THE POWER OF PREPARATION

WHITEPAPER | JANUARY 2025

SL900 MODULAR LIFTING SYSTEM WHITEPAPER

INTRODUCTION

The offshore heavy lift industry has long been reliant on specialized heavy lift vessels to transport and install massive infrastructural components.

However, with an increasing demand for offshore construction, the limitations of heavy lift vessels have become more apparent. Scarcity, high costs, and scheduling challenges are just a few of the obstacles that have made traditional heavy lift vessels increasingly difficult to rely on.

In response, modular lifting systems are emerging as a game-changing solution. Offering flexibility, cost-efficiency, and customization, these systems are ready to transform how heavy lift projects are executed offshore, providing a more agile approach to construction that can better meet the demands of the industry.

This whitepaper explores how modular lifting systems can address the challenges faced by the offshore heavy lift sector and the potential benefits they bring to the table.

TRANSFORMING OFFSHORE LIFTS

Modular lifting systems are poised to revolutionize the offshore heavy lift industry by providing flexible, cost-effective, and efficient alternatives to traditional heavy lift vessels. These systems can be customized to meet specific project requirements, allowing for greater control over construction planning and execution.

Why do we need alternatives to heavy lift vessels?

The need for alternatives to heavy lift vessels arises from several factors.

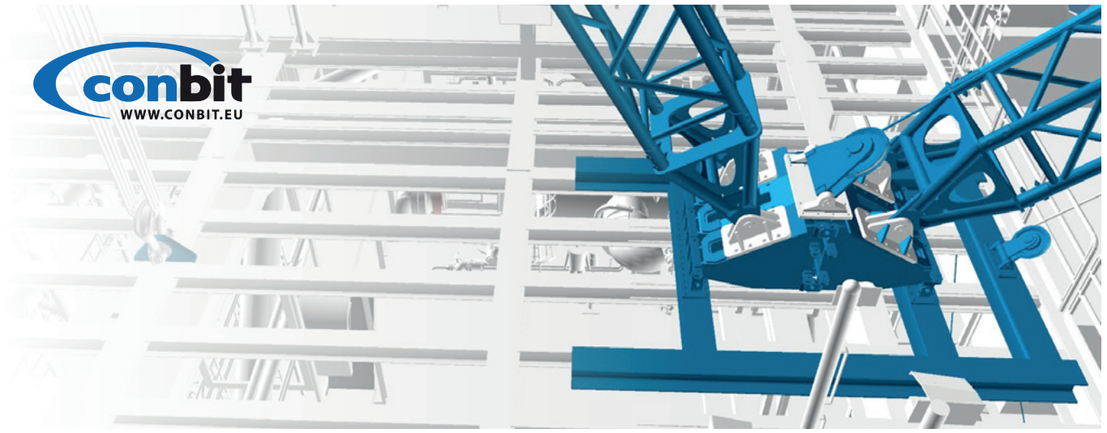
The scarcity of these vessels.
The scarcity of heavy lift vessels has become a significant challenge for the offshore construction industry. As the demand continues to rise, the availability has not kept pace. This leads to increased competition for vessel bookings, resulting in higher costs and potential project delays.

Increased demand for offshore construction.
The offshore construction industry is experiencing a surge in demand, driven by the need for new infrastructure and the expansion of existing facilities. This increased demand has put additional pressure on the availability of heavy lift vessels, exacerbating the challenges associated with their scarcity.

High costs
Heavy lift vessels need to be booked well in advance, leading to project delays and increased costs associated with early commitment to heavy lift contractors.

Additionally, heavy lift contractors may pull out of a project just before the offshore campaign starts, further complicating project planning and execution.

Modular lifting systems offer a solution to these challenges by providing greater flexibility and control over construction planning, reducing dependency on heavy lift vessels and mitigating the associated risks and ensure timely and cost-effective project completion.



THE ADVANTAGES OF MODULAR LIFTING SYSTEMS

Modular lifting systems offer several advantages over traditional heavy lift vessels, including schedule flexibility, unlimited availability, and reduced project budgets. These systems can be mobilized well in advance, ensuring that installation equipment is not on the critical path. Their modular design allows for easy customization to meet specific project requirements, providing greater control over construction planning and execution. Additionally, the investment costs for modular lifting systems are significantly lower than those for crane vessels and heavy lift vessels, making them a cost-effective alternative for offshore projects.

