Kvaerner is a specialised engineering, procurement and construction (EPC) company. As a preferred partner for oil and gas operators, Kvaerner is focused on delivering complete solutions to some of the world’s most demanding projects through reliable, effective and flexible execution models.

HSE is a core value
At Kvaerner, concern for health, safety and the environment is more than a core value; it is also an effective way to work. Our HSE mindset is founded on the belief that all incidents can be prevented. We work systematically to ensure continuous improvement of our HSE culture and performance.

- We strive continuously for zero harm to people, the environment, material and non-material assets.
- We focus on employee health and on further improvement of the work environment.
- We require every employee to take personal responsibility for HSE by focusing on their own behaviour.
The engineering phase is the basis not only for the subsequent procurement of equipment and the construction of the facility, but for building a facility which will operate effectively for decades to come. Our multi-disciplined organisation covers all phases of technical and administrative functions needed to execute demanding engineering tasks for our customers.

Kvaerner provides best value procurement from subcontractors to customers by leveraging global sourcing networks and market knowledge. Our supply management and procurement organisation supports project execution through a pro-active process for optimising the lead-time, total costs and quality, mitigating risk and ensuring HSE performance.

Kvaerner’s services include specialised in-house fabrication yards with decades of experience from demanding projects combined with the capacity of high quality partners. With Kvaerner’s flexible execution model we deliver reliable and cost-effective solutions while ensuring a high degree of local content when it benefits the project. All our projects are supervised by Kvaerner’s senior project and construction management.
Solutions for different needs and demands
Kvaerner is a leading contractor for engineering, procurement, and project management, as well as construction for oil and gas facilities, both for topsides on fixed or floating platforms, and onshore processing facilities.

Different reservoirs and development concepts require tailored solutions. Kvaerner has gained experience from a number of projects over the last decades.

Kvaerner has delivered topsides for fixed platforms both on steel jackets and gravity based structures (GBS), and is among very few contractors with experience in delivering all types of floating platforms; semi-submersible production platforms and drilling rigs, TLPs and FPSOs. This enables Kvaerner to deliver optimum solutions for our clients.

Kvaerner's services also include major modification work onshore and offshore, including demolition and disposal of installations at end of field life.
Kvaerner’s comprehensive capabilities and proven track record include complete deliveries of floating offshore platforms, platform topsides and onshore facilities for oil and gas processing. With the flexibility to handle all contract formats and project execution models, our services include the full value chain from concept through completion.

Close integration between various phases is critical to the project’s long-term success. Poor quality may delay the start of production or reduce the capacity. A delayed delivery may have significant knock-on effects for our customers. This is why Kvaerner strives to offer attractive technical solutions combined with skilled people and effective, reliable performance. For more than 40 years, Kvaerner has delivered floating platforms, topsides and onshore facilities to some of the industry’s most demanding projects.

Sitting on the floating hull or fixed substructure, the topsides are the heart of an offshore platform. The topsides hold the facilities to process oil and gas from the reservoir in the seabed below.

Depending on the water depth, a fixed or floating structure will be selected. In order to allow the platform to maintain operation even in harsh weather, the floating hull must have characteristics which manage the movement from currents, wind and waves.

When delivering an onshore facility, which typically combines oil and gas processing technologies with civil engineering work, an effective project execution model is imperative for a successful result. Kvaerner has extensive experience in delivering onshore oil and gas facilities.

More than 10 semi-submersibles, including deepwater floating production and exploration drilling units.
More than 20 semi-submersibles, TLPs and FPSOs.
More than 20 topsides for floating platforms with a steel jacket substructure standing at the seabed. Kvaerner has also delivered more than 40 steel jacket substructures.
More than 20 topsides for platforms with a concrete Gravity Based Structure (GBS) standing on the seabed. Kvaerner has also delivered 17 concrete GBS structures.
More than 10 projects for onshore oil and gas processing facilities.
Market leader in delivering platforms for deep water, harsh environment and arctic conditions.
Life cycle optimization from Day 1: Flexibility for later upgrades.
Market leader for delivering large onshore facilities for subsea-to-shore development projects, where streams are received from subsea wells offshore via pipeline to the onshore treatment plant.
Heidrun, the world’s first concrete TLP.

