as heave causes downhole pressure fluctuations. This applies to both surface back pressure and controlled mud level type MPD systems. Also completion tubing cannot be run in heavy seas as the heave motion of the tubing in the well, when hung off in the slips, causes damage to the completion tubing and control lines.

By introducing the Heave Compensated Floor (HCF), a movable drill floor which can heave compensate the tubulars when hung off in the slips, creates a way of handling tubulars which is heave compensated 100% of the time, eliminating the problems described above. Also the HCF can act as a heave compensated tension frame, with ample safe access, for work over operations.



## MODE 1

Conventional fixed to vessel mode

## The HCF can work in 3 modes:

1. Conventional fixed to vessel mode; the floor is lowered flush with the main deck, providing safer and more efficient logistics. Various objects (e.g. the riser spider) can be easily skidded onto the floor to the well center. Also the wind profile of the rig is smaller, lowering the DP requirements and power consumption.

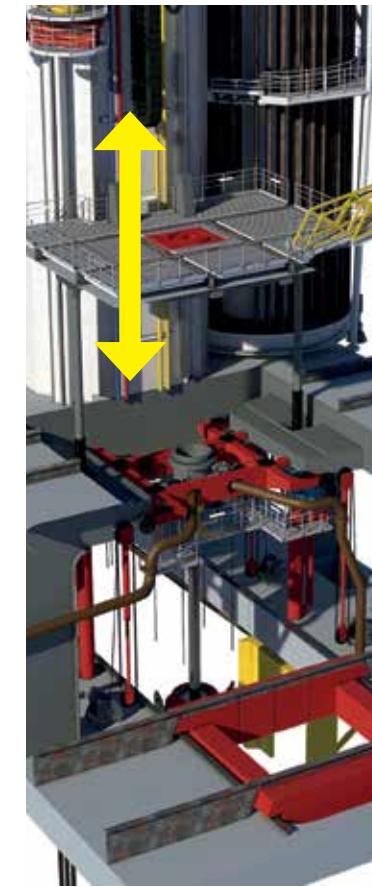


## MODE 2

Raised mode

## MODE 3

Heave Compensated mode



## MODE 3

Heave Compensated mode

2. Raised mode; the floor is maximum raised creating space for skidding and launching large objects, such as the BOP or subsea mud lift pump. The floor acts as a 'temporary substructure', eliminating the need for a fixed raised substructure.
3. Heave Compensated mode; hydraulic cylinders compensated the heave motion of the rig. The floor is stationary above the seabed. Riser tensioners support the riser.

## FEATURES OF THE HARSH ENVIRONMENT GREEN SEMI SUB

- Robotic drilling system
- Fully automated tripping
- Unmanned drill floor, flush with deck
- No permanent raised substructure
- Unique heave compensated drill floor
- Central operating room
- Large functional deck space
- Safe, avoiding swinging crane hooks
  - Robotic cranes
  - On deck skid systems
  - Fully hands off deck handling
- Green
  - Less days per well
  - Zero emission heave compensation system
  - Hybrid power system
  - External power connection
- Digital by design
  - AutoMud, digital mud rheology
  - AutoDriller, digital tally list, downhole connect
  - AutoConnect, digital torque-turn
  - AutoCondition, digital wire monitoring, etc
  - AutoHandling, autonomous deck skidding, hands off lifting from supply vessels
- Less persons on board
  - Robotics: no men on drill floor
  - Autonomous logistics: less man on deck
  - Automud: less man on mud systems
  - Equipment inside: less maintenance
  - Integrated services: reduce 3<sup>rd</sup> parties
  - Central operating room: less control personnel, remote (beach) control



# WELL INTERVENTION MONOHULL

TRACK RECORD  
3

07  
DRILLING



180MT WELL INTERVENTION SYSTEM



Vessel: Well Enhancer  
Owner: Helix Energy Solutions  
Delivery: 2009

**SCOPE OF DELIVERY**

- 180mt (400,000 lbs) Multi purpose tower
- Deepwater winch with 3,000m 76mm wire rope
- Active heave compensation system
- Guide and pod line system



