



Marking half a century of specialist turbo services

The Sulzer Venlo Service Center celebrates 50 years of delivering ground-breaking gas turbine services

Visitors to the small town of Lomm, near Venlo in the Netherlands, are often surprised to discover that it hosts one of Sulzer's world-renowned service centers of excellence. At the forefront of delivering customized solutions for gas turbines, the Venlo Service Center is celebrating 50 years of ensuring that its customers equipment operates at peak efficiency. Throughout its history, the service center has provided innovative repairs and upgrades to overcome the technical challenges faced by the power generation, general industry and aviation markets. More than that, it has built a strong community of dedicated experts that is constantly pushing the engineering boundaries of gas turbines, steam turbines and compressors.



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For half a century, we have provided our customers with bespoke engineering services for gas turbines. From our early days in aviation, to our current diversification towards steam turbines and compressors – we have developed repairs, machines and new techniques to keep equipment running better for longer. This anniversary is an incredible achievement – I'd like to personally thank all our customers, partners and employees who have made this possible.

Frenk Hinssen, General Manager at Sulzer Turbo Services Venlo B.V.

A look to the past

Founded in September 1973, what would become Sulzer's Venlo Service Center established itself in Lomm as the founder, Mr. Twaalfhoven, owned a local heat treatment company. The easy access to furnaces made it an ideal place to set up a repair shop for gas turbine parts. At the time, this was a service not offered by the original equipment manufacturers (OEMs). Consequently, what began as a small set up grew very quickly.

The company diversified to provide a wide range of solutions. Elbar was focused on supporting gas turbines with innovative maintenance services, while Eldim was founded to supply new parts for aeroderivative engines used in aviation. On the other hand, Interturbine Holland primarily maintained these aero turbines.

Elbar was the trailblazer for what the Venlo Service Center would become – a leading independent service provider (ISP). Over a period of 25 years, Elbar found itself pushing the boundaries of gas turbine repairs. Typically, OEMs were more interested in selling new parts rather than repairing existing components. Elbar instead specialized in getting parts to run as long as possible over multiple repair cycles. This cost-effective, innovative service proved popular with customers.

As Elbar grew, almost every family in Lomm was represented at the facility. This local nucleus sustained the business throughout its early years – but a change in the market was to present the organization with its first challenge.

Overcoming a changing market

The spur for this was the entrance of aero engine OEMs into the aftermarket. Unlike gas turbines, an airplane engine always remains in the ownership of the OEM due to safety regulations. Slowly but surely, the OEMs began to remove permissions for repair parts. Eventually, the only option left was to sell the aviation companies to the OEMs in 1998. However, with its focus on gas turbines in the power generation industry - Elbar endured.

Quickly making headway in the market, Elbar developed into a leading technology specialist for gas turbine repairs. Securing multiple long-term service agreements (LTSA) saw the business transcend beyond a repair shop, with dedicated field services and new capabilities becoming available. In fact, the company was turning into a competency center for developing new gas turbines repair processes and techniques.

In 1999, Elbar was acquired by Sulzer. The modern era has seen the business diversify, building on its unmatched gas turbine expertise to move to servicing other types of turbomachinery such as steam turbines and compressors. Today, it's an integral part of Sulzer's global network, as it continually strengthens its engineering capabilities to support service centers and customers around the world.

The engine room of a turbine expert

Even within a company famed for its engineering prowess, Sulzer's Venlo Service Center is highly regarded by employees and customers alike. It's a facility that uses the latest technology to change what is possible in turbine maintenance.

"Our customers keep coming back because we aren't a standard service provider. There isn't a set menu," explains Frenk. "We listen to the issues the customer has and come up with tailored improvements for maintenance or component performance. We ask: what are you looking for? More power? Less Nitrogen Oxides (NOx) emissions? Improved service life? We solve these problems by developing bespoke repair solutions."

The service center specializes in the manufacture and repair of gas turbine components. This includes highly complex parts such as blades, vanes, burners, combustion liners, transition pieces, hot gas casings and mixing chambers. Often, parts are upgraded to provide improved performance and service life compared to OEM equivalents. Reverse engineering and redesigning components are standard practice, backed by state-of-the-art 3D scanning that allows highly accurate models of parts to be produced. Illustrating this, the service center has recently redesigned six new gas turbine engines.

With a 3'500 m2 (38'000 sq. ft.) workshop, a 120-ton capacity crane and a purpose-built stacking pit - the service center can accommodate the largest gas turbines. The wide range of facilities and team of knowledgeable experts enables a turnkey approach to any project.

Specialty services include automated laser drilling and laser welding, which allow components that are at the human limits of material thicknesses to be repaired. Innovative and new protective coatings are available for a wide range of gas turbine components – all designed to improve durability. Enhancements such as supplementing cooling patterns with additional holes helps parts to stay cool and operate for longer.

In-house capabilities are paired with expert field service teams. Ready to attend customer sites 24/7, dedicated personnel rapidly respond to unforeseen breakdowns or manage planned maintenance programs. Inspection, testing and commissioning are all available to reduce downtime. With gas turbines often very large and difficult to transport, being able to assess equipment in-situ is invaluable. "Offering solutions for this equipment that will extend service life and improve performance beyond what traditional repairs can achieve means going further. We are technologically driven, and we are always developing new repairs and methods to keep gas turbines running efficiently and reliably," says Frenk.