Njord, the world’s first built for purpose semi-submersible production platform.

Nyhamna – Ormen Lange: Onshore facility for processing and export of gas.
Eldfisk is one of the fields in the Greater Ekofisk Area offshore Norway. Both the Ekofisk field itself and the associated Eldfisk have since the 1970s been developed with several offshore platforms with steel jacket substructures. Kvaerner has over the decades delivered the majority of this extensive development. In March 2011, the company was also awarded the EPC contract for delivery of topsides, bridges and a flare for the new Eldfisk 2/7 S platform. Kvaerner will deliver the 15 500 tonne topsides and the other components for the new platform in time for installation in 2014.

Grane is a drilling and production platform with the topsides installed on a steel jacket substructure. Kvaerner delivered the full EPC value chain for both topsides and jacket. Even when introducing several new methods and technologies, including systems for processing of very heavy oil, the project broke several previous performance records. Grane was recognised as a benchmark delivery on most key parameters, including HSE, efficiency, schedule, and budget management.
Kvaerner has been involved in several projects for arctic conditions offshore Canada, including the Hibernia platform. As a leading contractor, Kvaerner was involved in all phases of the project development, for both the topsides and the substructure. The substructure is built to withstand contact with drifting ice. To utilize local employees, Kvaerner played a key role in establishing a fabrication yard in Bull Arm, Newfoundland.

With a total height from seabed to the tip of the flare of 481 meters, the Troll A holds the title "the largest object ever moved by man". Troll is one of the world’s largest offshore gas fields, and the Troll A platform has been dubbed as one of the world’s modern engineering marvels. Kvaerner performed the full EPC scope for the gravity base substructure (GBS), and the EP and C scope for the large topsides with gas processing facilities before the complete platform was towed out to the field and installed. In addition, Kvaerner has been involved in developing other installations at the Troll field.
The Kristin semi-submersible production platform is located in a region prone to harsh environment offshore Norway and within a deep reservoir causing high pressure and high temperature. The platform is made to handle a well stream with a pressure of 900 bars and temperatures of 170 degrees Celsius.

The semi-submersible production platform Gjøa is built for operations in harsh winds and waves. It is the world’s first floating production platform with electrical power from shore, thus reducing the CO2 emissions from the platform.
At the Mongstad refinery, Kvaerner has been a key contractor, installing new and environmentally friendly technology for carbon capture from gas emissions. The Technology Centre (TCM) is installed for testing green technologies.

The LNG facility at Melkøya receives gas via seabed pipelines directly from subsea wells at the Arctic Snøhvit field in the Barents Sea. In the development of this subsea-to-shore project, Kvaerner was the installation contractor for onshore facilities on the island Melkøya, just outside one of the world’s most Northerly cities, Hammerfest.
Kvaerner is a main contractor with practical experience gained from large projects in challenging environments. Our comprehensive track record includes fixed and floating substructures for offshore platforms and terminals, topsides for offshore platforms and terminals. We have also delivered a wide range of onshore based facilities for oil and gas processing or industrial purposes.
Kvaerner’s delivery of oil and gas offshore platforms and onshore facilities is based on its own Project Execution Model (PEM), which has been developed, proved and documented on numerous projects. Kvaerner’s PEM approach ensures that projects are systematically planned and executed. The model combines effective performance with a careful detection of possible challenges during the project’s life cycle, and enables proactive mitigation and risk management.

The use of PEM assures quality in every step of the project, through a clear definition of milestones, elements and quality parameters. This systematic approach provides transparency for both the project team and for the customer. The continuously updated project overview identifies opportunities for flexibility.

**Technology development**

After project completion a systematic analysis is performed. Ideas that work well are harvested for further improvement, as part of Kvaerner’s continuous improvement.

Kvaerner carefully invests in developing new technological solutions and new methods. It is this development that brings new knowledge and ideas to the table when a new project is being considered by our customers.