800MT WELL SERVICE MONOHULL



Vessels: Siem Helix I  
Siem Helix II  
Owner: Helix  
Delivery: 2016

**SCOPE OF DELIVERY**

- 800mt (1,8mln lbs) Multi Purpose Tower with active and passive heave compensation
- Moonpool hatch
- Pipe handling Knuckle Boom Crane
- Catwalk machine





# WELL INTERVENTION SEMI SUB

TRACK RECORD  
3

07  
DRILLING



800MT WELL INTERVENTION SYSTEM



Vessel: Q7000  
Owner: Helix  
Delivery: 2016

#### SCOPE OF DELIVERY

- 800mt (1.8mln lbs) Multi Purpose Tower with active and passive heave compensation
- Guide wire system
- 150mt Knuckle Boom Crane
- 160mt Pedestal Crane
- Moonpool skid cart
- Riser tensioner system
- 150mt Deck skid system

800MT WELL INTERVENTION SYSTEM



Vessel: Q4000  
Owner: Helix Energy Solutions  
Delivery: 2001

#### SCOPE OF DELIVERY

- 800mt (1.8mln lbs) Multi purpose tower with active and passive heave compensation
- 360mt Deepwater Mast Crane
- 160mt Pedestal Crane



# CUSTOMISED SOLUTIONS



130

Huisman is well geared for the development of pioneering solutions because of our innovative and flexible solution-oriented thinking. Huisman has all disciplines in house from engineering, production, commissioning, testing facilities to installation locations.

We have a long successful track record in many different applications, in particular: salvage, civil works, rock dumping, and deep water installation. In 1986, the leisure industry noticed the advantages of our experience in heavy lifting techniques, which resulted in the supply of various powerful amusement park rides.

## CUSTOMISED SOLUTIONS

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# OUR TRACK RECORD

Per June 2022

08

CUSTOMISED SOLUTIONS



## SALVAGE

Huisman has delivered equipment and services for many famous salvage projects such as the Russian nuclear submarine 'Kursk', the car transport vessel 'Tricolor' and 'Prestige' oil recovery.



## CIVIL WORKS

Civil Works comprises heavy lifting, transport and lifting equipment which is well suited for the core of the competences of Huisman.



## ROCK DUMPING UNITS

Huisman has supplied several custom-made rock dumping units and ROV systems for subsea pipeline protection.



## LEISURE

Huisman supplied various powerful amusement park rides, including an earthquake motion simulator. For the New York wheel, Huisman supplied the hub and spindle, A-frames, drive towers and rigid spokes for build-up to client Mammoet and delivered two Sky Shuttles, in cooperation with Vekoma Rides Manufacturing B.V.



**"Huisman is the perfect match for the leisure and amusement industry. Our quality and safety standards comply with the strict requirements of our clients."**



# ANCHOR HANDLING AND TOWING

## 400MT ANCHOR HANDLING AND TOWING SYSTEM



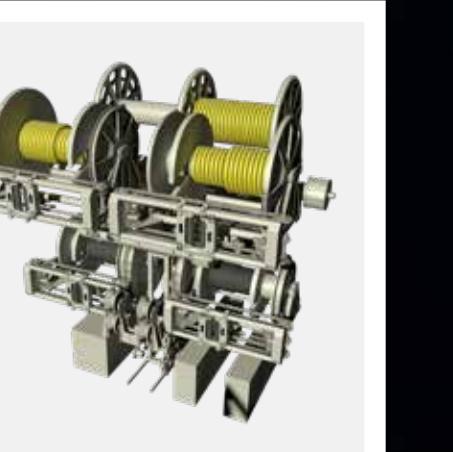
Vessel: CBO Bossa Nova, CBO Parintins, CBO Iguaçu, CBO Xavantes, CBO Cabralia, CBO Terra Brasilis

Owner: CBO

Delivery: 2016 - 2018

### SCOPE OF DELIVERY

- 400mt Anchor handling & towing winch
- 2x 120mt Secondary winches
- Set of cable lifters



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### EMERGENCY RELEASE FUNCTION

To assure vessel safety during harsh offshore conditions with the risk of dangerous forces jeopardising the vessel stability, an emergency release function is provided.

A water-cooled clutch unit that allows controlled release of the winch drums is integrated in the winch drive train. And with the possibility to regain control over the wire or chain when the vessel is back in stable position. This feature complies with new requirements with regard to response time and residual line tension.

