KVÆRNER™

# Once upon a time ...

## The common history of Aker and Kvaerner

### The start at the mid 1800s

In 1841, Aker was founded in Christiania (previous name for the Norwegian capital city, Oslo). The new company was established close to the mouth of the Aker River, which runs through the city of Oslo. Aker is also the name of the district surrounding what is today downtown Oslo.

In the first part of the 1800s, young men travelled to England to get an education as engineers. Peter Steenstrup was one of them, and he learned about the new technical marvel of the international industrial revolution: The steam engine. Back in Norway, Steenstrup became the first president of Aker when the company started to build and install steam engines in vessels originally built as sailing ships.

In 1853, Kvaerner was founded in Christiania (now Oslo). The company was established in the valley Lodalen in Oslo, where a river for centuries had been used to power a number of mills (which is expressed "kvaerner" in the Norwegian language).

Like Steenstrup, Oluf A. Onsum had been educated as an engineer and learned about the possibilities in the industrial revolution.

The young entrepreneur started manufacturing a series of iron products, such as ploughs for agricultural use, tools, stoves and industrial ovens, household products, etc.

### Last half of the 1800s

Gradually, Aker expanded the business from delivering steam engines for use as additional power in sailing ships to delivering the whole ship. The location of the mechanical shop at the bank of a small river was not effective for ship building, and the company developed ship building facilities at the waterfront in the harbour of Oslo, still close to the Aker River. As the years went by, the ships and the workforce grew bigger.

**Kvaerner expanded the business more and more to be a key supplier of iron and steel based tools and parts to mechanical equipment to the growing number of industry projects in Norway, especially to sawmills, and later also to the pulp and paper industry.**

Kvaerner also recognised the value of corporate responsibility. At the time where many workers struggled to afford a place to live, the company built a number of small apartments close to the manufacturing facilities and offered them to employees at affordable rates.

### First part of the 1900s

From 1814, Norway and Sweden had been in a political union. However, from 1884, the two countries had separate parliaments, but a common king. In 1905, there was a strong movement in Norway to separate the country from Sweden. In a worst case scenario, the separatists at the Norwegian parliament had to be prepared that the process could lead to a conflict and even war.

In the case of a war, the Norwegian politicians wanted to ensure that the Norwegian navy would have access to a repair ship yard in a protected harbour. Aker was offered a larger property for commercial ship building at attractive terms if Aker was also willing to establish facilities which could meet the navy's requirements.

The new Aker shipyard was established at Tjuvholmen at what was at the time a location at the outskirts of Oslo. Gradually, Akers Mekaniske Verksted (Aker's Mechanical Workshop and Yard) grew to become one of the largest shipyards in the country.

Fortunately, there was never a war! The process ended with the union being resolved peacefully, laying the foundation for a close friendship between Norway and Sweden.

In the first part of the 1900s, Kvaerner continued to expand further within mechanical manufacturing of iron and steel products.

Kvaerner became a main supplier of equipment to both the railroad infrastructure, steel bridges and gradually also a supplier to the manufacturing of the trains.

The cities and infrastructure in Norway developed further, and Kvaerner supplied structures to buildings and large constructions.

Increasingly, the company also manufactured machinery and systems. The start of the century was also a time for development of a high number of large scale hydro electricity power plant projects, which in turn could deliver power to new industrial facilities.

Kvaerner became the key supplier of advanced turbines for hydro electrical power plants. The company developed a number of technical innovation and patents, and the number of manufacturing facilities expanded

Gradually, Kvaerner grew to become one of Norway's largest industrial companies with a number of different product lines within structures, pumps, turbines, cranes, etc.

### World War 2

During World War 2, Norway was occupied by Nazi troops, and the commercial industry which was able to uphold any activity had to follow war economy directions.

The docks at Aker's yards in Oslo were partially seized by Nazi troops and used for storage, loading and offloading vessels used for transport purposes. This made the Oslo harbour one of the key targets for allied plans to bomb and sabotages the facilities. Several sabotage actions against the docks and the ships along the piers were undertaken by the Norwegian resistance movement, also with the support of Aker employees.

During World War 2, Kvaerner was able to uphold a certain activity level, typically through involvement in maintenance and upgrades of existing Norwegian power plant facilities.

### The first decades after WW2

After World War 2, ship owners around the globe needed new ships. A major part of the world's commercial ships were lost during the war.

The shipbuilding activity at Aker Mekaniske Verksted accelerated, with a number of ships under construction at almost all times. One commodity stood out in the world trade: the demand for transport of oil to consumer markets increased at an exponential rate.

