

SULZER

Electromechanical services for Asia-Pacific region

Sulzer offers technical solutions across an extensive range of electromechanical equipment, such as generators and electric motors, ensuring operational continuity for industrial facilities or production sites.



Electromechanical services

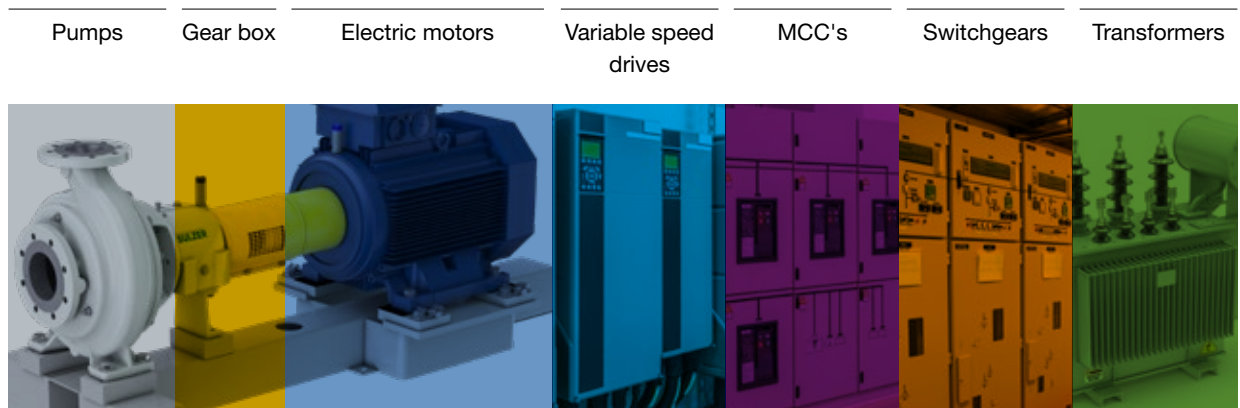
The company's involvement with electromechanical equipment traces all the way back to 1841 when the first Sulzer manufactured engine was installed in Winterthur, Switzerland. With over 150 years of engineering expertise, Sulzer offers

technical solutions across an extensive range of electromechanical equipment such as generators, electric motors (HV / LV and AC/ DC) etc., ensuring operational continuity for industrial facilities or production sites.

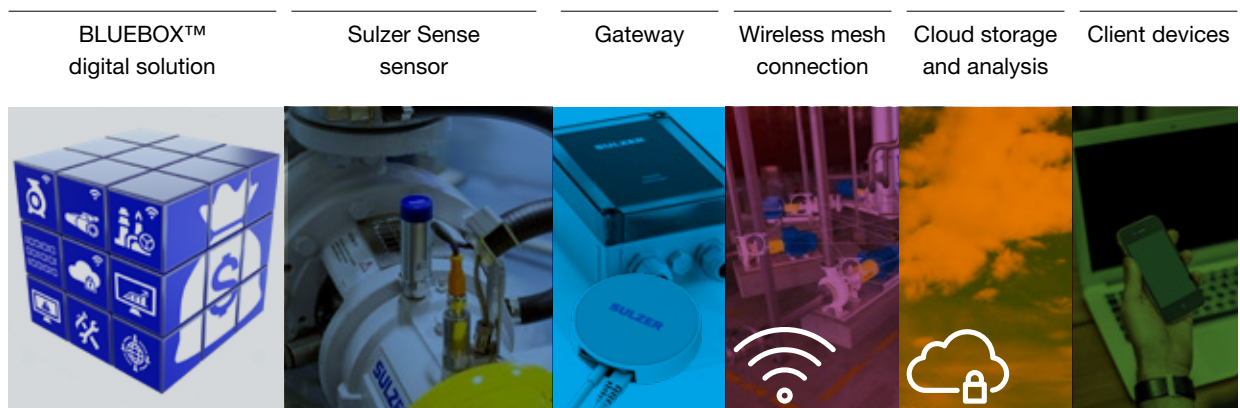
Your one-stop-shop for electromechanical maintenance

- LV and HV electric motors
- OHV wheel motors
- Generators
- Alternators
- Gearboxes (wind turbines)
- Transformers
- Variable speed drive
- Switchgears and MCCs
- and more...