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No time like uptime

The expertise of the Venlo Service Center is epitomized by the LTSA and projects that it undertakes.

Frenk elaborates: "Often, customers will cancel their contracts with OEMs and come to us instead. We offer shorter lead times as we are a dedicated ISP. It's a small world and news spreads, so when we overhaul multiple gas turbines in a fraction of the expected OEM lead time, we attract new customers."

"If a gas turbine goes offline, it can cost EUR 300'000 a day in downtime. For companies running these machines that want to sell power, its vitally important to get assets back up and running as fast as possible. Since we can achieve this, we build trust."

Consequently, the service center is partnering with operators around the world to improve the performance of this critical equipment.

A diversified future

Committing to the philosophy of continual development, the Venlo Service Center is growing its expertise.

"Today, we also offer maintenance services for compressors and steam turbines. We have a dedicated team of experts with 10-15 years' experience each supporting operators of this equipment across industry. From our past, we know the value of diversifying our engineering skills to build a strong offering for our customers," explains Frenk.

Beyond this new development, the service center is going back to its roots by offering maintenance services for Rolls-Royce and Avon aeroderivative gas turbines. These smaller units are growing in popularity in power generation applications as the transition to renewables gathers pace. Due to quick start-up characteristics, these turbines can be employed to cover any renewable energy shortfalls in the grid, stabilizing power supply. The service center is starting to collaborate with Sulzer's Alba Power in Scotland to launch an expanded service for these units in mainland Europe.

Further preparing for a low carbon future, the Venlo Service Center is conducting research and development on modifying gas turbines burner systems to run on hydrogen fuel. With government emissions standards tightening worldwide, Sulzer is contributing towards bringing this low carbon technology to maturity.

The power of people

A keen musician, Frenk has a good analogy for the service center: "Like a band, it's important to get everyone together to play the right song. We have 130 experts at the service center representing 19 nationalities – so we're an international team in a small town! We're very close, colleagues who have been with us for 25 to 30 years are not unusual."

Frenk's journey through the company illustrates this long service. Joining in 1985 as a grinder supporting flight engine repairs, he held a wide range of roles before he moved to Elbar when the aviation business was sold. After successfully implementing a lean methodology in the machine shop, he worked at 8 departments until he rose to Operations Manager, where he was responsible for selling new parts and field services. He has been the General Manager at the center for 4 years now.

"I have colleagues here from when I first joined, and everyone has the option to find the position they enjoy. I think that is why so many people stay here so long," Frenk adds. It's not just highly experienced experts at the facility though. The last 10-15 people to join the company were young aspiring engineers who are enthusiastic about the industry. To encourage students, Sulzer has also been working with the Fontys University of Applied Sciences to engage the next generation in exciting engineering projects.

Paul Thommassen, Process Engineer at Sulzer, who has worked at the Venlo Service Center for 22 years, explains: "We welcomed students to the center to take part in a project on the Taguchi Method, which is a statistical analysis of designs or processes during research and development. The students were tasked with improving the grinding and sanding of our metallic turbine blade coating samples we send to customers. Successful teams saw their method adopted by the service center for this process going forward."

As well as building a loyal team of long serving experts, the Venlo Service Center is helping young engineers to realize their dreams by passing on expertise through real-world experience.

A local company for the community

Beyond the advancements it has delivered for gas turbines – the legacy of the Venlo Service Center is the community it has fostered.

"Taking care of people is embedded in the company. We regularly get former employees visiting us and we work to keep these connections alive. We all have a shared technical background and have been galvanized by the challenges we've had to overcome," says Frenk.

Employees also work to support the local community. The team collects donation boxes for the local food bank and sponsors a day care provider in Lomm. One of the latest initiatives will see staff volunteering to help clear local forests and rivers of rubbish. The service center will also be hosting numerous events to celebrate the 50th anniversary.

Frenk expands on this: "On April 2, we will be holding a manufacturing day, welcoming all current and former employees and their families for a celebration. For our customers and suppliers, we'll be organizing some special training days, as well as an introduction to our steam turbine and compressor workshop. More information on this will be announced soon."

A big success in a small town

With its heritage, technical expertise and strong engineering community, the Venlo Service Center has transitioned from a repair shop into a global center of expertise for gas turbines. It's advanced repair techniques and technologies have ensured that it has established itself as one the best facilities for this equipment anywhere in the world. This expertise is utilized across Sulzer's global network of service centers to help gas turbine operators reach new standards.

Frenk concludes: "It's never boring here. A large proportion of the work we do is problem solving, taking on new engineering challenges that our customers encounter. To push the boundaries of what is currently possible, we need to constantly develop. That has been the story of the service center for the past half a century and will be its story in the future too."

To find out more, please visit our website: https://www.sulzer.com/en/shared/services/venlo-service-center



Frenk Hinssen, General Manager at Sulzer Turbo Services Venlo B.V, explains how taking care of people is embedded in the company

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