### ADJUSTABLE OVERLOAD PROTECTION SYSTEM

This allows the winch operator to set the maximum allowable line pull. If the line pull surpasses the set point, the clutch will slip and the winch will briefly pay out line. As soon as the line pull falls below the set point, the drum will stop slipping and the AHT operation continues normally. Therefore, in an anchor & deployment line configuration consisting of multiple lines with various breaking loads, the set point can be set to safe the weakest link.

### SCOPE OF DELIVERY

Huisman has developed a full range of Anchor Handling and Towing winch systems, ranging from 200 up to 800mt line pull and can provide the following components:

- Anchor handling winches
- Towing winches
- Secondary winches
- Storage winches
- Anchor launch & recovery system
- Cable lifter exchange system
- Cargo rail cranes
- Various deck equipment

# TIDAL

## 1.2MW TIDAL POWER PLANT



Name of system: **1.2MW Tidal Power Plant**  
Location: **Oosterschelde**  
Delivery: **2015**

### FEATURES

- Design and construction of 1.2MW Tidal Power Plant on the Oosterschelde Surge Barrier
- The Tidal Power Plant has an innovative design combining water management and renewable energy. The Tocardo Turbines will generate electricity for approximately 1,000 households



# GRAVITRICITY

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### GRAVITRICITY

While the amount of renewable energy added to our power grids is daily rising, the instability of the grids is also increasing day by day. This instability is mitigated by frequency response applications. Gravitricity is based on a simple principle: raising and lowering a heavy weight in a deep mineshaft to store and release energy.

Huisman has been performing full electric lifting and lowering of large loads since 1984 and uses various solutions to stabilise the power system of offshore vessels (basically stabilising the power grid). Gravitricity and Huisman share the ambition to further develop this principle for land grids into a step changing solution.