Service-able expertise for your facility's suite of interconnected electromechanical equipment



Layered with our AI machine learning digital solution, we ensure performance success



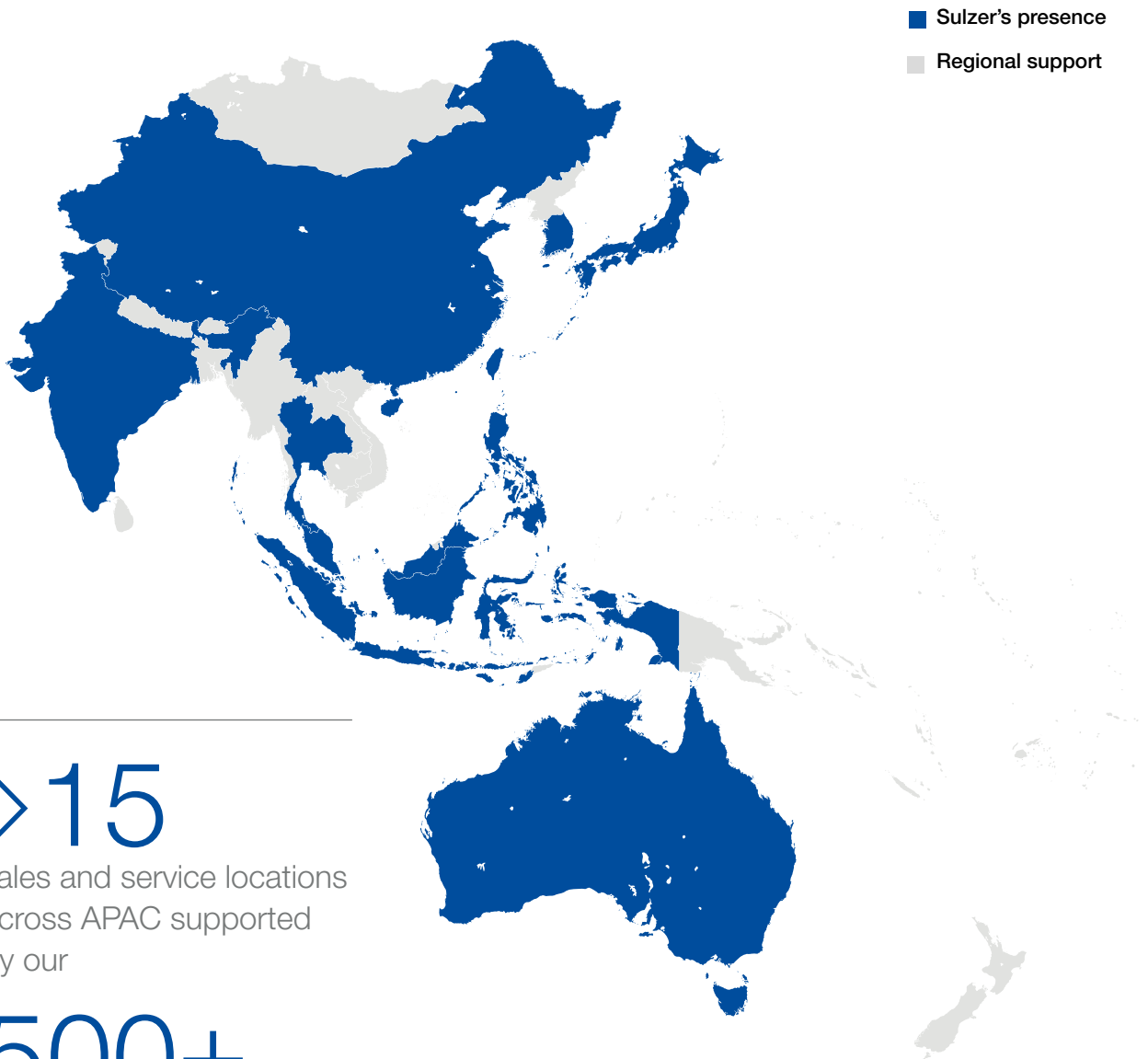
Some of the industries we serve



Life-cycle solutions for electromechanical equipment.