Schedule flexibility

These systems can be mobilized well in advance of the offshore campaign, ensuring that installation equipment is not on the critical path. This flexibility allows project managers to optimize their schedules and resources, reducing the risk of delays and ensuring timely project completion.

Unlimited availability

Modular lifting systems can be manufactured to meet demand, this ensures availability when needed. The investment costs are significantly lower than crane vessels and heavy lift vessels, making them a cost-effective alternative for offshore projects.

Project control

With modular lifting systems, the main contractor or asset operator remains in control over the construction planning. These systems can be installed whenever needed, providing greater flexibility and control over project execution. This allows project managers to optimize their schedules and resources, ensuring that all aspects of the project are managed effectively.

Reduced budget required

Modular lifting systems can significantly reduce project budgets by eliminating the need for expensive heavy lift vessels. These systems provide greater control over construction planning and execution, helping project managers optimize resources, reduce overall costs, and achieve project goals with a reliable and affordable solution.

HISTORY OF OFFSHORE USAGE OF MODULAR LIFTING SYSTEMS

Modular lifting systems have demonstrated their reliability and versatility in numerous offshore projects, providing a cost-effective and efficient alternative to traditional heavy lift vessels. They have been used to replace flare tips, perform lifts on offshore structures, and handle loads up to 20mT.

Flare tip replacement

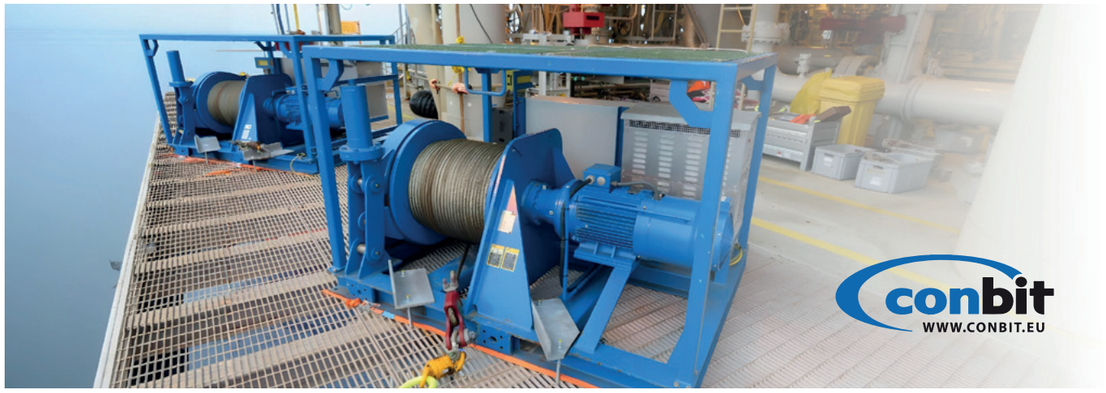
Modular lifting systems have been successfully used to replace flare tips, offering a safer and more cost-effective alternative to scaffolding and helicopter lifting. The use of these systems for flare tip replacement demands a very fast turnaround time, as the replacement is critical during a shutdown. Operators tend to make the shutdown as short as possible to minimize production losses. Modular lifting systems provide a reliable and efficient solution for flare tip replacement, ensuring that the shutdown is completed quickly and safely.

Performing lifts

Modular lifting systems are also used for lifts on offshore structures, moving components from the laydown area to the final installation location. This method is often used for replacing valves or other smaller equipment that needs to be installed inside the platform. The versatility and precision of modular lifting systems make them ideal for these types of lifts, ensuring that components are installed safely and efficiently.

High-speed winches

Modular lifting systems have been used for offshore lifts up to 20mT, with the introduction of high-speed winches enabling the installation of modules such as lifeboat davits, living quarter modules, and other skids. The SL500 series of Conbit is an example of a modular lifting system that has been successfully used for these types of lifts. These systems provide a reliable and efficient solution for offshore lifting, ensuring that modules are installed safely and accurately.

