NJCP Summary

A summary of S&A involvement in the NJCP project for Nexans

Note: This is reference information only

S&A Services

Our key support services are consultancy, project management and subject management expertise. Along with these services S&A has expanded to become an Original Equipment Manufacturer (OEM) of subsea cable plough systems

S&A is regularly involved in consultancy and the delivery of projects aimed at bringing new and novel processes and equipment to the market. We take great pride in providing support and equipment of the highest standards at competitive prices without compromising quality or schedule

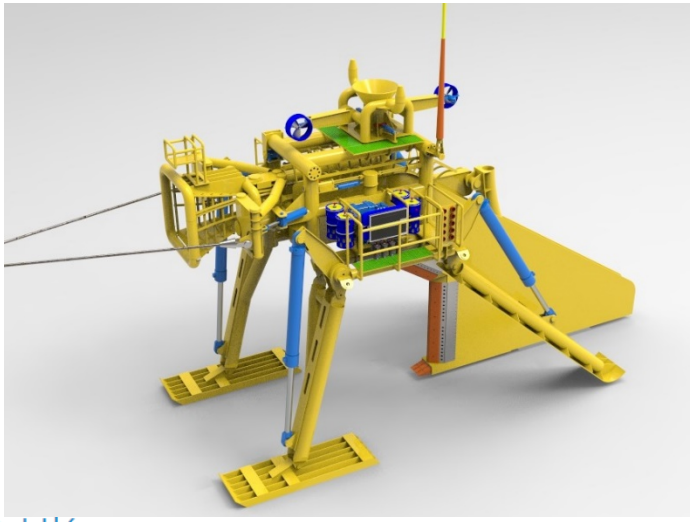
Our goal is to provide a high quality service based on extensive practical experience with a strong focus on meeting clients' needs and building long-term relationships

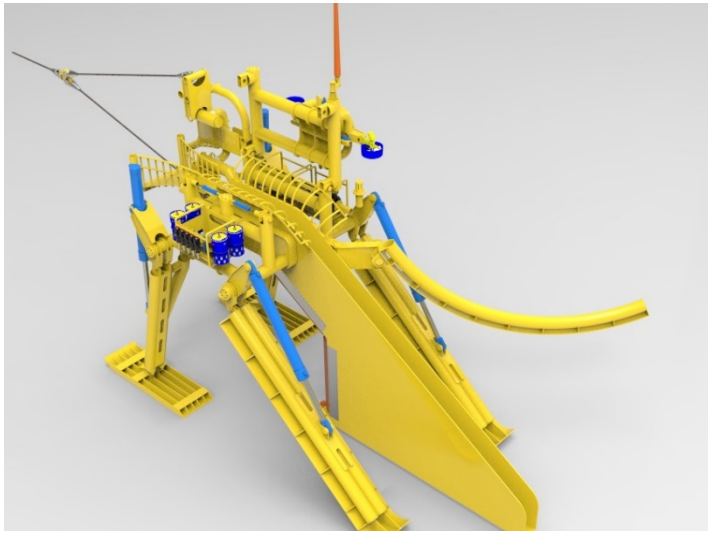
Nexans NJCP - FEED

The Nexans Jetting Cable Plough (NJCP) scope started as a FEED for Nexans after most companies could not offer a 'top loading' plough to the Nexans specification:

- S&A started by reviewing Nexans' exact requirements via a questionnaire in order to establish the key design drivers for the system. This resulted in the production of a design basis

- Once the design criteria were established, S&A created a conceptual system that satisfied Nexans' functional and operational requirements. The conceptual system was modelled in 3D to fully illustrate the features of the design and as such allow Nexans to visualise the various operational configurations





