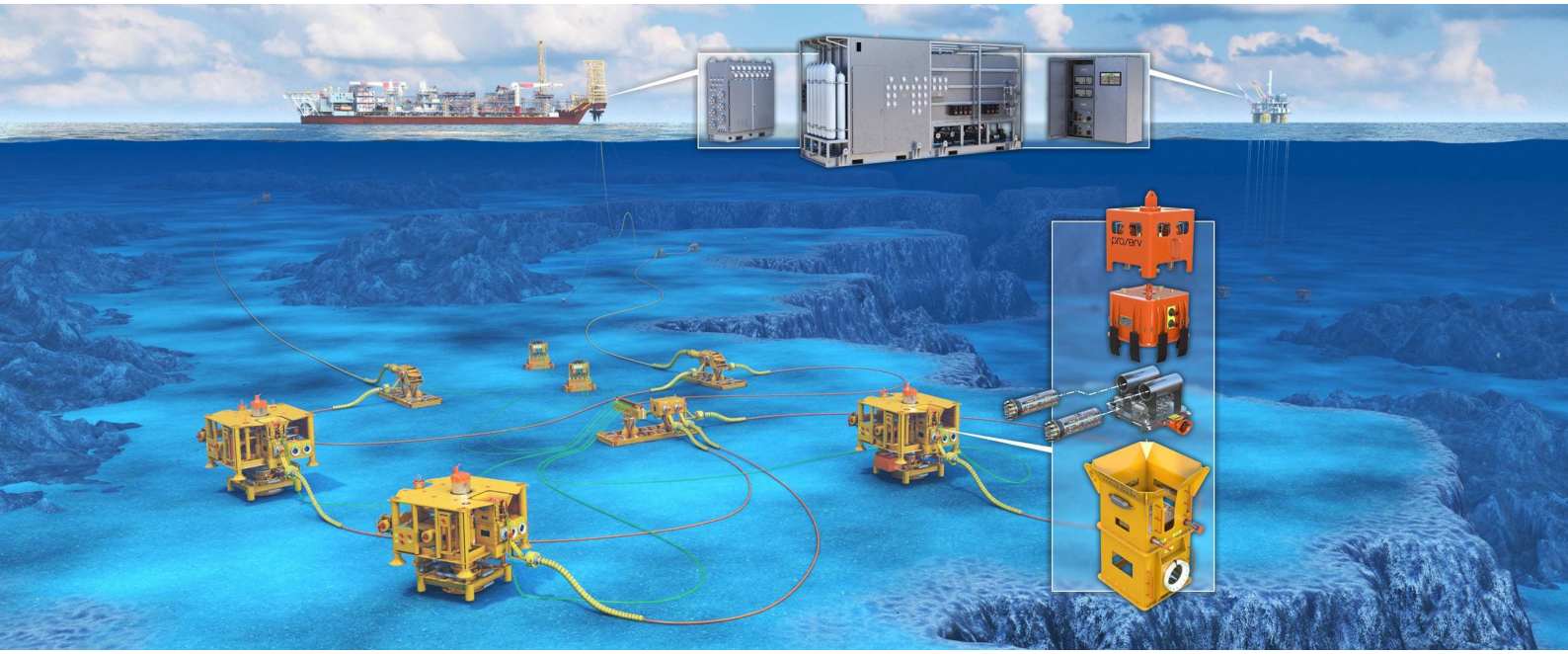
Subsea Control Systems - Denmark



Proserv has been manufacturing control systems in the UK since 1976. In that time, Proserv has gained considerable experience in subsea engineering and control system design. Proserv acquired Brisco Engineering in August 2003 combining over 35 years' established experience in topside and subsea wellhead controls.