Aker recognised the market opportunity for a ship builder able to deliver ships which could carry more crude oil than any tanker previously seen on the seven seas. A site for a yard for larger ships than the facilities in Oslo could handle was needed.

Aker found the place for a new, huge shipyard at the island of Stord at the West coast of Norway. The course to build super tankers was set.

In the 1950s and through the 1960s, Kvaerner entered in to the business of building and installing steam turbine engines in commercial ships built at shipyards in the Oslo area. Gradually, this business expanded with manufacturing gears for ship engines and refrigeration systems for ships carrying various foods.

When Aker went from building ship engines to building entire ships, Kvaerner did the same. The company bought the shipyard in the city of Moss in Norway and became a ship builder in addition to Kvaerner's already large portfolio of industrial operations.

This was the start of fierce competition between two powerful organisations with a culture for overcoming any challenges and win: It was the start of decades of competition between Kvaerner and Aker.

### The boom years in the 1960s

Through the 1960's Aker built and delivered increasingly larger and technically more advanced ships, both from the yards in Oslo and from the yard at Stord.

Aker had a strong advantage in having Fred Olsen, one of the world's leading ship owners, as principal shareholder and dedicated investor in expansion plans.

With larger and more complex ships being built at several locations, Aker's engineering unit in Oslo started to stand out as a separate, specialised department. This was the start of what later became the separate subsidiary Aker Engineering.

**With the growing petrochemical industry, Kvaerner recognised the niche market for transport for liquefied natural gases (LNG).**

Kvaerner developed and patented a design which gradually became the world leading design for LNG carriers. The concept with cargo compartments for the gas shaped as spheres, typically with the upper parts of the domes visible above the deck level is easily recognizable on ships still in use.

The LNG design became an international success, and was built both by Kvaerner's own yard and on licence by yards around the world.

At a later stage, Kvaerner brought the company's involvement through the value chain one step further by also being involved at the ship owner side.

The success of the LNG ships made Kvaerner decide to further leverage the opportunities for selling engineering design for such solutions in the international markets. In 1966, 8 engineers moved to a villa in Lysaker outside Oslo. This little team were the first employees of Kvaerner Engineering.

Gradually, the shipyard in Moss got too small to handle the expanding business. In 1970, Kvaerner acquired the Rosenberg shipyard in the city of Stavanger on the Norwegian West coast.

### From prosper to gloom: The global oil crisis

At the start of the 1970's, the world looked bright to the shipbuilding industry.

Aker's order backlog for many new vessels also included 7 super tankers, work for many years ahead.

Then came the global oil crisis in 1973.

With little oil available, the tankers were out of work, and the ship owners cancelled their contracts. Over a time frame of only weeks, Aker's backlog for 7 super tankers was reduced to zero tankers. The future looked bleaker.

The oil crisis also struck Kvaerner. Primarily, the negative impact was on the company's shipping related activities, but the global crisis also led to reduced trade for most of its other industries.

However, Kvaerner's business within turbines maintained a relatively stable level through the crisis years in the middle of the 1970s.

### From oil crisis to oil adventure

In the 1950's and early 1960's, oil was discovered in the Southern part of the North Sea, offshore Holland and Great Britain. Several oil companies then wanted to explore opportunities for finding oil and gas in the Norwegian part of the North Sea.

In 1966, Aker's yard in Oslo performed an order a bit outside its ordinary business. The yard was contracted to build the semisubmersible drilling rig Ocean Viking, based on a design provided by the client. At the time, the order was first and foremost exotic. Few in Norway believed that oil and gas would be found on the country's continental shelf.

Through the last years of the 1960s, several rigs drilled at different blocks offshore Norway, without making any discovery of interest. Then, just before Christmas 1969, Ocean Viking discovered the Ekofisk field for Phillips Petroleum. It would turn out to be one of the world's largest offshore oil fields.

A new industry was born. Soon after, more discoveries were made. With the oil crisis leading to several cancelled shipbuilding contracts, Aker turned around quickly and focused on the oil and gas market.

After the first oil discoveries on the Norwegian continental shelf, Norwegian politicians urged Norwegian

companies to qualify as contractors to the oil companies. As Aker, Kvaerner decided to enter into the new industry with full strength. Gradually, the company won contracts as a subcontractor to international main contractors, both for engineering and fabrication projects as well as for manufacturing of special components made at various Kvaerner facilities.