Nexans NJCP - FEED

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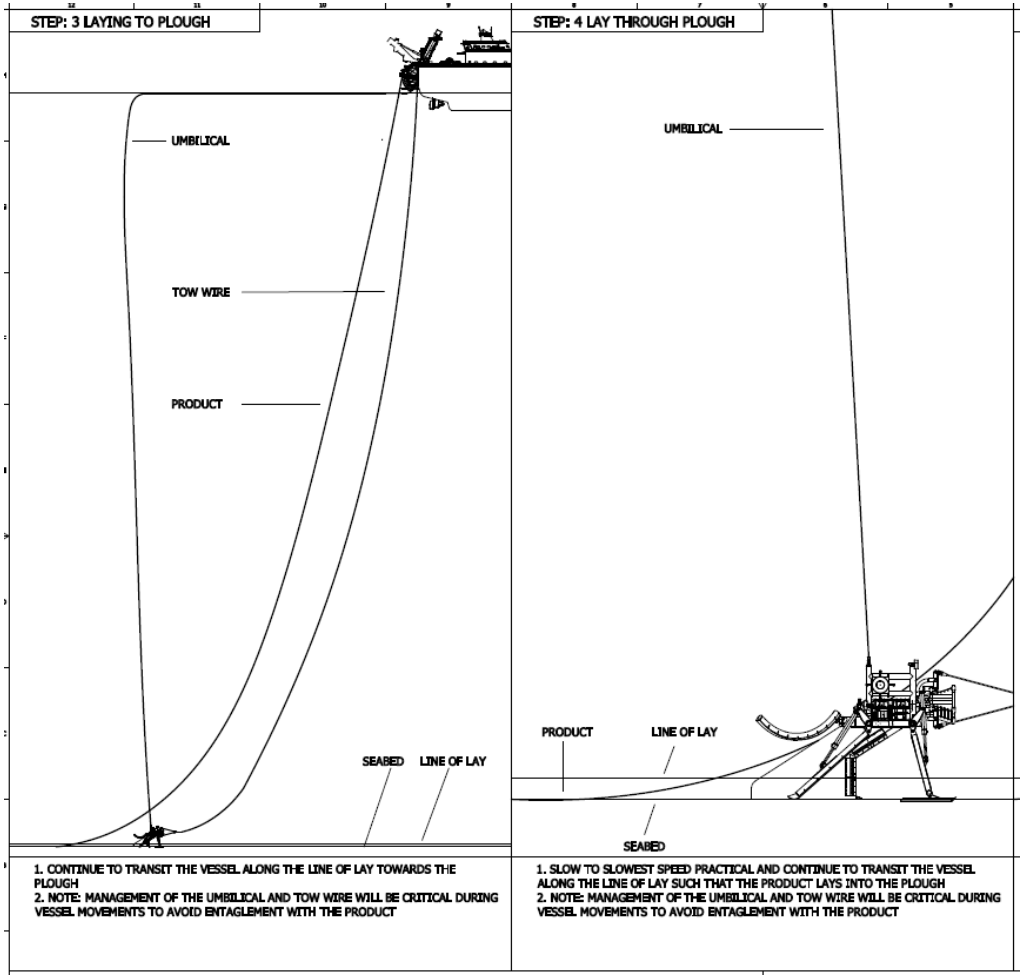
- After confirming the basic concept, a set of high-level Standard Operating Procedures (SOP) were created to illustrate the likely operational approaches necessary for the system to perform to the functional specification
- As part of the FEED, the package included high level electrical and hydraulic schematics as well as a structural validity check to confirm the viability of the concept
- The scope concluded with the production of a full FEED study report and technical specification for the concept system



Nexans NJCP - Engineering

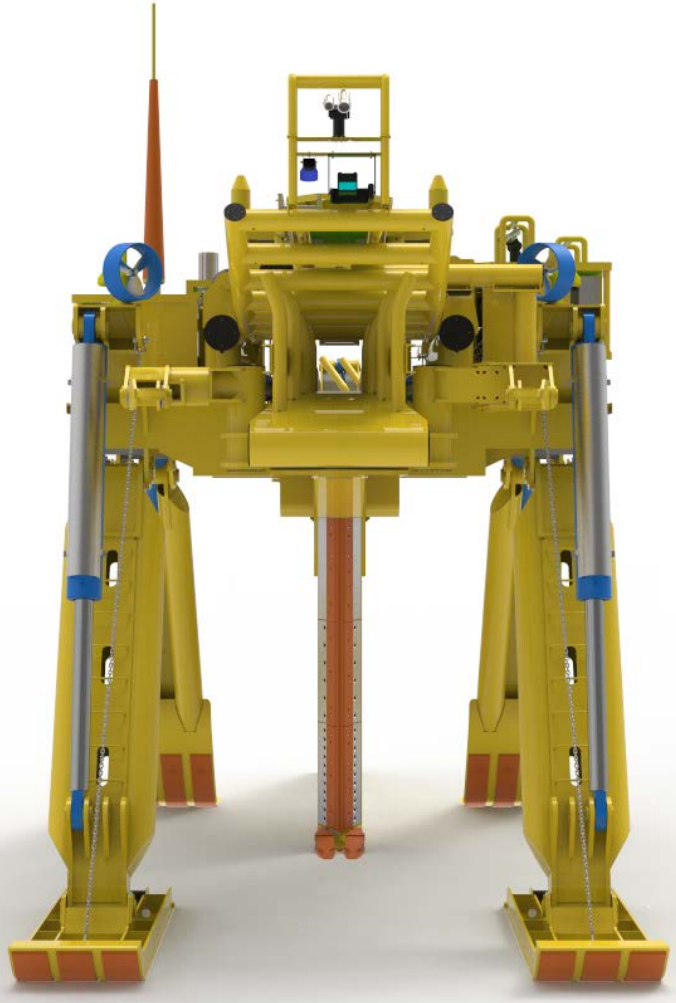
After the completion of the FEED, Nexans contracted S&A to provide a full design package for the NJCP:

