



Offshore Oil and Gas

WATER MANAGEMENT SOLUTIONS FOR CHALLENGING ENVIRONMENTS

xylem
Let's Solve Water

An offshore oil platform at sunset, illuminated by warm lights. The sky is a mix of pink, purple, and blue. The platform has several tall, cylindrical structures and a complex network of pipes and steel beams. A crane is visible on the right side. The water is dark with some reflections of the lights.

CAPABILITIES

Platform Water Management

- Deballasting
- Pumping, Boosting, and Monitoring
- Sea Water Lift
- Liquids Cooling
- Potable Water Treatment
- Produced Water Treatment

Environmental Health and Safety

- Crane monitoring and Accident Evaluation
- Fire Suppression
- Environmental Monitoring Solutions
- Oil Spill Recovery

Offshore Supply Vessels

- Mud Mixing and Agitating
- Drilling Mud Pumping



Solving Water In Offshore Environments

With breakthroughs in technology, allowing for a balanced and careful approach to development in challenging offshore environments, producers are increasingly turning their attention to new and unexplored waters or building out projects that leverage existing offshore infrastructure. The United States Geological Service (USGS) estimates that 565 billion barrels of oil, or approximately 17 years of global production, still remain undiscovered and a majority of this amount resides in offshore reserves. As producers look to tap into this vast resource by moving into ecologically sensitive areas or extreme deep-water environments, water management solutions that facilitate safe, effective, and cost-efficient operations are critical to offshore projects.

The Water Solution: Xylem

Solving water challenges and safety issues are your best opportunity to improve operational reliability and safety. Around the world, Xylem is seen as an industry leader and has worked on projects from the Gulf of Mexico to China's East Sea. Our application expertise gives us the ability to tailor solutions to your specific needs and our global presence gives us a deep understanding of region specific challenges. From sea water lift and treatment to ocean characterization, Xylem can help you overcome water and safety issues that pose a barrier to your operations.

Backed By Experts

Rugged, reliable products are only one reason to partner with Xylem. Behind every Xylem solution is a dedicated team committed to meeting your needs, from system design to ongoing service and support.

Xylem's engineers and support teams are intimately familiar with offshore environments. From off-the-shelf products to custom solutions, we will work with you to meet any unique project specifications and utilize the latest tools to ensure pinpoint accuracy. Our technicians and strategic channel partners are located in the heart of most global offshore oil and gas hubs, from Houston to Stavanger to Singapore, and only a few hours away from even the most remote locations.



The Xylem Brands



FLYGT was founded in 1901 and is a world leader in the design and manufacture of dry and submersible pumps, mixers and related intelligent control systems.



GODWIN has led the industry for more than 30 years in the design and manufacturing of fully automatic, self-priming pumps, offering diesel- and electric-powered pumps to rent or buy for dewatering and transport.



YSI provides sensors, instruments, software, and data collection platforms for environmental water quality monitoring and testing, building on a legacy that reaches back to 1948.



SonTek, advancing environmental science in over 100 countries, manufactures affordable, reliable acoustic Doppler instrumentation for water velocity measurement in oceans, rivers, lakes, canals, harbors, estuaries, and laboratories.



Water Equipment Technologies (WET), an early membrane technology innovator, has provided reliable membrane-based water purification technology and components worldwide since 1975.



GOULDS WATER TECHNOLOGY manufactures energy-efficient centrifugal and turbine pumps, controllers, variable frequency drives and accessories, building on more than a century and a half of experience.



A-C Fire Pump Systems has manufactured fire pumps and systems since the 1880's and today builds state-of-the-art fire pumps and turnkey systems for commercial and industrial applications.



LOWARA is a world leader in stainless steel pump manufacturing technology offering nearly 50 years of excellence in design and production for residential and commercial applications. Includes energy-efficient products that transport clear, contaminated, aggressive, abrasive, hazardous, or high-temperature fluids.