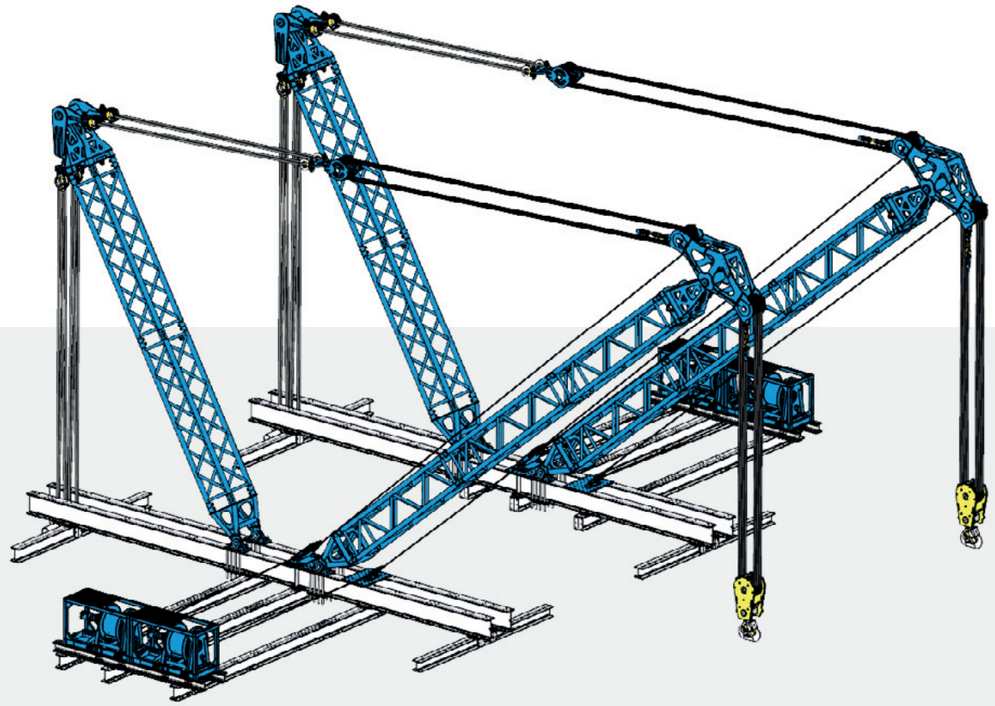


SL900 LIFTING SYSTEM – THE NEXT GENERATION

In 2024 Conbit launched its SL900 Lifting System which allows larger offshore lifts, directly from supply vessels and installation on offshore structures. Lifts up to 150mT can be performed with the single boom configuration, the double boom configuration can lift up to 250mT. The introduction of the SL900 Lifting System marked a significant advancement in modular lifting technology.

The SL900 Lifting System provides a true alternative to crane vessels, offering a reliable and cost-effective solution for one-off installation projects. While crane vessels are suitable for larger loads or projects with a lot of repetition, the SL900 Lifting System provides a more flexible and efficient option for projects with unique lifting requirements. Its modular design allows for easy customization to meet specific project requirements, providing greater control over construction planning and execution.

The SL900 Lifting System is a modular and adaptable solution designed to meet the diverse needs of offshore lifting projects. It offers two primary configurations: the single boom and the double boom, each with its own technical advantages and applications.



THE SL900 - SINGLE BOOM CONFIGURATION

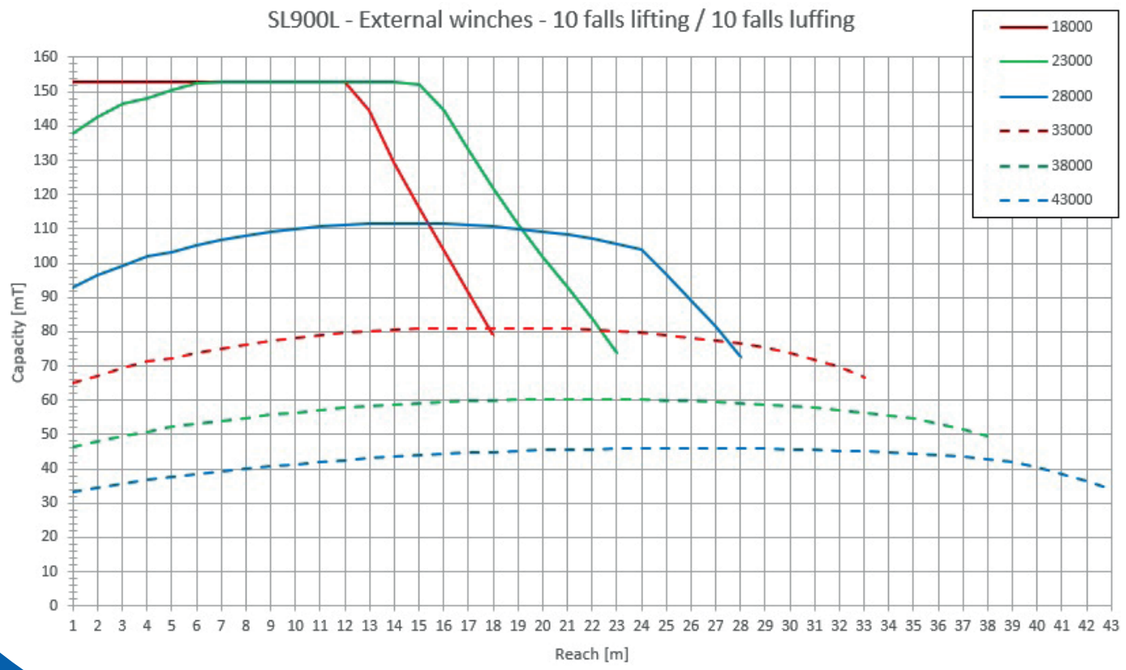
The single boom configuration of the SL900 Lifting System is designed for flexibility and efficiency. This configuration is particularly suitable for projects where space is limited or where the lifting requirements are not excessively heavy.