Structural Design : S&A worked with proven plough structural design companies to compile a full set of AFC fabrication drawings covering assembly, machining and plate cutting drawings

Electrical Design : The electrical package included schematics for the control system, power system and vessel distribution. The package also included a full bill of materials and procurement specifications

Hydraulic Design : The hydraulic package concentrated on the vehicle hydraulic schematic, bill of materials and procurement specifications e.g. cylinders

Software Spec : Nexans requested that the software supplier (Kyst Design) for their existing jetting system (CapJet) was used and as such a comprehensive specification was compiled by S&A for their use



Nexans NJCP - Engineering

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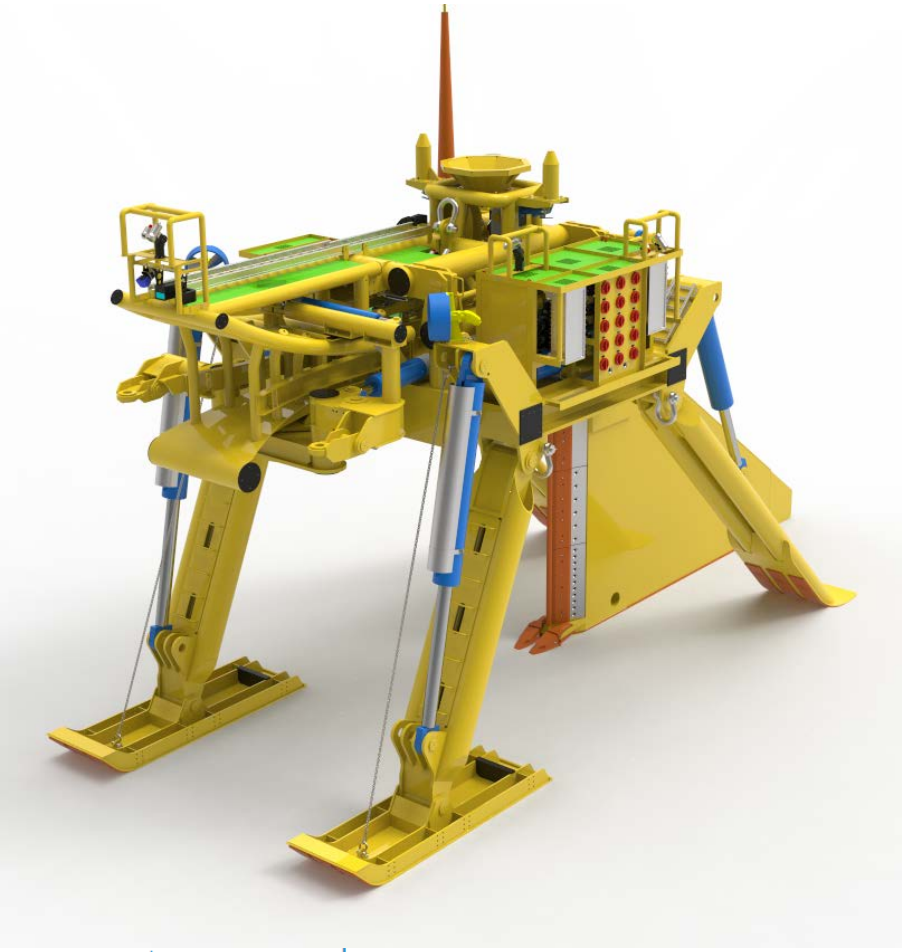