**Studies and front-end**

Kvaerner prefers to be involved in the early stages of a project and contribute to the customer’s decision process on the development concept, through the phases for feasibility studies, field development planning and FEED, as well as for the establishing of a project execution strategy.

The FEED phase is critical to the long-term success of the overall project objectives. While a project’s business plan typically identifies the financial opportunity, the FEED establishes a set of process operating conditions and specifies the equipment needed to achieve the necessary level of reliability, efficiency and safety. Hence, this phase sets the direction for the subsequent project phases.

**Engineering**

Kvaerner has an experienced engineering organisation, capable of executing several simultaneous projects. In addition, we work closely with Aker Solutions and other recognized engineering partners.

Our network of offices at strategic international locations is often leveraged to provide additional capacity or to contribute with relevant expertise and experience. When necessary, we also use selected strategic partners worldwide, including high-value engineering hubs, to assist in various parts of the project execution.

The detailed engineering phase also provides specific instructions which enable the fabrication of the new installation with maximum efficiency.

**Procurement**

The documentation from detailed engineering is an important tool to enable the procurement organisation to gain the best terms and conditions from vendors, including the identification and ordering of long lead items at an early stage. Kvaerner’s organisation includes extensive experience in procurement for both onshore and offshore projects. Our expertise includes the overview of alternative suppliers and vendors, market prices and quality standards for specific items and systematic follow-up routines after the orders have been placed.
Mating of topsides and hull.
Gjøa on its way to field from Kvaerner Stord.
Close cooperation between engineering and procurement.

Construction
Kvaerner can offer construction for both offshore platforms and onshore facilities based on more than 40 years of experience. Kvaerner has also established strategic partnerships with other leading, best-value fabricators. This ensures flexibility, as well as the ability to deliver projects in selected regions.

Cooperation between Kvaerner and its strategic partners is based on the PEM model and a close on site cooperation between the experts from Kvaerner and its partners. All parts of the delivery are performed according to the high standards and with the reliability that is expected from Kvaerner.

Local content is a key factor for many oil and gas projects. Kvaerner has long and documented experience of contributing to local content and to the establishing of long term local value creation through use of local suppliers and through training and effectively integrating local subcontractors.

Hook-up and Commissioning
The delivery of an offshore platform or onshore plant typically involves hundreds of thousands of small and large deliveries of products, systems and services from suppliers around the world. Kvaerner ensures that everything comes together with the maximum efficiency and desired quality.

Kvaerner offers hook-up and commissioning for floating platforms or platform topsides at this modern facility. For hook-up and commissioning of onshore facilities, Kvaerner’s experienced operators and construction managers will perform the hook-up and commissioning at the plant site. Kvaerner covers all hook-up and commissioning disciplines typically required, such as process and marine system design, piping, layout, material handling, pipe stress, secondary structural steel (steel decks, access and support systems), HVAC and safety systems, electrical, instrumentation, telecom, mechanical equipment, risers, J-tubes and pipeline interfaces.

Installation of topsides
Different substructure solutions require different installation methods of the topsides. For fixed steel structures, the topsides will be lifted onto the substructure in one or more modules at the field. Depending on the size of the topsides, this might cause extensive offshore hook-up work.

For floating facilities and gravity based substructures, the mating will be performed inshore by float over. This will require minimal offshore hook-up work. For FPSOs, the topsides will be installed keyside. Kvaerner has over the last decades gained extensive experience on all these installation methods.

End of life services
Kvaerner has state of the art facilities and experienced personnel to carry out a safe demolition and disposal of closed down installations.

Hands-on project management
All our projects, including those executed with strategic partners or local contractors, are supervised by Kvaerner’s own project managers. The in depth expertise, the proven experience and the hands-on approach of our experts are some of the factors that make Kvaerner unique, and have made our brand recognised as the reliable, effective contractor for the most demanding projects.
Kvaerner’s mission is to successfully execute some of the world’s most demanding projects through living our values.

In any organisation, values are essential for building trust – in each other, in our partners, in our customers and with society. All the Kvaerner businesses share a common set of values – the compass that guides our policies, our operations and ultimately, our behaviour.

For further information, please visit our website: www.kvaerner.com