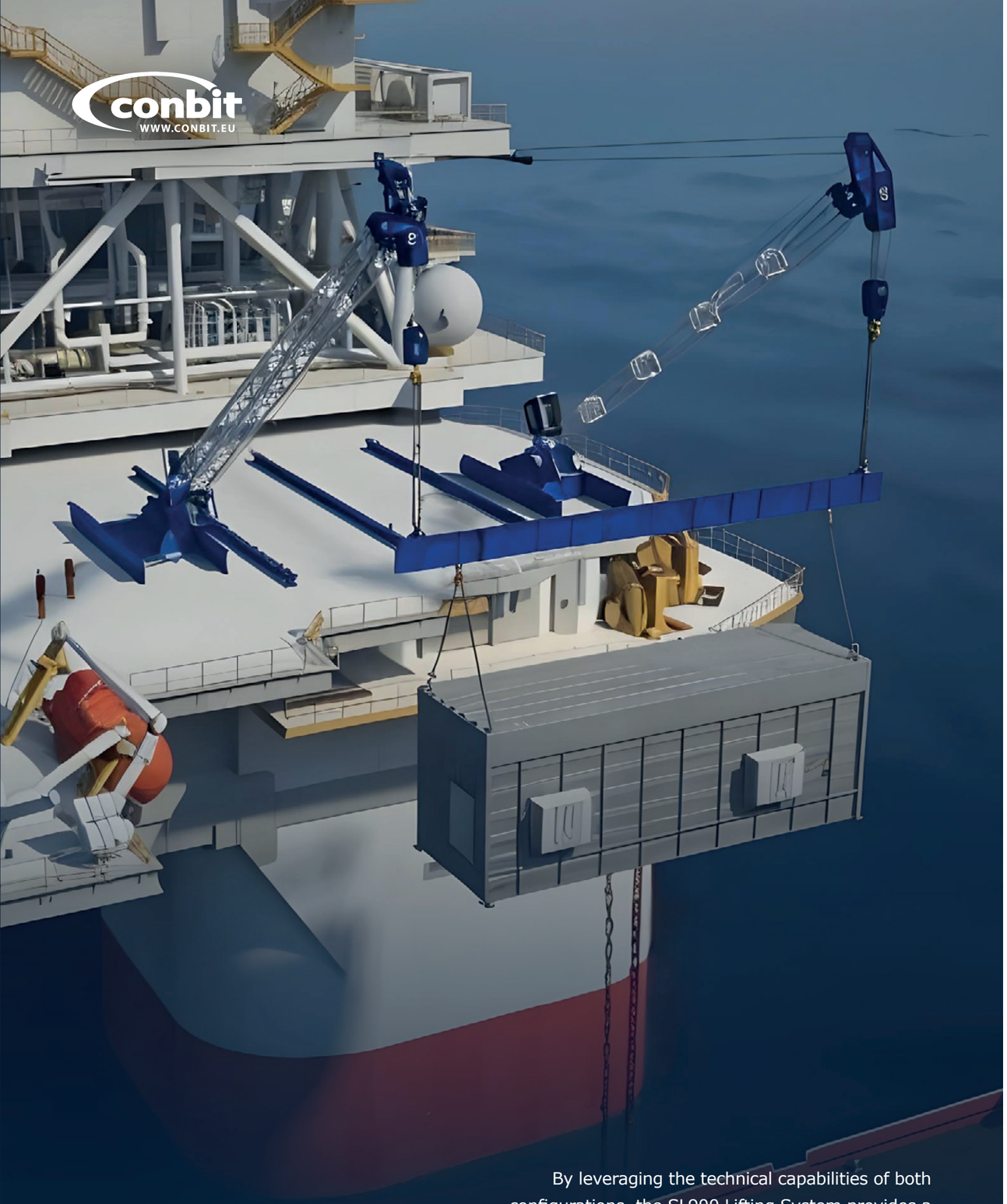
The single boom can handle significant loads while maintaining a compact footprint, making it ideal for various offshore applications. Its robust and versatile design ensures that a wide range of lifting tasks can be performed with precision and safety.