Nexans NJCP - Engineering

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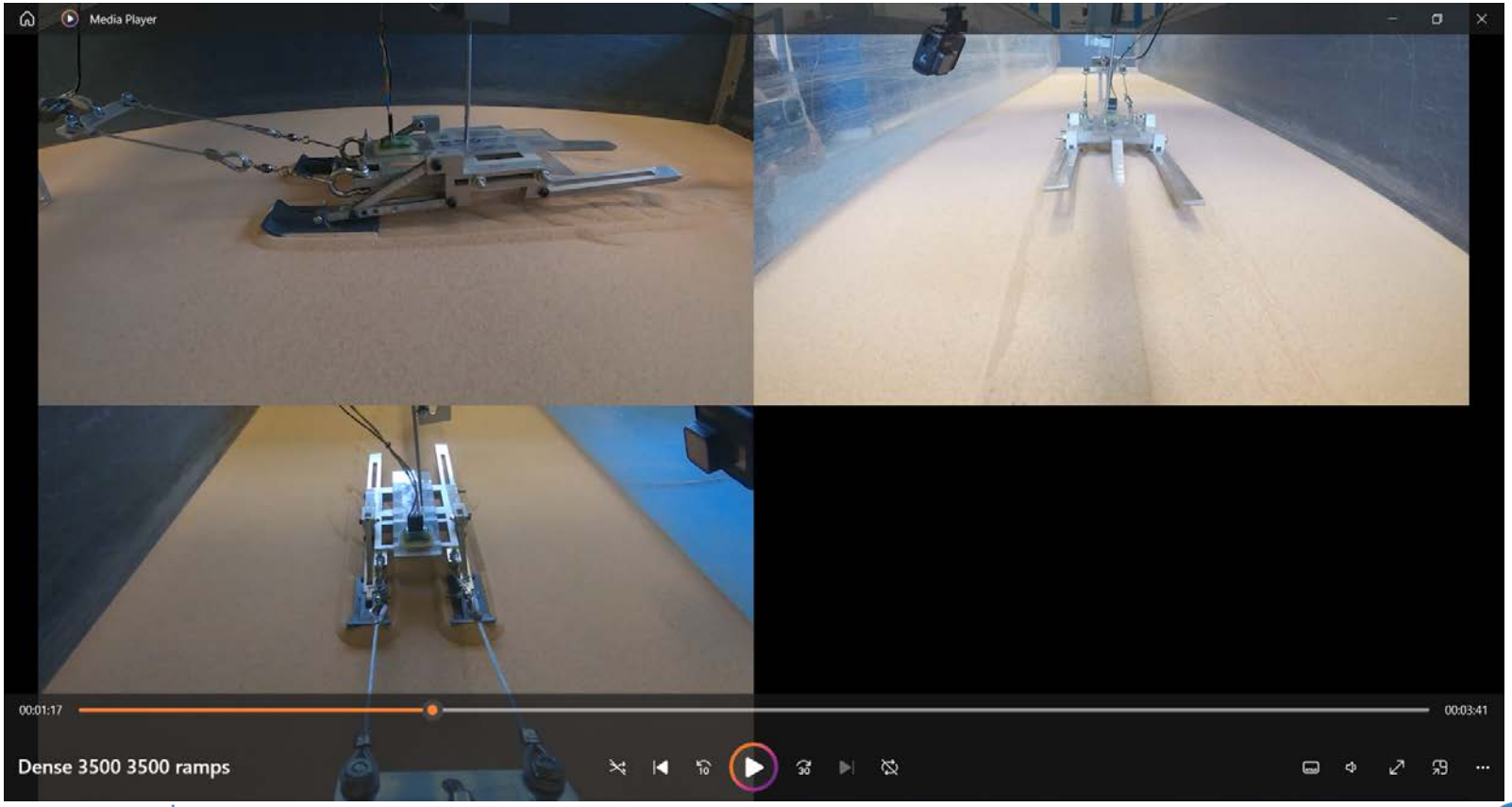
Geotech Review : S&A worked with Dundee university to complete a set of model tests to prove the trenching stability of the plough design



Nexans NJCP – Procurement, Fabrication, Assembly and Commissioning

After the engineering, Nexans contracted S&A to manage the procurement, fabrication, assembly and commissioning of the NJCP