Aanderaa Data Instruments offers more than 40 years' experience in designing, manufacturing and selling robust, reliable instruments for measuring and monitoring in demanding environments.



Standard Xchange has been developing industrial heat transfer solutions for over 90 years with shell and tube, gasketed plate, brazed plate, and air cooled heat exchangers.



SANITAIRE

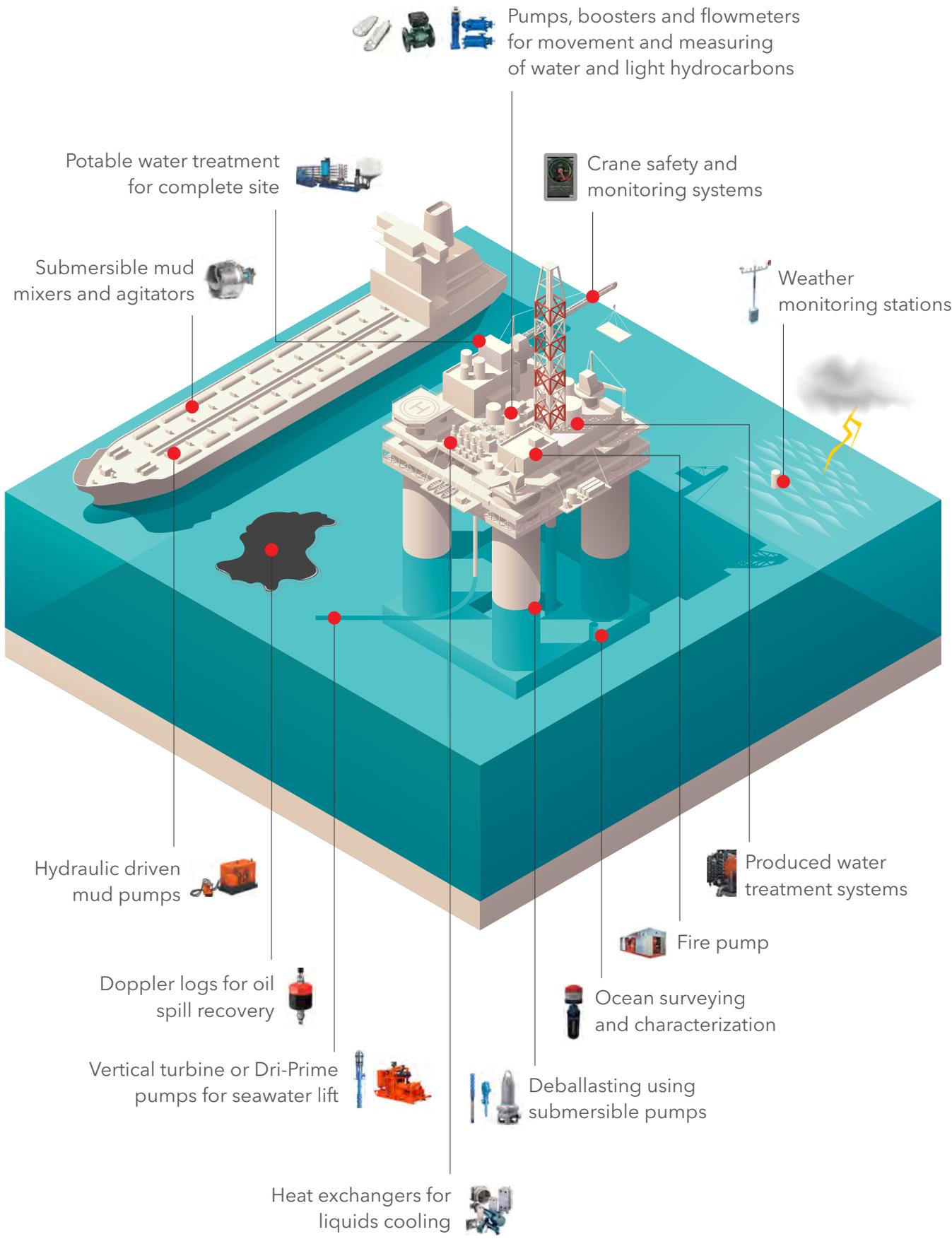
Sanitaire innovative wastewater treatment solutions, introduced in 1967, include diffused aeration, sequencing batch reactor systems and membrane bioreactor systems for municipal and industrial use.