The single boom configuration is equipped with advanced safety systems, including load limiting systems, main overpressure valves, dead man type control levers, failsafe control functions, and load monitoring systems, ensuring that all lifting operations are conducted safely and efficiently.

Technical Specifications

- ✓ **Load Capacity:** Up to 150mT
- ✓ **Boom length:** 18m – 43m
- ✓ **Winch operated**
- ✓ **Engineering Requirements:** Detailed planning and precise execution are necessary to ensure safe and efficient lifting operations
- ✓ **Safety Considerations:** Includes comprehensive safety systems to prevent slippage and load drop in case of pipe failure or burst hoses





By leveraging the technical capabilities of both configurations, the SL900 Lifting System provides a comprehensive solution for a wide range of offshore lifting projects. Whether the project requires the compact efficiency of the single boom or the enhanced capacity of the double boom, the SL900 Lifting System is designed to meet the demands of modern offshore construction.

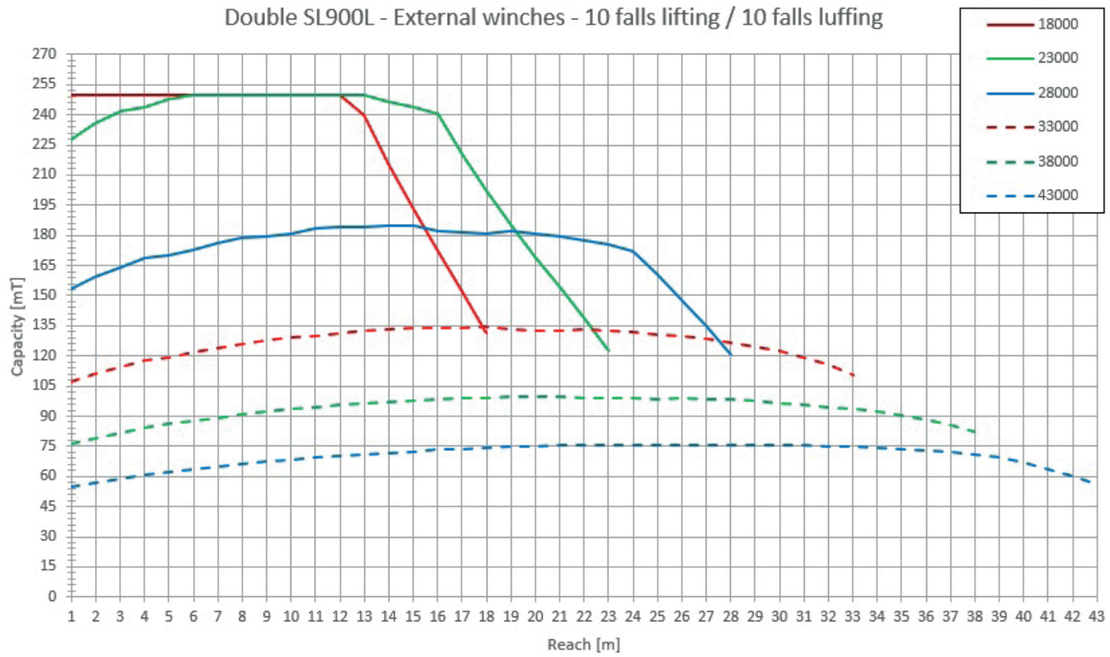
SL900 – DOUBLE BOOM CONFIGURATION

The double boom configuration of the SL900 Lifting System is engineered for heavier loads and more complex lifting operations. It enhances load capacity up to 250mT and allows for load positioning between the booms, enabling the placement of larger modules deeper within the platform. This setup offers increased versatility, supporting complex lifting operations and ensuring safe, precise installation of large modules or equipment.

