

Offshore wind: Communication infrastructure



The offshore wind communication landscape **TETRA** repeater Enabling reliable communication INSIDE the turbines where you will normally have ZERO connectivity. **Microwave Radio System (LOS)** High speed data point-to-point solution often used as a main connection between onshore and offshore during construction, and later used to increase availability in case of fibre connection outage. First, establish reliable communication lines! First step in gaining control of all activities of an offshore wind farm is to establish reliable communication lines: During the construction phase when fibre lines and cables are not yet established, we recommend establishing »blue water communication« using radio link and satellite connections. We establish a reliable and redundant TETRA connection between all vessels, turbines, the offshore substation, the onshore office and helicopters to enable direct calls. We recommend combining your redundant TETRA system with your own private LTE network (wireless broadband). This will connect your offshore wind farm to the rest of the world and you can set up offices, work and live offshore with the same level of connectivity as you would expect onshore. SemPAM - people **Operational telecommunication systems** and asset management Once a solid communication infrastructure has been established, Semco Maritime further **Private LTE network** SemPAM significantly strengthens delivers various operational telecommunication systems such as: LTE is a standard for 4C wireless broadband techour HSE performance by improving the levels of health and safety nology offering network for mobile device users SemSound PA/GA for announcements and alarms. for workers offshore. The system - creating a communication system and network/ Closed Circuit Television (CCTV) for visual remote monitoring of substations and turbines. office even on ships, wind turbines etc., securing manages and controls the day-to-TETRA mission day activities through real-time sian environment with full internet access. IP Network for interconnection of onshore and offshore based systems. tuational awareness of the relecritical communication Radio Dispatcher for advanced voice communication. vant people, assets and areas. A fully redundant TETRA solution Marine and Aeronautical communication with vessels and helicopters. SemPAM is a turnkey software enables direct calls between a TETRA terminal and telephone and communication solution that Metrological system for remote offshore weather monitoring. networks, ship radio systems, provides effective safety introduc-Voice logging systems for replay of historical events. tion, administration, planning and helicopter radios, and traditional UHF on-board radios. tracking of personnel. Telecommunication Monitoring System securing high availability and trace of faults. AIS and ADS-B/AtoN for tracking of vessels and helicopter locations.



40 years of reliable offshore communication

Since 1980, we have built up expertise as a multi-disciplined engineering, procurement and construction (EPC) contractor. Today, we apply this EPC expertise to the offshore wind sector.

We deliver turnkey offshore wind projects and we are capable of covering all phases - from FEED studies to engineering, procurement, construction, installation, offshore commissioning and not least service & maintenance throughout the lifetime of your wind farm.

In-house telecommunication specialists

Our in-house telecommunication specialists design telecommunication solutions based on factors such as the capacity, functionality, distance and physical environment at the site in question. We supply a broad range of transmission and data communication solutions, and we always integrate our systems into packages that are easy to use, simple to service and inexpensive to maintain.

Our telecommunication engineers have an innovative approach to communication systems that is based on 40 years of solid experience with delivering everything from data network and radio links to navigation and monitoring systems.

Service and maintenance

With a one-stop-shopping service concept, we offer to service all telecommunication systems and equipment. You choose the service level that suits you best - ranging from mandatory or ad-hoc service to full-scale service including remote access support and monitoring of the systems. Our service teams rely on experience gathered from all phases of offshore wind projects; FEED studies, design, construction and commissioning.

→ CONTACT



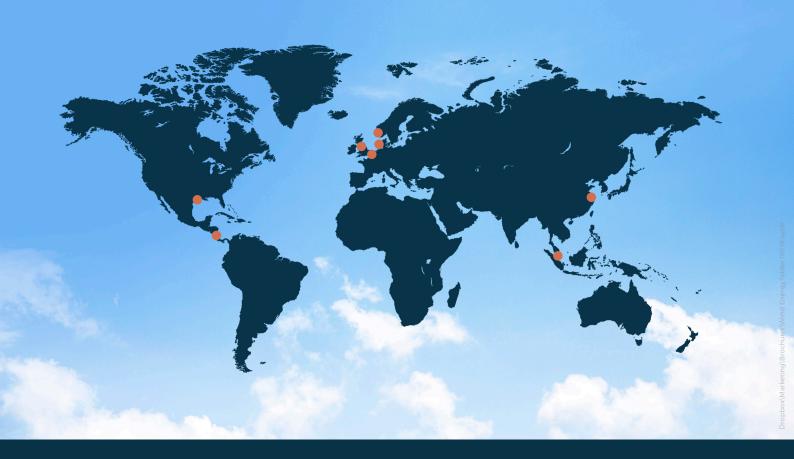
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→ WATCH SEMPAM VIDEO



Watch this video to see how SemPAM lets you manage all people and assets. The result is an impressive logistic efficiency and improved safety performance.





About Semco Maritime

Semco Maritime is an international engineering and contracting company dedicated to projects in the energy sector. Since 1980, we have been facilitating design, fabrication, service and maintenance of our customers' assets, providing comprehensive project management across all phases of energy projects.

Semco Maritime is based in Denmark but has branches in Norway, Germany, the UK, Singapore, China and the US.

Safety is part of our DNA and our first priority is to safeguard people, the environment and your offshore assets!

For further information, please contact us or visit our website:

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Semco Maritime A/S is third-party certified:

- ISO 9001
- ISO 14001
- ISO 45001
- ISO 3834-2

Achilles Certifications:

- FPAL
- Achilles JQS
- Utilities NCE
- UVDB