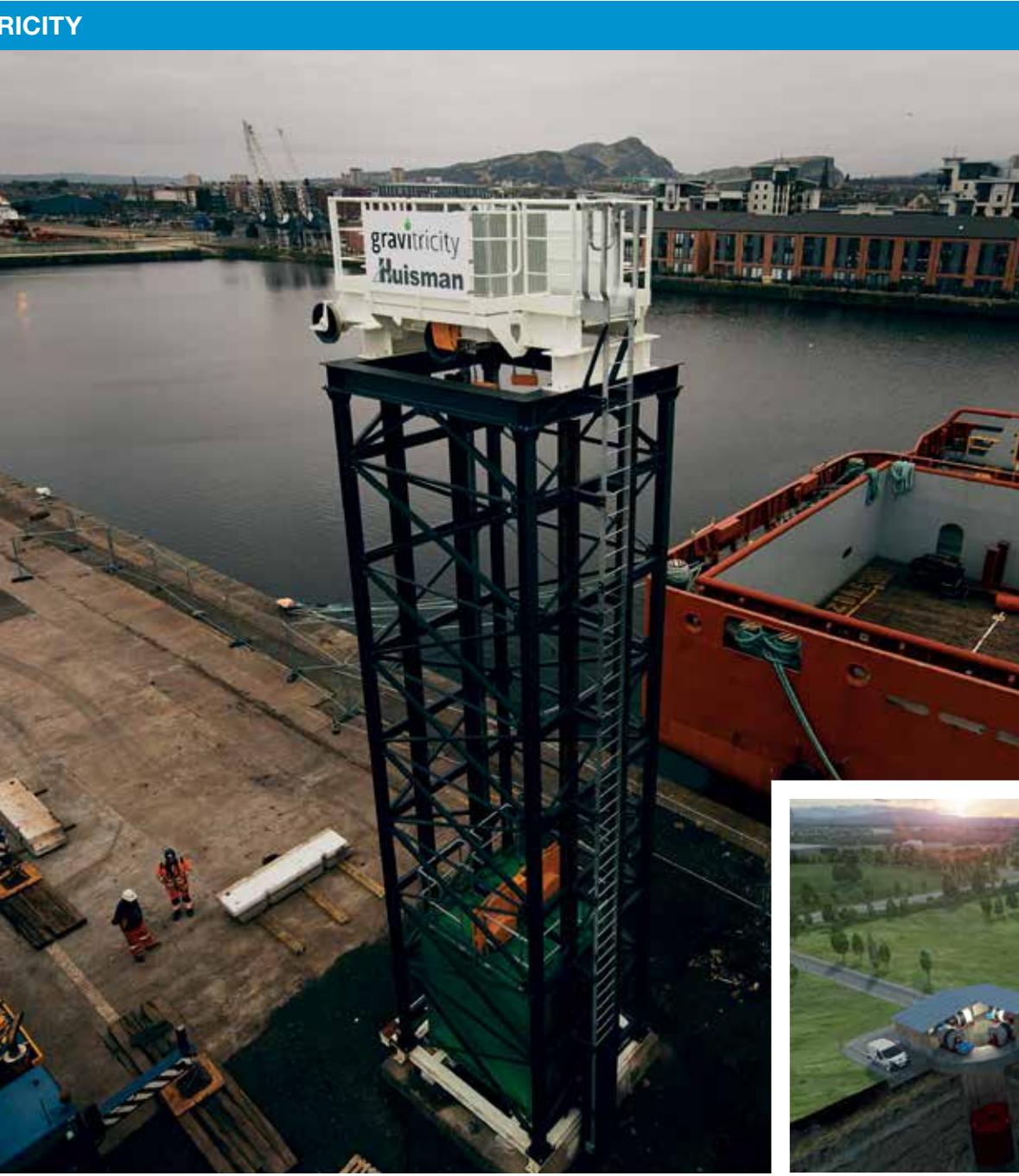
### 250kW DEMONSTRATOR

The 250kW energy storage demonstrator was installed in Edinburgh in 2020. The system demonstrates the Gravitricity working principle and its commercially important output characteristics and grid compatibility.

After successful testing, a full-scale prototype will be installed in a European mineshaft by 2022.

### FEATURES

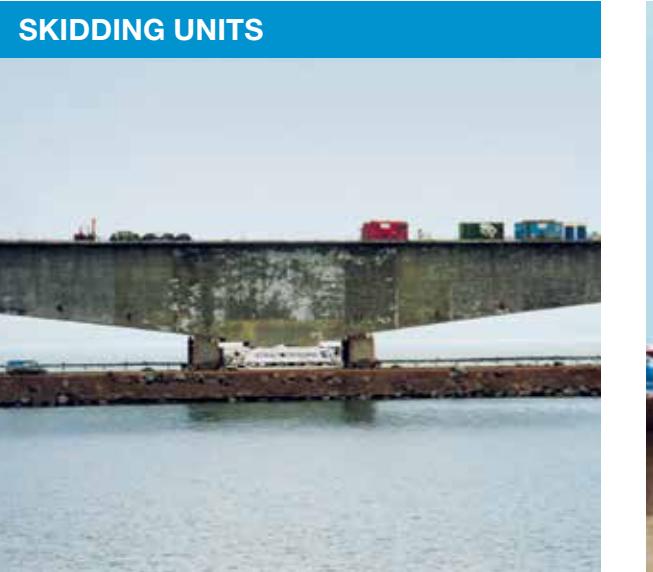
- Rig height: 15 metres
- Weights: 2 x 25 tonnes
- Weight composition: steel vessels filled with high density aggregate
- Cables: steel
- Stroke: 7 metres
- Time to drop (full power - 250kW) - 14 seconds - 0.6 m/s (1.3 mph)
- Half power (125kW) - 28 seconds





# CIVIL WORKS

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Name of units: **Turtle, Lobster**  
Owner: **Strait Crossing**  
Delivery: **1995**



