Customer-oriented and reliable — Sulzer services

Right from the start, Sulzer realized that customer loyalty isn't just based on customer-oriented thinking and technology-based solutions but also on good service. In 1834, Sulzer delivered a fire extinguisher including a pump to the city of Winterthur. This sale included regular service after each fire. When Sulzer delivered the second extinguisher in 1839, we added an improved piston to be used on the pump delivered in 1834. This was the first retrofit set invented by Sulzer.

When you enter the historic Feldschlösschen brewery, Rheinfelden, CH (title picture), you immediately smell grease in the air. The brewery houses early Sulzer products that are still in operation today, and the smell is a clear sign that the plant is well-maintained and lubricated. Today, service activities are much more complex than lubricating all rotating parts with an oil can, and Sulzer customers rely on our outstanding electromechanical and mechanical support and rapid spare parts deliveries. We publish our most interesting service stories regularly in the Sulzer Technical Review. Today, the Rotating Equipment Services division provides cutting-edge maintenance and repair solutions for turbines, compressors, pumps, motors and generators, also for third-party equipment. The division is dedicated to optimizing life cycle costs of the products. Sulzer is renowned as a service specialist for technology-based solutions, fast execution and expertise in complex maintenance projects. Repair is often a more sustainable choice than replacing a whole turbine or compressor. Innovative repair solutions, thorough material expertise and ultramodern coating processes for parts are the main reasons that customers choose Sulzer's services. With a network of over 100 service sites around the world, we are present at our customers' doorsteps.

More than just repair – developments incorporated

Sulzer offers not only repair services but also smart retrofit sets to save time, money and energy at customers' installations — this is called life cycle engineering. Whenever a new product idea has been realized for the current product range, a team of engineers checks how to implement these ideas into retrofit solutions. Sometimes a pump gets a second life through retrofitting.

Incorporating material improvement into repair solutions is one of our strengths. Did you know that Sulzer offers customized weld repair solutions for critical rotating equipment? In 2013, our engineers developed a specialized weld procedure — gas-tungsten arc welding. This technique can be used for repair when conventional welding is not sufficient (Fig. 1).

In 2001, Sulzer developed a zirconium-based thermal barrier coating, which reduced the fatigue breaks of gas turbine components. Sulzer customers benefit from the prolonged lifetime of their components because specific metallic-ceramic coatings, corrosion-resistant coatings (Fig. 2) or special material hardening is used during repair.

Sulzer is proud to transfer advanced material solutions into new repair solutions. We developed an innovative welding method using a 12% chromium steel specifically for the repair of turbines in corrosive environments such as geothermal turbines.

New technologies for improved repair results

We use the latest technologies and diagnostic instruments in our labs to investigate the root causes of cracks. Our engineers design replacement parts with the help of finite element analysis (FEA) to ensure that the materials and design are reliable. Numerous tests after the repair and the subsequent high-speed balancing guarantees our customers that their repaired equipment is working correctly.

History of Sulzer's service offerings

Ever since Sulzer was founded, service and retrofits have been part of our standard offering, though they were not housed in an independent division. In 1974, Sulzer founded the Thermal Turbomachinery division to develop turbocompressors and gas turbines. That division's Technical Services department built up a service network around the globe and already had 17 service sites by 1980. In 1983, Sulzer decided to enlarge its customer base by using our expertise to repair not only our own turbomachinery but third-party turbines as well.

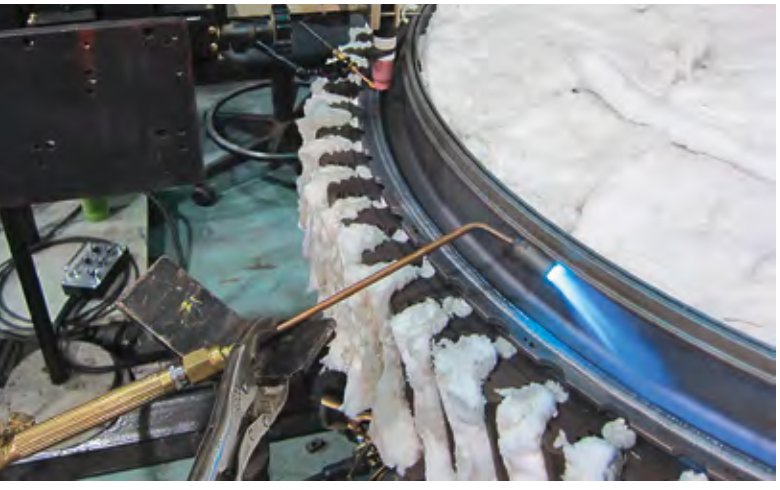

Fig. 1 Sulzer developed a proprietary welding procedure — gas-tungsten arc welding—for gas turbine repair.