Procurement consisted of over 55 individual RFQ scopes each complete with RFQ package, query/ clarification logging and resolution, technical and commercial comparison matrices and final recommendation reports

S&A oversaw the main fabrication contract as well as the major system contracts such as the winches and A Frame

After fabrication, S&A worked with the appointed system integrator to assemble and eventually commission the NJCP system

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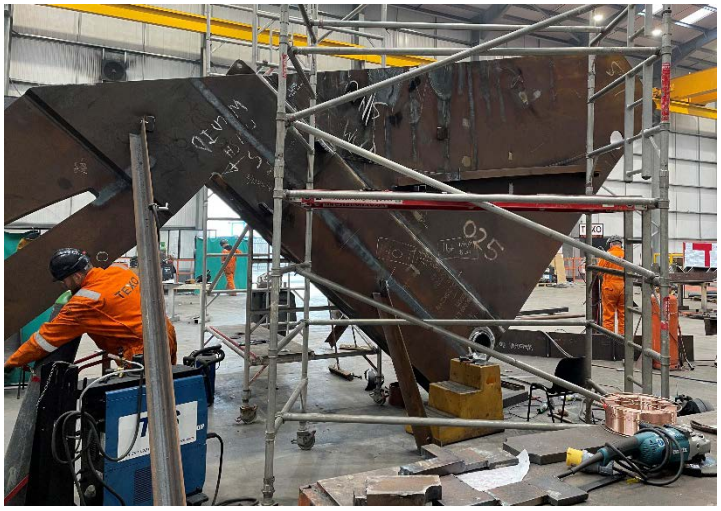

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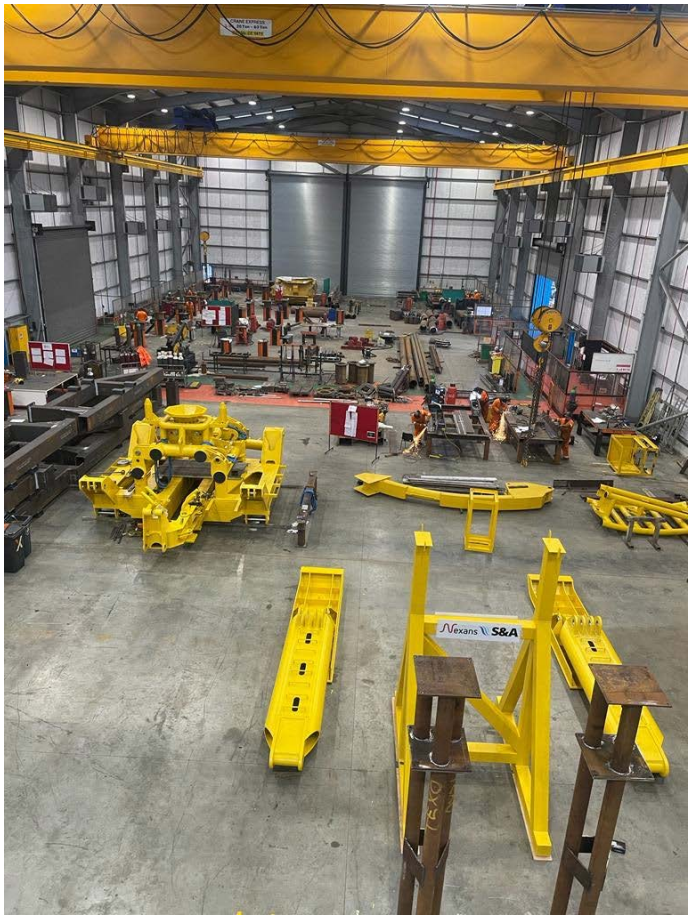