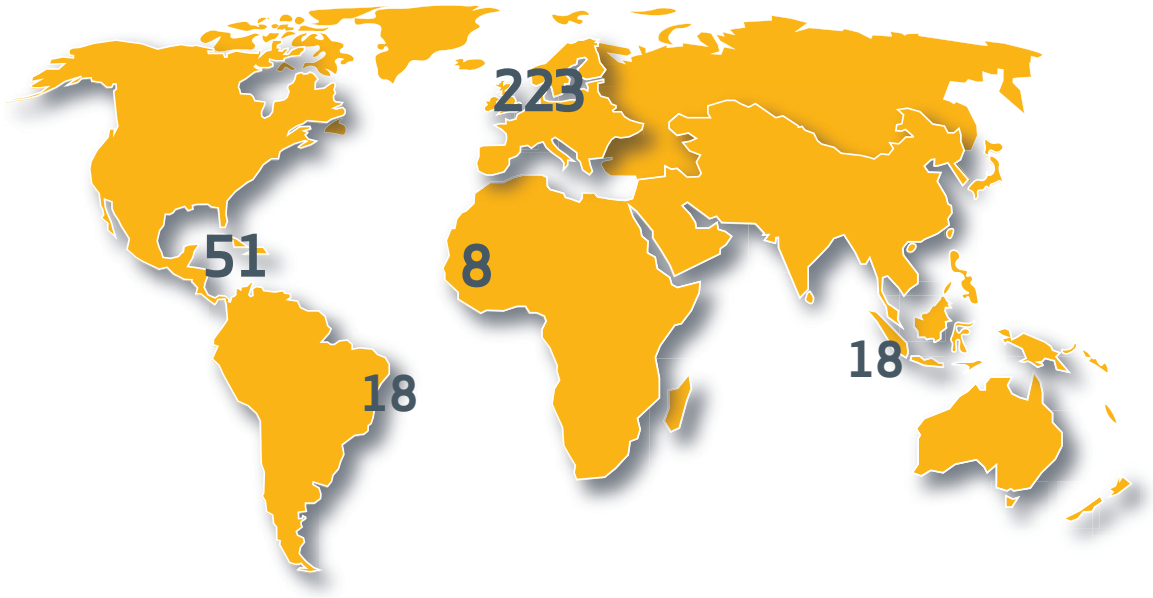
Early involvement in the subsea arena began for Proserv in the 1980s with the design and prototype manufacture of our own subsea control module, using our in house spool-type control valves. These, whilst initially adapted and evaluated for subsea use, did not show the degree of durability of the metal to metal shear seal type valves that are mandatory for subsea controls today. A number of subsea hydraulic systems for short step-outs and subsea isolation valve controls were made, but it was the development of our Wellcon multiplexed electronic programmable control modules employing proprietary shear seal valves that established Proserv's presence in the subsea market. In 1992, our first complete multiplexed electro-hydraulic subsea control system was developed, and the first full system deployed the following year. In 1999 the first Artemis subsea control system was developed, adding deep water ROV deployment to the product line. As industry technology has advanced into locating much of the production equipment on the seabed, so Proserv has developed control and safety shutdown systems that are able to operate in this equipment, either from the surface or the subsea environment.

The Technology Partner of Choice

Proserv's commitment and reputation for providing best-in-class systems with unrivalled reliablity has resulted in gaining a number of key strategic partners in recent years. In 2020, Proserv signed an historic agreement with Dril-Quip to become their sole subsea control systems provider of choice, following Dril-Quip's strategic decision to consolidate the supply and development of control systems with a dedicated subsea controls provider. In 2021, Proserv signed a Memorandum of Understanding with Trendsetter to allow the companies to incorporate Proserv's subsea controls alongside Trendsetter's state-of-the-art pressure protection systems, including its cornerstone high integrity pressure protection system (HIPPS), connection systems and manifolds.

Track Record

Subsea Control Systems - Denmark



	TechnipFMC	Baker Hughes	OneSubsea A Cameron & Schlumberger Company	DRIL-QUIP	AkerSolutions	TOTAL
North Sea	78	64	26	22	33	223
Gulf of Mexico	39		9	3		51
West Africa		3	4		1	8
South East Asia		4		7	7	18
South America			1		17	18
Total	117	71	40	32	58	**318**

Update July 2023 - Connect/Engineering/SCM Track Record

56% LESS GREENHOUSE EMISSIONS*

A recent study* demonstrates that, by removing the need to conduct system overhauls, Proserv can reduce the emissions associated with the use of a subsea control module (SCM) by approximately **56%,** when compared to using an industry standard product. The primary source of greenhouse gas emissions savings is achieved through negating the requirement to retrieve and service the SCM during its lifespan. Eliminating the need for a support vessel to assist with the retrieval of the module saves approximately 78 tonnes CO2e.

*Subsea Control Module Carbon Emissions Comparative Assessment, 2022 - Carbon Zero, a division of Data Engineering Projects Limited

Subsea Control Systems - Denmark

Proserv has an established track record with subsea control systems in Denmark. Below is a summary of recent projects completed to demonstrate our capabilities and expertise in this field.

Year	Client	Work Scope	Location
2017	Dong	STINE Project - Spare Subsea Control Module	North Sea - Dannish Sector
2011	Dong	STINE Project - Spare Jumpers & Transmitters	North Sea - Dannish Sector
2011	Dong	STINE Project - Spare Jumpers	North Sea - Dannish Sector
2004	Dong	STINE Project - Subsea Control Module	North Sea - Dannish Sector
2003	Dong	STINE Project - Subsea Control System	North Sea - Dannish Sector