As before in the shipbuilding industry, Aker and Kvaerner were now fierce competitors as contractors to the oil and gas industry.

It may be argued that in the first 10 – 15 years, Aker, Kvaerner and other Norwegian companies to a large degree had the role of apprentices, learning from international oil and gas engineering companies, fabricators, manufacturers of specialised products, and from the oil companies themselves.

The experience from how to successfully develop the expertise and capabilities necessary for a successful domestic industry is today one of Kvaerner's and Aker's competitive advantages. In many emerging oil and gas provinces, there is a strong national interest in developing the national supply industry. Kvaerner and Aker have actively contributed to developing the industries in provinces such as Canada, Russia, Brazil, the Caspian Region, Vietnam, Nigeria, etc.

### From apprentices to masters

In the late 1970's and the 1980's, Aker's first approach to the new industry was to get involved in engineering and fabrication subcontracts for oil and gas platforms, loading buoys, etc. Even if the contract formats and details of the scope were different, there were also many similarities to ship-building which could be leveraged.

The shipbuilding activity had now been abandoned. A small team from Aker Engineering at the former shipyard in Oslo reviewed the design and experiences from Ocean Viking and other drilling rigs engineered by other engineering houses and found several opportunities to offer an improved solution: The Aker H-3 and later Aker H-4 designs were born. With a total of 37 units built, this became the most common floating drilling rig worldwide.

**The first Aker H-3s were built at Aker's yards in Oslo. To increase capacity for fabricating more Aker H-3s, Aker established the purpose built offshore fabrication yard Aker Verdal in Mid-Norway. Later, the Verdal yard became even more recognised as Europe's leading fabricator of steel jacket platform substructures.**

In 1986, Aker merged with Norcem, one of the world's leading suppliers of concrete and cement. The merger also added non-maritime businesses to Aker's portfolio, such as Norema module-based kitchen furniture, Leca pre-fabricated cement blocks and Jøtul ovens. Norcem and the non-oil and gas related businesses were later sold in the late 1990's.

In the 1980's Norwegian Contractors was established as a new independent company, dedicated to offer concrete substructures to offshore platforms. Norcem was among the owners, and after the Aker – Norcem merger, Norwegian Contractors was acquired by Aker. The company established a world leading track record from building concrete substructures for offshore platforms, both gravity based structures standing on the seabed and hulls of concrete for floating platforms.

Through the 1970's and 1980's, Aker gradually developed competence as a supplier to the oil and gas industry, and was increasingly involved on larger and more complex scopes of work. Gradually, the main competitors were not so much the international contractors. It was again the other main domestic rival: Kvaerner.

Kvaerner too got involved in engineering and fabrication of offshore platforms as a subcontractor to main contractors. The yards in Moss and at Rosenberg played important roles for fabricating modules for topsides, and Rosenberg later grew to take on entire topsides. Other facilities were added later, including the yard in Egersund at the South coast of Norway.

As neither the oil companies nor the supply industry were quite mature yet, EPC contracts including responsibility for engineering, procurement and construction were not common at this time.

Sometimes, Aker Engineering would win the contract for detailed engineering, while a Kvaerner yard would win the fabrication contract for the same project. The next time, it may be the other way around.

A look at the major developments on the Norwegian continental shelf confirms that this incredible industrial development is the result of joint efforts.

While Kvaerner's non-offshore industries were still a major part of the company's business, the oil and gas activities grew to steadily become more dominant. With increasing experience came also larger projects and more responsibility. Through the 1980s, Kvaerner Engineering, the Kvaerner yards and Kvaerner's manufacturing facilities won contracts with larger and more complex scopes.

### World records create basis for further expansion

Compared to many other oil provinces, the Norwegian continental shelf not only had several unusually large fields, but the reservoirs were also very productive. The combination of very large fields and each well being very productive has made the typical Norwegian platform from this period big even in an international perspective.

**In the 1980s and 1990's, it seems like almost every new project was a world "first" or "world's largest". Veslefrikk was one of the world's first floating production platforms. When Troll A was towed to the field, it was the largest object ever moved by man.**

While Aker initially focused on engineering and fabrication, the company later expanded the business also into offering specialised equipment and services.

Through the 1980s and 1990s, Aker's offering included units like Aker Drilling, operator of drilling platforms, Aker Base, a leading operator of supply bases and logistical services, Aker Subsea with underwater solutions, units operating vessels for seismic surveys, units manufacturing drilling mud, units for studies and FEED work, etc.