The double boom configuration is equipped with comprehensive safety systems to prevent slippage and load drop in case of pipe failure or burst hoses, ensuring that all lifting operations are conducted safely and efficiently.

Technical Specifications

- **Load Capacity:** Up to 250mT
- **Boom length:** 18m – 43m
- **Winch operated**
- **Positioning Capability:** Allows for positioning loads between the two booms, enabling the placement of modules further inside the platform
- **Engineering Requirements:** Detailed planning and precise execution are necessary to ensure safe and efficient lifting operations
- **Safety Considerations:** Includes comprehensive safety systems to prevent slippage and load drop in case of pipe failure or burst hoses



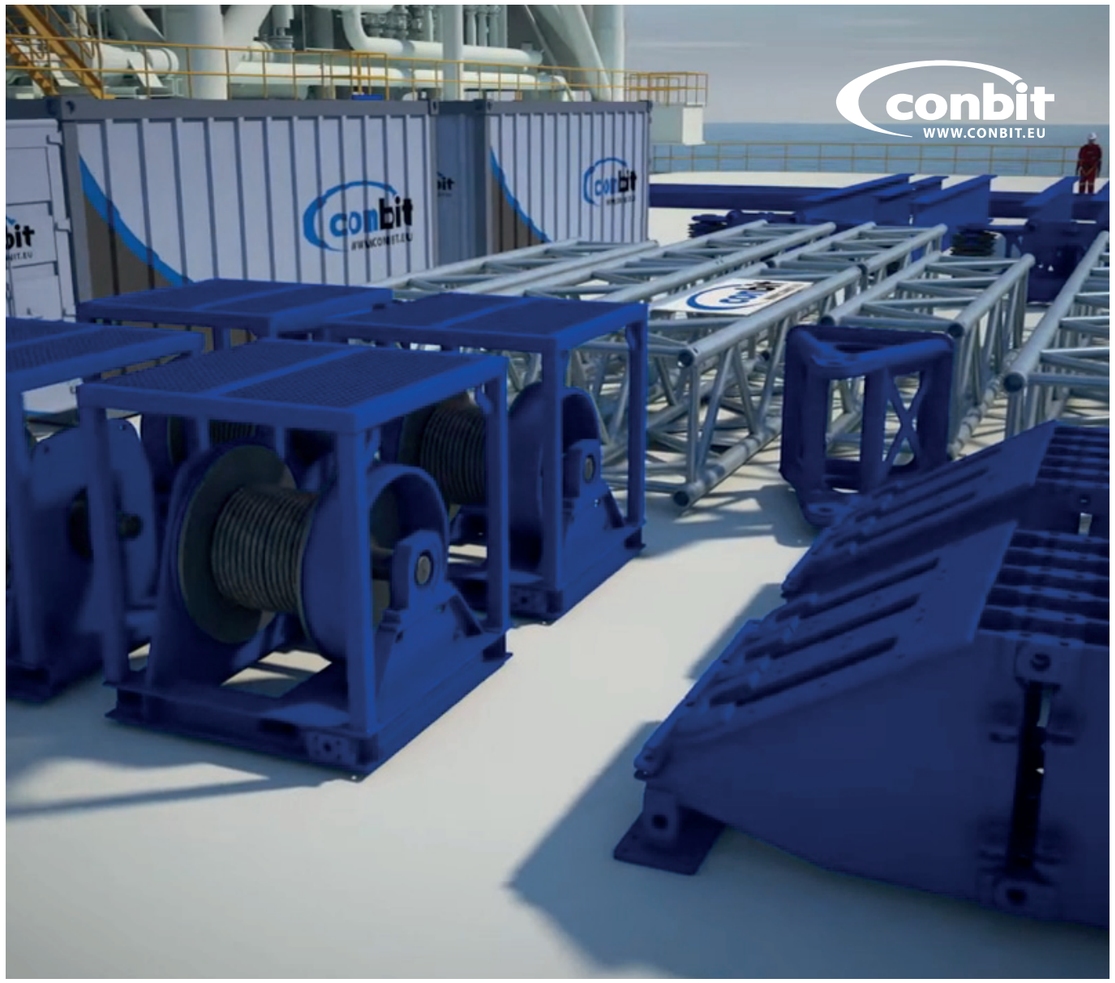
IMPLEMENTING MODULAR LIFTING SYSTEMS IN OFFSHORE CONSTRUCTION PROJECTS

Implementing a modular lifting system in an offshore construction project requires careful planning and coordination. Engaging with the provider of modular lifting systems at an early stage is essential to ensure that all project requirements are met. Requesting a demo and conceptual drawings can help project managers visualize the lifting system and understand how it will be integrated into the project.

