

CASE STUDY:

Manual Subsea Control Module



The Background

Automated subsea control modules (SCMs) are central to the safe and reliable operation of subsea wells. They control valves, regulate chemical injection, and transmit data between the wellhead and the topside control system. However, during decommissioning campaigns these automated SCMs often become unreliable. After years of inactivity, systems can become blocked or corroded, leading to poor or no response to control signals.

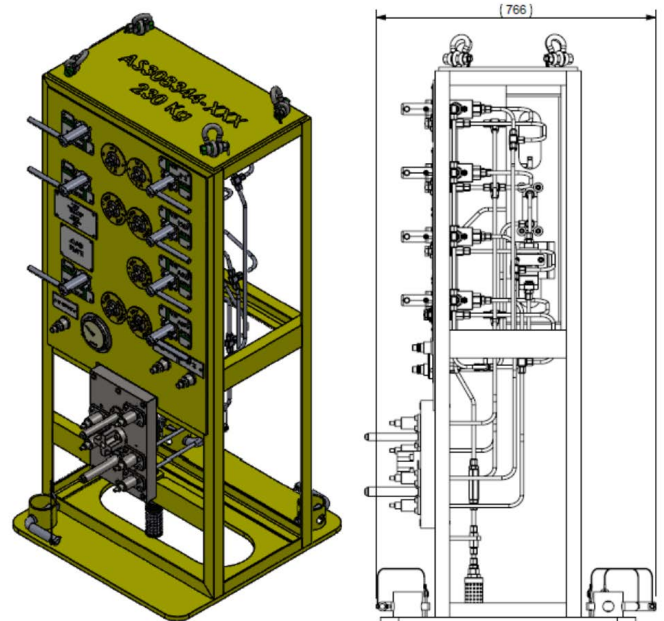
Traditionally, operators would recover faulty SCMs for refurbishment onshore, a process that could take many months and cost significant resources. By the time the unit was refurbished and redeployed, offshore operations could already have been delayed. The client needed an alternative approach that would reduce costs, avoid lengthy delays, and keep their decommissioning programme on track.

The Project

J+S Subsea responded by developing a manually operated subsea control module. The concept was unique, replacing complex electronics with diver-operated mechanical valves and clear pressure indicators. This meant divers could directly control subsea wells without waiting for automated responses.

The project included several stages of design and prototyping. Engineers modelled how the unit would integrate with existing subsea manifolds and Christmas trees, ensuring compatibility with hydraulic connections. Mechanical pressure indicators were carefully designed to provide divers with clear, visible feedback underwater. Prototypes were built, pressure tested, and refined to meet stringent safety and reliability standards set by API and DNV.

Following design validation, four manually operated SCMs were manufactured, fully sealed, and prepared for subsea deployment.



The Results

The manual SCMs were successfully deployed in live subsea trials. Divers were able to operate the units with confidence, carrying out essential valve operations and chemical injection tasks. This avoided the need for costly and lengthy refurbishment of automated SCMs and provided a simple, reliable alternative for late-life and decommissioning projects.

The solution has demonstrated a new way of approaching subsea decommissioning. It reduces time and costs, avoids extended downtime, and expands the toolkit available to operators working with ageing subsea infrastructure.

 **First-of-its-kind manual SCM solution**

 **Diver-operated valves and indicators**

 **Reduced cost and downtime**

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