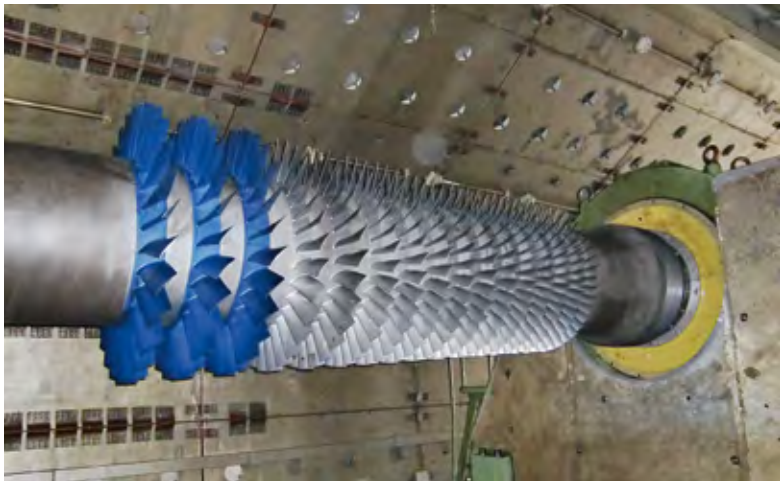

Fig. 2 Increasing the lifetime of rotor blades — metallic-ceramic coating in blue.

A new division is born in 2000 — Turbomachinery Services

In 2000, Sulzer created a new division, called Turbomachinery Services, where all services and repair activities for turbines and compressors were consolidated. Being faster, better and more flexible when realizing a service order was the credo. From third place for turbomachinery service in 2001, the newly founded division rose to become market leader in only five years. In 2004, the division was renamed Sulzer Turbo Services. The service network was enlarged in South America in 2008. It expanded geographically to Russia in 2010.

Growing steadily since 2014 — Rotating Equipment Services division

Combining all service activities for gas turbines and compressors with the pumps services was a strategic step. Since 2014, Sulzer has offered all services for rotating equipment through the consolidated division Rotating Equipment Services (RES). This step allowed us to achieve many synergies (Fig. 3).

Milestones in Sulzer's service history

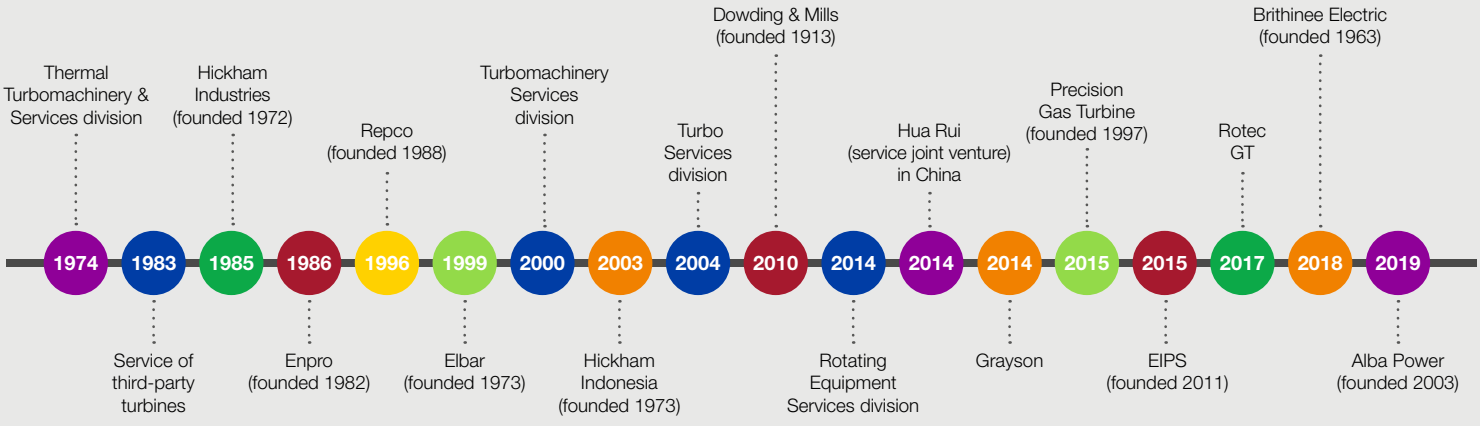

Fig. 3 The most important milestones in the development of Sulzer's rotating equipment services.