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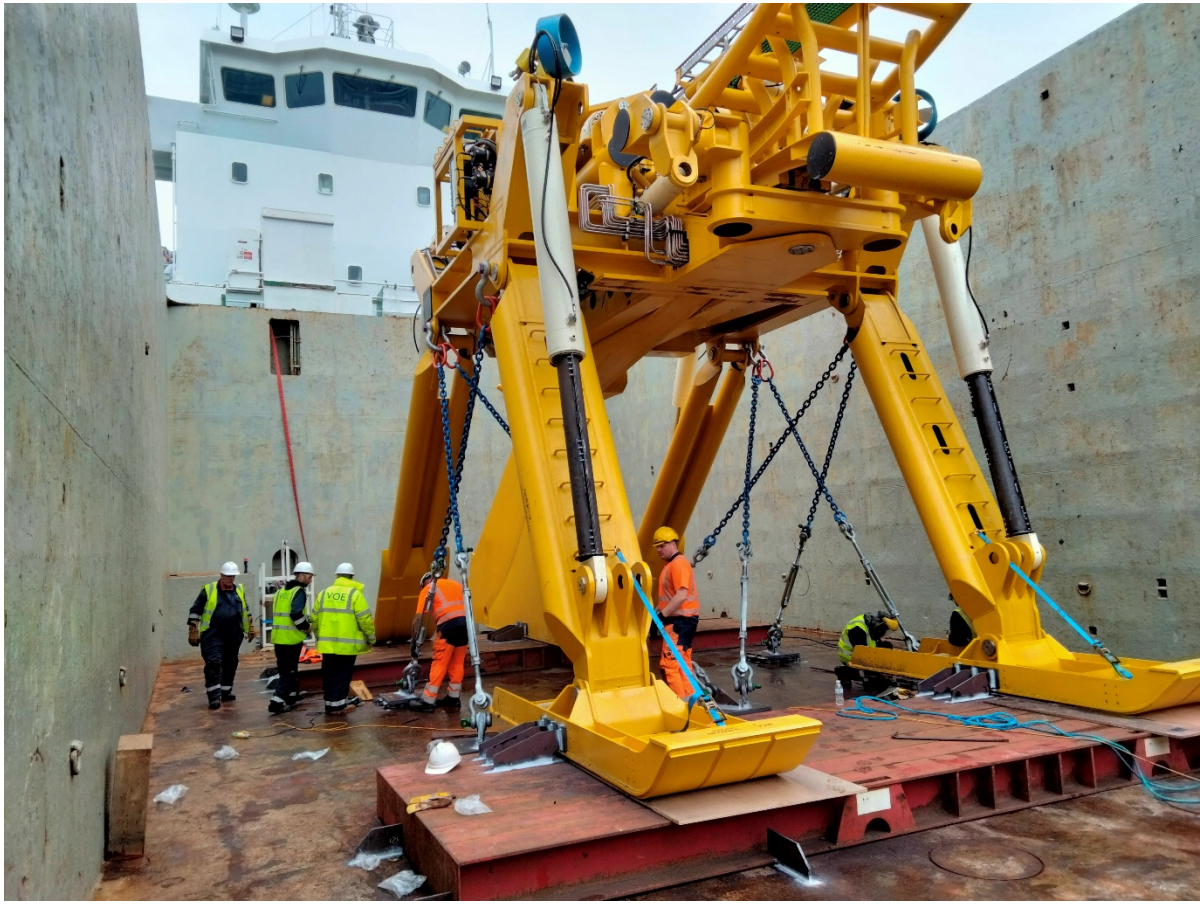
Load testing the seafastening padeyes

Load testing the emergency lift points

Nexans NJCP – Shipping

The NJCP was shipped from the storage location in the UK to Nexans' equipment department location in Fredrikstad in Norway in August 2023.

S&A designed the seafastening and managed the shipping on behalf of Nexans.



Nexans NJCP – Trials

The NJCP was initially trialled by Nexans in March 2023 aboard the Nexans Aurora.

S&A supplied onboard expertise in the form of two experienced plough supervisors throughout the trial period.

The current status of the NJCP is that it is awaiting client trials ahead of trenching operations in US waters approximately mid 2025.