The engineering required to include a modular lifting system in an offshore construction project is extensive, and allowing for a six-month period for planning and testing is recommended.

Additionally, hiring a single contractor to provide the lifting system, engineering, manpower, and execution services can streamline the implementation process, reduce project and safety risks and ensure that all aspects of the project are managed effectively. Splitting up responsibilities among multiple contractors can lead to coordination issues and increased risks.

By addressing these considerations, project managers can ensure the successful implementation of modular lifting systems in their offshore construction projects.



MAJOR CONSTRAINTS

While modular lifting systems offer numerous advantages, there are also constraints and considerations that must be addressed during implementation.

Space requirements
The footprint of the SL900 Lifting System is approximately 4 x 6 meters, which space should allow.

Load introduction
Introducing loads into the platform is a critical factor that must be calculated and planned during implementation.

Ensuring that the platform can accommodate the lifting system and the loads being introduced is essential for the successful execution of the project. By addressing these constraints during the planning phase, project managers can ensure that all lifting operations are conducted safely and efficiently.

TESTING

Before mobilization, the modular lifting system will need to be tested at the manufacturer’s site to ensure that it meets all project requirements and safety standards. The bigger the system, the more requirements there are on the test facility.

By conducting thorough testing before mobilization, project managers can ensure that the lifting system is reliable and safe for use in the offshore construction project. This testing phase is essential for identifying and addressing any potential issues before the lifting system is deployed, ensuring the successful execution of the project.

SAFETY STANDARDS AND REGULATORY REQUIREMENTS

Certification of temporary lifting systems can lead to hidden costs. Convincing third parties, such as notified bodies and marine warranty surveyors, of the safety and feasibility of the modular lifting system is an essential step in the implementation process. These third parties play a critical role in ensuring that the lifting system meets all safety standards and regulatory requirements. By working closely with these third parties and providing comprehensive documentation and testing results, project managers can ensure that the modular lifting system is approved for use in the offshore construction project. This step is essential for ensuring the safety and success of the project.

For the SL900 lifting system, approvals from DNV have already been obtained on the design, fabrication and usage of the system. This makes the approval process for new configurations much smoother and reduces the potential for additional costs.

HOW CAN CONBIT SUPPORT

Conbit offers a comprehensive turnkey service that includes equipment, engineering, and execution manpower, making it an ideal provider for modular lifting solutions. With years of experience in these kinds of systems, Conbit can provide a reliable and efficient solution for offshore lifting projects.

Conbit offers a range of modular lifting systems tailored to various project needs. Conbit has modular lifting systems that are used for lifts from 500 kgs to 250mT. The complete range will benefit any offshore construction project.

By taking ownership of the project while keeping clients in control, Conbit ensures that all project requirements are met efficiently. Throughout the project, from start to completion, you can expect open channels of communication, proactive engagement from all Conbit personnel, meticulous attention to detail and safety protocols, and an approach to project management that emphasizes collaboration and efficiency.

We know how to implement lifting in your project and understand the concerns in terms of platform integrity. Stuctural engineering is at the core of our company. We work all over the world and are supported by local offices and partners.

Engaging with Conbit for offshore lifting solutions can significantly enhance project outcomes and ensure the successful completion of complex lifting operations.