In the 1980's, Aker started to establish hubs in the UK, and in the early 1990s, the company acquired an engineering company in Houston. Simultaneously, Aker got involved in the development of the Hibernia platform offshore Canada.

During the 1980s and 1990s, Kvaerner expanded its oil and gas related business with more specialised products and services. Kvaerner also developed its own business for concrete structures. While Aker had sites at Hinna and Vats close to Stavanger for construction of their concrete platforms, Kvarner established a construction site at Hanøytangen close to Bergen. The company built the concrete hull for the Troll B semisubmersible production platform and the foundations for the Heidrun TLP mooring system in the mid 1990s. Later, the site was closed down.

### Large changes at the end of a century

In the 1990s, Aker delivered a number of successful projects, but 2 projects came out with financial losses which for a time limited the company's flexibility.

On 23 august 1991, the large concrete substructure for the Sleipner A sunk during testing before tow to the field. The loss was caused by a fault in the structure, and for several years, there was an uncertainty how much penalties Aker might have to pay.

In the mid 1990s, Aker delivered the semisubmersible Njord platform, and for a period, there was uncertainty with respect to if Aker would be compensated for the extra costs which had occurred during the project. Both these matters were later settled, but at the time, the uncertainty created considerable uncertainty among shareholders and potential investors.

Simultaneously, the industrial company Resource Group International (RGI) controlled by Kjell Inge Røkke and partners had taken interest in both Aker and Kvaerner. In 1996, RGI acquired enough shares to become Aker's principal shareholder. At the end of 1996, Aker acquired the Norwegian based Maritime Group, including subsidiaries such as Maritime Hydraulics, Maritime Well Services and Maritime Pusnes.

Aker's total oil and gas activities were placed in a separate, publicly listed company: Aker Maritime, with Aker RGI as the main shareholder. Over the next years, Aker Maritime was successful in expanding the business in the international markets. A substantial business directed at the deep water business was developed with Houston as a key hub, and then sold to Technip in 2001.

Like other contractors, Kvaerner experienced both positive projects and less positive projects. However, over all, the company performed well in the 1990s and looked for international expansion opportunities.

In what was at the time the largest take-over investment ever performed by a Norwegian company, Kvaerner acquired the UK based international corporation Trafalgar House. This company had more than 50 000 employees and was a conglomerate involved in a wide number of very different industries around the world, including supplies to the oil and gas industry.

### Competitors become partners

Over the years, both Aker and Kvaerner had several times considered merging the two corporations, but nothing came out of it.

But then, during the summer of 2000, Aker Maritime acquired shares in Kvaerner and became the compay's principal shareholder.

This was the start of an intense dispute between Kvaerner and Aker. The media speculated that the climate between the parties was so poor that any merger was destined to end as a failure.

Simultaneously, Kvaerner's financial situation was stressed. A necessary turn-around process to make the previous Trafalgar House organisation more profitable took more time than planned. In December 2001, after an intense process, both parties agreed to merge Kvaerner and Aker Maritime, and Aker became the main shareholder in the new company.

The merger included several hundred legal entities and transfer of employment for thousands of employees. Credits had to be re-established, and customers had to give their approval.

**In March 2002, one of the world's largest and most complex mergers that year was concluded, only 3 months after the agreement was signed. As it turned out, the climate between employees from both sides was friendly from Day 1. Again, the people in both organisation proved that they could overcome any challenge.**

After the merger with Kvaerner in 2002, the process to develop a more logical structure started. In 2004, this restructuring started. The shipbuilding activities were established as a separate group named Aker Yards. This group was later acquired by the South Korean industrial STX corporation.

Some non-core engagements were transferred to a separate company, and Aker took over some legacy issues related to a former Kvaerner engagement within offshore launch platforms for space rockets. The main part of the business was continued in one unit, which took a new name: Aker Kvaerner.

In 2006, the Norwegian government came in as an indirect shareholder through an ownership company owned jointly with Aker: Aker Holding. In 2008, Aker Kvaerner changed name to Aker Solutions.

### The start of a new chapter

The history shows that Aker and Kvaerner have succeeded because the employees and management have always responded to shifts in the market. Today, the customers ask for more specialised EPC contractors.

On 6 may 2011, the Annual Shareholders Meeting approved that the EPC business for offshore platforms and onshore facilities is placed in a separate, listed company under the name Kvaerner.

Today, the Kvaerner organisation is recognised by clients as one of the world's leading contractors for EPC projects. We stand on a proud history, and we will write new and exciting chapters to that story as we now move forward.