Leopold is a worldwide leader in the design and supply of systems for gravity filtration, clarification, denitrification, sludge collection and backwash water recovery for water and wastewater plants.



WEDECO has been a leader for more than 30 years in the environmentally friendly treatment of water and wastewater with ultraviolet light and ozone that eliminate microorganisms in wastewater or treat process water for industrial purposes.



Platform Water Management

On an offshore platform, time is critical and the operation itself can be complex. Producers and service companies demand reliable equipment to maximize uptime and keep the operation moving. Xylem's pumps, controls, and treatment systems are field tested in the most extreme environments and have been solving water challenges for decades



Platform Water Management

Deballasting



Flygt submersible pumps

Meet your most demanding de-ballasting applications with Flygt's wide variety of dewatering pumps, from .5 HP to over 900 HP. The two-thousand series pumps are proven and tested as Provisional Water Ballast Pumps and the 2400 model is effective for main shaft drainage. The Flygt submersible product line is designed for outstanding wear resistance and long-term performance, backed by our unmatched application and engineering support.



Goulds Water Technology (GWT) Canned Lineshaft Turbine

Xylem's GWT Canned Lineshaft Turbine is specifically suited for handling sea water. It has been deployed in regions around the world to supply sea water in a multitude of applications, such as enhanced oil recovery, cooling, and fire pump systems. The lineshaft turbine pumps come in a wide variety of sizes, configurations and materials to fit your application.

Pumping, Boosting, and Monitoring



Vogel/Lowara boosters

Vogel large multi-stage pumps are designed for high-pressure boosting applications, such as moving water or gray water around on the platform. They deliver flows up to 63.6 thousand cubic feet per hour (1,800 m³/h) and pressures up to 1,450 psi (100 bar). Available in cast iron, ductile iron, stainless steel, or duplex stainless steel. Optional HYDROVAR variable speed drive for automatic performance adjustment and energy minimization.



MJK Mag Meters

MJK Electromagnetic Flow Meters combine high accuracy, stability and low maintenance, with no moving parts; straight-through flow sensors; and self-cleaning electrodes. The full-bore flow sensor ensures no effect on the flow rate and no pressure drop.



SonTek IQ Pipe

The SonTek-IQ is an acoustic Doppler flow meter that provides high-quality water flow, volume, level and velocity data in pipelines. The SonTek-IQ collects data in pipes ranging from 0.5 - 5.0m in diameter.

Platform Water Management

Sea Water Lift



Godwin Dri-Prime Pumps

Godwin's versatile pumps feature automatic priming dry to 28' suction lift; dry running, oil bath mechanical seal, abrasion-resistant silicon carbide faces and continuously operated venture air ejector priming. The Godwin portable diesel pumps discharge from 2" to 24", with flow capacity up to 16,500 gpm. Optional remote monitoring and control capability (Field Smart Technology).



Goulds Water Technology Vertical Lineshaft and Submersible Turbine Pumps

Xylem's GWT vertical line shaft and submersible borehole turbine pumps come in a wide variety of sizes, configurations and materials to fit your de-ballasting applications. Alloy construction with external flush of critical wear areas available for corrosive applications.

Liquids Cooling



Standard Xchange Heat Exchangers

For over 90 years, Standard Xchange has supplied heat transfer solutions worldwide. From simple shell & tube or gasketed plate heat exchangers, to sophisticated, precision-engineered custom solutions, Standard Xchange's products are used across a variety of liquid and air cooling applications. These include heat transfer for the cooling of lubricating oil, crude oil, vacuum pump seal liquid, engine jacket water, mud pumps, drilling brake, and central closed loops.