**FEATURES**  
■ Maximum load 8,500mt  
■ Systems can make 90° turns



Vessel: **Svanen**  
Owner: **Van Oord**  
Delivery: **1990/1997**



**FEATURES**  
■ 2x 3,250mt Lifting beams  
■ 7,000mt Lifting frame



# SALVAGE EQUIPMENT

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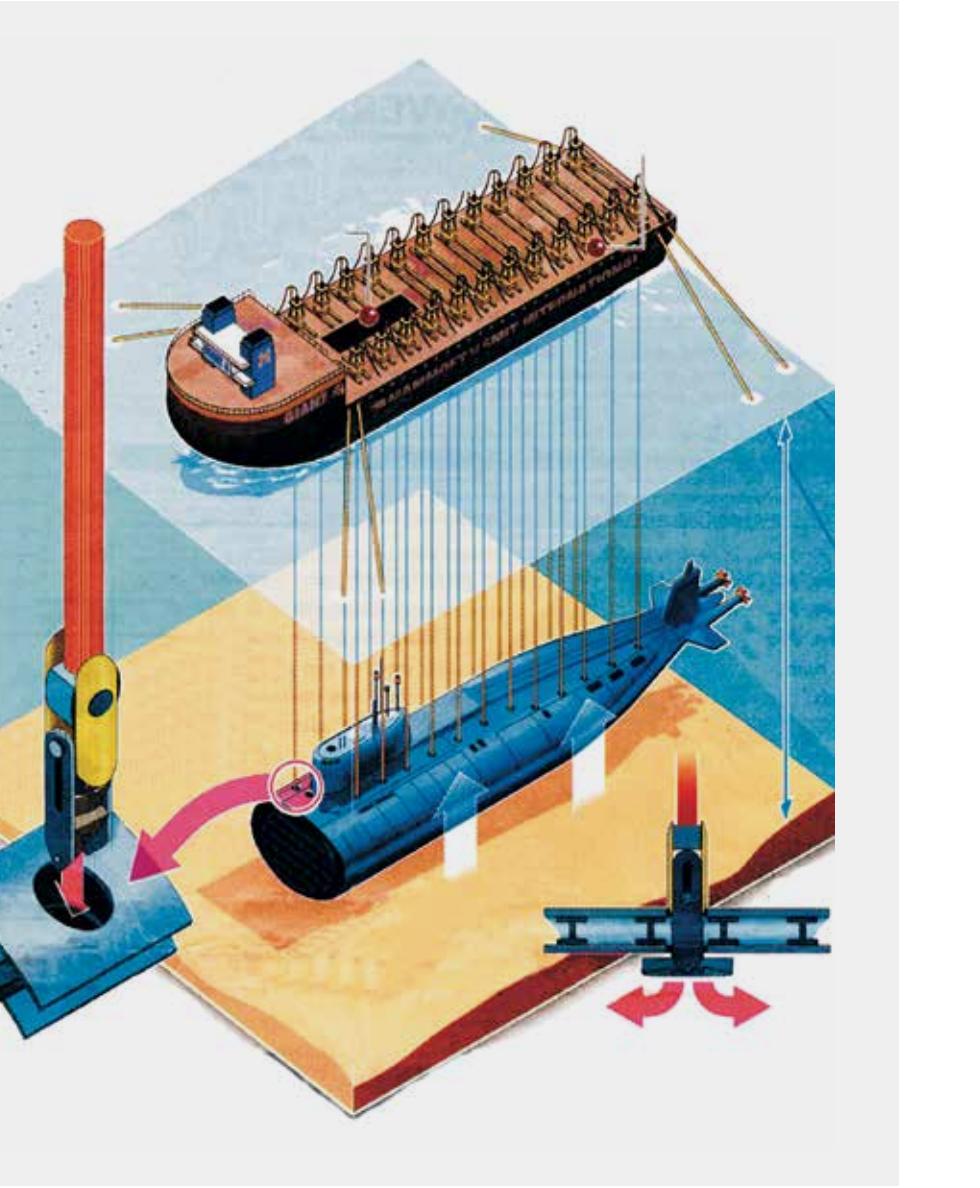


## SALVAGE GRIPPER SYSTEM



Owner: Mammoet  
Delivery: 2001

- FEATURES**
- SWL 900mt each gripper
  - Combined load over 40,000mt



## SAWING SYSTEM



**Salvage Tricolor**  
Owner: Smit  
Delivery: 2003

Sawing system, consisting of winches and control systems to cut vessel structures.