Fig. 4
Sulzer Houston Service Center in Houston, TX, US.

Main acquisitions – enlarging Sulzer's service footprint

In 1985, Sulzer acquired Hickham Industries, situated in La Porte, close to Houston, TX, US. In 1983, Sulzer started servicing and retrofitting third-party turbines, and Hickham Industries had specialized in the fabrication of customer-specific components for third-party turbocompressors and gas turbines since 1974. Thus, the Houston Service Center in La Porte (Fig. 4) was born. Besides steam turbine, pump, gearbox and compressor repairs, this service center does gas turbine repairs and specialized airfoil manufacture. Houston Service Center continues to develop innovative repair technologies necessary to maintain leadership in the industry.

Enpro Services Co. in New Orleans, known primarily for its work on offshore platforms in the US, was acquired by Sulzer in 1986. The New Orleans service center now includes services for reciprocating and rotating equipment and is a distributor for ancillary equipment.

The company Repco Rozenburg was founded in 1988 in Rotterdam. At the doorstep of the port of Rotterdam, it is in a prime location to offer fast repair services to many refineries, petrochemical plants and other industries situated there. Sulzer Repco has offered field and in-house services for steam turbines, turbocompressors, reciprocating compressors, hot gas expanders and blowers since 1996. It now offers these services as Sulzer's Rotterdam Service Center.

In 1999, another acquisition enlarged the Sulzer service network. Sulzer took over Elbar B.V., which was founded in 1973 in Venlo, the Netherlands, as a repair center for gas turbines. Elbar's in-depth technical and material expertise in producing extremely reliable and durable components for aviation purposes was integrated successfully into the Sulzer organization. It was transformed into Sulzer's competence center for gas turbine parts in Venlo.

In 2003, Sulzer integrated PT. Hickham Indonesia in Purwakarta, Indonesia. This service center has specialized in the service and overhaul of rotating equipment ever since, and still exists today as the Purwakarta Service Center (Fig. 5).

Fig. 5 Repair of turbines in the Purwakarta Service Center, Indonesia.

To become a major player for rotating equipment services in China, Sulzer signed a joint venture agreement in 2014 with China Huadian Corporation for the service of gas turbines. The agreement covers field service, component repair, and the delivery of new capital parts. The joint venture operates under the name of Hua Rui (Jiangsu) Gas Turbine Services Co., Ltd.

With the acquisition of Expert International Pompe Service (EIPS) in Casablanca, Morocco, Sulzer's service offerings in North Africa further expanded in 2015.

Precision Gas Turbine Inc., located in Florida, US, was acquired in 2015. The company was founded in 1997 and offers various field services, maintenance for gas turbines, inspections, failure investigations and repairs, as well as retrofits.

In 2019, Sulzer acquired the Scottish aero-derivative gas turbine service provider Alba Power. Through this acquisition, Sulzer diversified its gas turbine service business into distributed power and offshore as well as marine applications.

Fig. 6 Sulzer offers service and repair for motors and generators.

Electromechanical repair solutions

It was a strategic step to offer service from a single source by integrating service and repair solutions for generators and motors (Fig. 6) into the Sulzer service network. With the acquisition of the company Dowding & Mills, UK, in 2010, Sulzer took over 1'350 employees in the UK, US, Australia and United Arab Emirates. Since then, we have offered electromechanical repair solutions in addition to all other service offerings. The origins of Dowding & Mills date back to 1913, when William Dowding and Harry Mills first set up an electrical wiring company in Bordesley, Birmingham, UK. As electric motors became more commonplace, the focus of the business soon switched to rewinding and repair. The company quickly established a reputation for high quality, and through its philosophy of working "around-the-clock," it became known for fast, reliable service.

Ever since the acquisition of Grayson Armature businesses in 2014, Sulzer has been one of the largest partners for electromechanical services in the Gulf Coast area in the US. We can offer more extensive service capacities in the US since the acquisition of Brithinee Electric in 2018.

Claudia Pröger,
Winterthur, Switzerland

On duty for all customers since 1834

Sulzer will enlarge its service network in the future to be even closer to the customers' installations. A focus on digitalization will ensure that we can create customer-specific spare parts quickly for the fastest possible repairs. We want to achieve the lowest downtimes with lowest costs for the benefit of our customers. All Sulzer service employees are highly dedicated and service-oriented. It is in our DNA to do all we can to keep our customers' rotating equipment running. All around the globe. Since 1834.