Potable Water Treatment



Packaged Potable Water Treatment Systems for Camp Sites

Water Equipment Technologies (WET) has provided reliable membrane-based water purification technology and components worldwide since 1975. An early innovator in membrane technology systems, WET today builds skid mount systems ideal for camp water and temporary fresh water needs.



Produced Water Treatment Systems for Reuse or Disposal

Xylem offers a portfolio of products, including Sanitaire and Leopold branded treatment solutions, designed to effectively meet the demands and challenges of treating produced water in offshore environments. From smarter aeration to advanced filtration to chemical-free disinfection, Xylem's experts will help you find the right solution for the application. Through the brands that have been trusted for decades, Xylem offers hundreds of solutions backed by a comprehensive, integrated portfolio of services designed to ensure that treatment equipment keeps running at its best.

Environmental Health and Safety

Challenging offshore environments require sound Environmental, Health, and Safety (EHS) practices. Robust EHS solutions and technologies augment thoughtful company policy by ensuring worker safety and minimizing an operation's footprint on the environment.



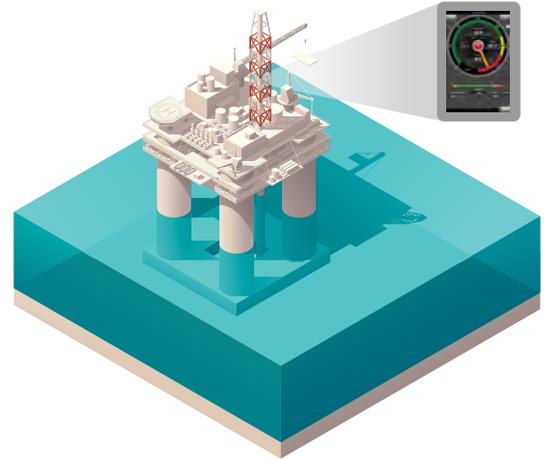
Environmental Health and Safety

Crane Monitoring & Accident Evaluation



Aanderaa's MIPEG Crane Safety and Monitoring Systems

Since the 1970's Aanderaa has offered crane load monitoring and safety systems through the MIPEG brand. It has become an industry standard for offshore crane load monitoring and safety systems. Being engineered together with more than 40 international crane manufacturers, the MIPEG systems are used by more than 2000 offshore installations.

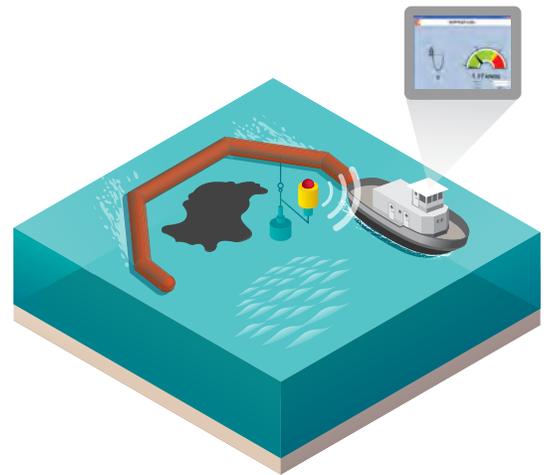


Oil Spill Recovery



Real-time Doppler Log System

The Aanderaa Doppler Log System is a complete real-time system designed to make mechanical oil spill recovery more efficient. The system monitors the boom's true speed through water and ensures that the oil boom is operated at the optimal speed. The information is displayed on a screen on the ship's bridge, and the display is made so that the correct information is easily understood by just looking at the screen "at a glance". The system ensures correct build-up of oil in the boom and gives efficient and secure collection of oil.