We are your partner for uptime and enhanced performance for your rotating equipment and more. Our dedicated people provide unrivalled service and expertise to meet your operational needs – anytime, anywhere.

Comprehensive sales and service network in APAC



>15

sales and service locations
across APAC supported
by our

500+

strong engineering and
technical experts



Your local contacts

Service centers

Australia

Maitland Service Center
54 Junction Street, Telarah
2320 Maitland, New South Wales
Tel: +61 (2) 4935 9200

Perth Service Center
70 Fawcett Crescent
6105 Perth Airport, WA
Tel: +61 8 6379 7373

Brisbane Service Center
342 - 344 South Pine Road
4500 Brendale, Queensland
Tel: +61 7 3205 3233

Salisbury Service Center
8/268 Evans Road
4107 Salisbury, Queensland
Tel: +61 7 3216 7055

Newcastle Service Center
9 Nelson Road
2285 Cardiff, New South Wales
Tel: +61 2 4954 7477

Sydney Service Center
14-16 Clyde Street
2116 Rydalmere, New South Wales
Tel: +61 2 9638 6333

Melbourne Service Center
334 Boundary Road
3026 Laverton North, Victoria
Tel: +61 3 9369 7699

China

Suzhou Service Center
No. 433 Jianlin Rd. New District
215151 Suzhou
Tel: +86 512 8187 3719

Nantong Service Center
No. 100 Qian Tang Jiang Road
Tong Zhou Bay New District, Nantong
226333 Jiangsu Province
Tel: +86 186 6229 8003

Dalian Service Center
No. 20-2, Fuyun Street,
Shifu Village (Industrial Park)
Sanjianpu Street, Lushunkou District
Dalian 116043
Tel: +86 411 8758 1824

India

Mumbai Service Center
Unit No. B, Plot NO B-8
MIDC Industrial area Digha
400709 Navi Mumbai
Tel: +91 86 5730 2470

Vadodara Service Center
Plot No 707, GIDC, Manjusar, Savli,
Opposite Vasu Health Care,
Vadodara- 391 775
Tel: +91 7738052228

Indonesia

Purwakarta Service Center
Kawasan Industri Kota Bukit Indah
41181 Purwakarta
Tel: +62 264 8631 300

Balikpapan Service Center
Jl. Mulawarman No. 23
Sepinggan-Balikpapan Selatan
76115, Kalimantan Timur
Tel: +62 (542) 8213 700

Malaysia

Semenyih Service Center
No. 12, Jalan Semtec 2
Semtec Park, 43500 Semenyih
Selangor
Tel: +60 387 276 275

Singapore

Singapore Service Center
10 Benoi Sector
Singapore 629845
Tel: +65 6800 0000

Sales offices

South Korea

Busan Sales Office
No 401, 241, Gyedong-ro,
Gimhae-si, Gyeongsangnam-do
(51004)
Tel: +82-70-4348-5765

Philippines

Manila Sales Office
6F Ayala Triangle Gardens Tower 2
Paseo de Roxas cor Makati Avenue
Makati City, Manila
Tel: +63 9278102925

Thailand

Rayong Sales Office
18/10 Moo 6, T. Nurnphra,
A.Muangrayong, Rayong
21000 Thailand
Tel: +66 81 926 7652