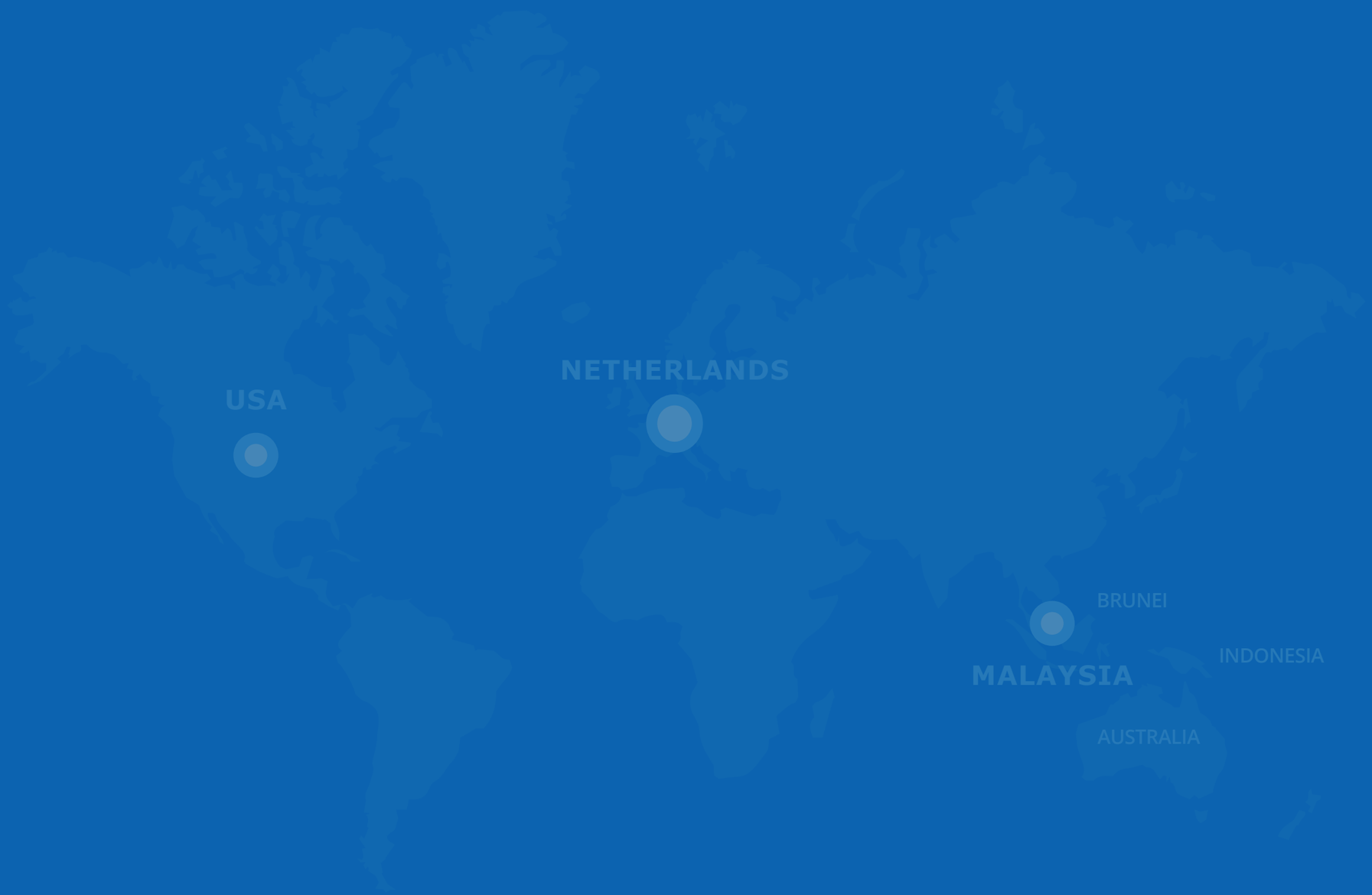
CONCLUSION

In response to the ever-increasing demand for offshore construction and the scarcity of heavy lift vessels, modular lifting systems are emerging as a game-changing solution. Offering flexibility, cost-effectiveness and customization, providing a more agile approach to construction that can better meet the demands of the industry.

The SL900 series is a valuable addition to Conbit's lineup of lifting systems, demonstrating our dedication to delivering innovative solutions for offshore environments. With a global presence and a strong track record, Conbit has established itself as a leader in the industry. Our wide array of temporary lifting solutions is supported by years of experience and expertise, guaranteeing dependable and efficient operations. Trust Conbit to deliver the highest standards in temporary lifting technology with the SL900 series.

Projects require careful planning and preparation. Inform the experts of Conbit about your lifting challenge, they will explain the impact a modular lifting system can have on your project. Conbit's engineers are trained to help make decisions in the early stages of your project. If we conclude that our modular lifting systems are not a viable option for your project, we will tell you honestly. Conbit can assist you in bringing your project to satisfactory completion.

Contact the Conbit sales team to request any further information you require. You can also request a demo or a presentation.



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