# ROCK DUMPING UNIT

ROCK DUMPING UNIT



Vessel: **Seahorse**  
Owner: **Boskalis**  
Delivery: **1999**

#### FEATURES

- Rock dumping tower with hoist winches
- Pipe rack crane
- Umbilical winches
- Grab hoist crane

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DEEPWATER ROCK DUMPING UNIT

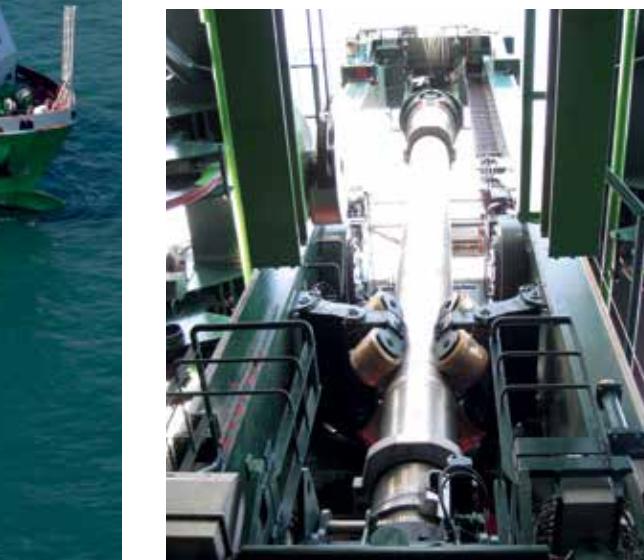


Vessel: **Flintstone**  
Owner: **Tideway**  
Delivery: **2011**

#### FEATURES

- Gimballing rock dumping tower with hoist winches
- Pipe rack and pipe loader crane
- Electric heave compensated umbilical winches
- Electric energy storage system
- Fully automated fall pipe handling system

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# ROCK DUMPING UNIT

## ROCK DUMPING UNIT



Owner: GLDD  
Delivery: 2024

### MAIN SPECIFICATIONS

- 15m to 60m operational; water depth Ø1,500mm fall pipe
- Up to 1,500 mt / hr rock discharge rate

### FEATURES

- Motion compensated inclined fall pipe
- Telescopic pipe section
- Obstacle avoidance sensors

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# MOTION COMP. CABLE LAY SYSTEM

## MOTION COMPENSATED CABLE LAY SYSTEM

NEW CONCEPT



### FEATURES

- Fully mechanised Quadrant handling
- Quadrant cursor system
- Modular design, short mobilisation time
- Straightening Quadrant
- Controlled Touchdown Point Location
- Synchronised Pull-In Winch
- Reduced risk of cable failure during trenching
- Efficient CPS storage system
- Adjustable to cable repair spread

### TECHNICAL SPECIFICATIONS

#### General

- Maximum line pull including dynamics 35 m
- Minimum product OD 50 mm
- Maximum product OD 500 mm
- Minimum bending radius product (in tension) 5 m

#### Motion Compensation System

- Total Vertical Compensation Stroke: 5 meter

#### Product Storage

- Cable capacity 2 x 6,000 m. The storage capacity can be tailored to your requirements and vessel specifications.

#### Dimensions

- Length 60 m

# HANG-OFF AND UPEND SYSTEM



## SUBSEA INSTALLATION

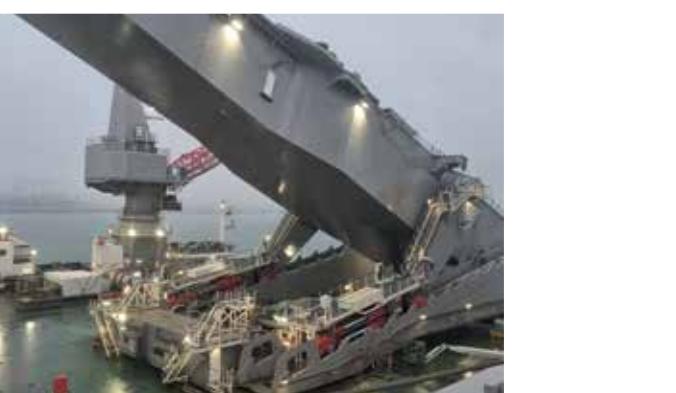
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Name: Allseas Hous  
Owner: Allseas

### FEATURES

- Engineering, fabrication and delivery of 4x 8,000mt skidding systems for Jacket Lift System



Vessel: Development Driller III  
Owner: Transocean  
Delivery: 2010

### SCOPE OF DELIVERY

- 125mt Subsea installation winch
- 2,750m of 80mm Wire rope
- Active heave compensation
- Hang-off platform



# LEISURE

## NORTH STAR GONDOLA RIDE



Vessel: Spectrum of the Seas  
Owner: Royal Caribbean Cruises  
Delivery: 2019