Link to video:
https://screaton.egnyte.com/dl/QS5HVsiqwe

Nexans NJCP – Trials

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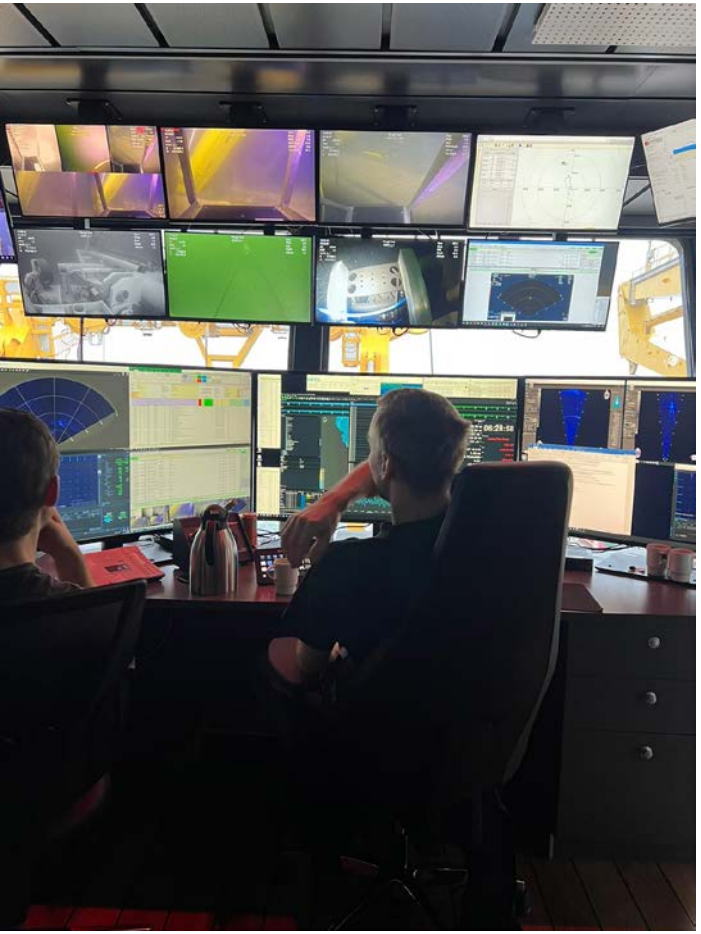

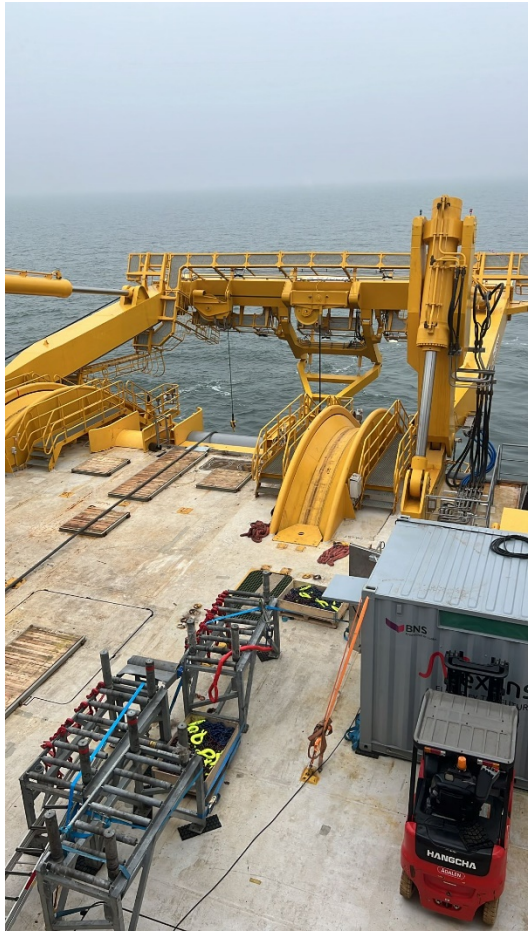

Plough Design Approach

S&A consider the following points to be of paramount importance for a successful plough design:

Structural Simplicity	All S&A plough designs are based on the use of S355 steel (or similar) and pre-formed structural elements such as tube or beam. This dramatically improves the cost and speed of fabrication while also making it easier to perform analysis with basic engineering tools. In addition to this, reduction of structural duplication is a strong design principle intended to reduce the need to carry, for example, a port and starboard skid
Robust components	All S&A ploughs feature proven components that are chosen for both their resistance to failure and also their physical robustness as a ploughing is a harsh environment for any component
Maintainability	All S&A ploughs are designed for good operator access with removable modules for reduction in the requirement to work at height. All S&A plough systems also feature hard piping to improve the longevity of the hydraulic system.
Ease of use	All S&A ploughs are intended to be relatively easy to operate with a strong emphasis on functional simplicity
Cost effective	As well as cost savings in the initial procurement through structural simplicity, etc. S&A plough systems are intended to work with existing vessel or trencher systems such as existing umbilicals/ winches, standard construction A Frames for launch/ recovery, etc.

Any questions?

Contact S&A on info@screaton.co.uk or via our website www.screaton.co.uk