Fire Suppression



AC Fire Pump Systems

A-C Fire Pump Systems designs and custom-builds a wide range of UL/FM-listed fire pump products and turnkey systems for offshore applications, including prefabricated packages to meet all suppression needs.

Environmental Health and Safety

Environmental Monitoring Solutions

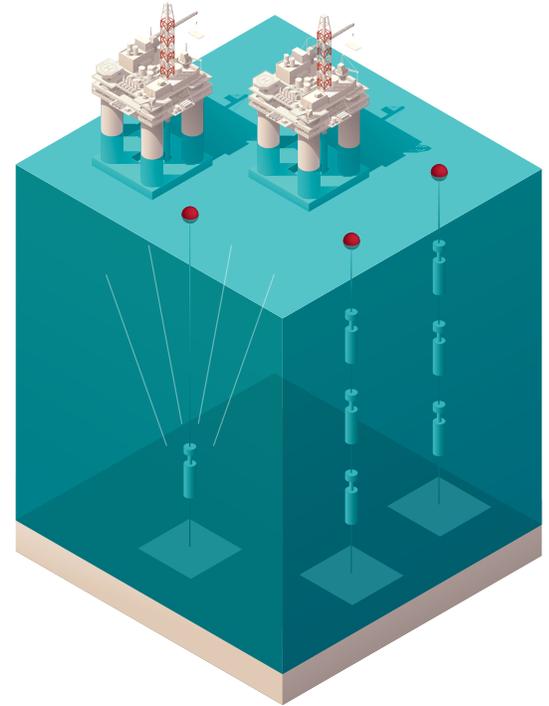


Aanderaa's Met-Ocean Surveying and Characterization

Aanderaa is a leading player in the collection and transmission of environmental information. Accurate measurements improve environmental impact assessment and the preparation of contingency plans, operational models and forecasts, wherever offshore activities are conducted. Our user defined Met-Ocean instrument platforms offer a smart and flexible observation system without the huge cost of a custom solution.

Thousands of current meters are in use today in surveying the environment in and around areas with potential development for oil and gas. Take advantage of the reliability of our systems whether it is pre-development, during riser operations or operations monitoring.

Aanderaa systems for offshore includes SEAGUARD®, SEAGUARD II DCP, wave and tide stations and buoy systems. Data from our equipment can be displayed over AIS, internet or to be integrated into other systems.



Weather Monitoring Stations

There are a number of challenges to ensuring transport vessel safety and the safety of workers on platforms. Real-time data about currents, wave, tide, wind, visibility, and other meteorological parameters can help overcome some of these challenges. Aanderaa's Weather Monitoring System takes this data and displays it securely in a web-based platform. Our SmartGuard data hub and hyt/met stations are used to measure, collect, and transmit data.

Offshore Supply Vessels

Offshore supply vessels (OSVs) are critical to the success of an offshore operation. They serve as a vital link to land. OSVs deliver personnel and supplies, such as tools, muds and chemicals, equipment, and goods. Drilling mud is among the most important supplies that an OSV will deliver - Xylem's solutions are proven at mixing, agitating, and pumping of this drilling mud.



Offshore Supply Vessels

Drilling Mud Mixing & Agitating



Flygt's High Efficiency submersible mixers and agitators

Not only did we invent the submersible agitator at Flygt, but we also launched the world's first heavy-duty submersible pump. Flygt offers the market's widest range of industrial submersible mixers and agitators. They are available in a large number of different materials to meet varied corrosion, abrasion and temperature requirements.

Flygt solutions eliminate downtime by being raised in a matter of minutes without emptying the tank, take up less space, and offer ease of installation.

Mud Pumping



Godwin's hydraulic driven pumps

Godwin's electrical and hydraulic driven pumps are proven on offshore supply vessels for the pumping of drilling mud. Godwin's mud pumps have been used to supply mud or return used mud to and from Field Installations.





Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

For more information on how Xylem can help you, go to www.xyleminc.com



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