Benefits of servicing with Sulzer

Full servicing expertise

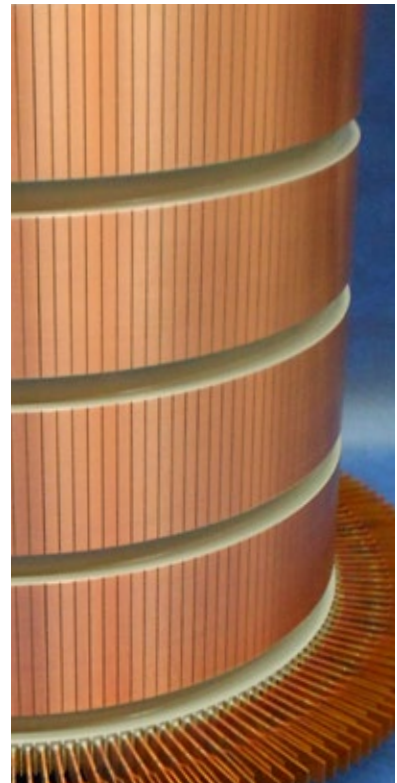
More than 150 years of electromechanical engineering in-house knowledge and expertise as one of world's leading pioneers in this field. Experience and expertise in servicing more than 600 different models and brands of electromechanical equipment.

Spare parts

We have the know-how, technologies and production capacity to reverse engineer and produce spare parts for equipment that is discontinued by OEM. Our coil manufacturing capabilities have delivered massive cost and time savings for customers' projects.

Faster turnaround time

Servicing is our core business, translating to dedicated manpower and capacity to fulfill multiple project requirements at any one time, while OEMs are more focused on product development and manufacturing. Our global and regional footprint ensures that you'll receive responsive support to reduce downtime for your operations.



Global experience, local support

More than 130 service centers and thousands of experts on every continent of the globe as well as centers of excellence focused on turbomachinery repair innovation and technologies. Leverage on specialized equipment and expertise in centers of excellence for complex projects while receiving responsive local support with due consideration to local business requirements and cultural nuances.

Cutting-edge facilities

Our service centers are focused on delivering the the highest levels of customer satisfaction. Our investment in research and innovation ensures we deliver fast and effective maintenance projects from our state-of-the-art facilities. Using cutting-edge technology, such as additive manufacturing, 3D laser scanners and AI-enhanced predictive maintenance solutions (BLUEBOX), we offer the most comprehensive service available to challenging industries such as mining, marine and wind power generation.

Flexibility

Our diverse expertise and global footprint means that we have experience in a vast array of technical fields. We can tailor our service to meet the demanding schedules and budgets of modern industry. Targeting performance and reliability, we adapt our resources to meet your requirements.



Key services

Coil manufacturing

For highly efficient and dependable coil manufacturing, choose Sulzer. Our preproduction support includes computer-aided design and a database of coil winding information. We check existing designs, redesign to improve performance, and create production drawings and process instruction sheets automatically.

Our in-house, highly sophisticated copper rolling mill offers both inline and pot annealing facilities. Therefore, we offer around-the-clock coil manufacturing capabilities with short lead times on copper strips. You benefit from our large stocks of continuously cast soft copper rods, which ensures that we meet your demands quickly.

Motor services

Benefit from our extensive experience in repairing AC and DC motors and traction motors from any manufacturer. Sulzer is the only independent service provider currently offering a full in-house ATEX EExp electric motor certification package for use in a Zone 1 area. Our quality management system supports the Baseefa IECEx Repair Facility License.

Our maintenance strategies support our customers in reducing energy and servicing costs by optimizing applications, for example by introducing variable speed drives. Our services include drive parameter backup with commissioning and programming of new units, 24/7 engineering support from our field service engineers.

Generator services

Sulzer offers a comprehensive service for all generators from both conventional and renewable power sources. With decades of experience, our technicians can deliver turnkey projects for any brand of generator with 2-48 poles and power outputs between 500 kW and 600 MW, including wind turbine assets.

Control systems

We can also evaluate and optimize the control systems for all rotating machinery. The Sulzer Control Package improves both the performance and reliability of your equipment.



Fans and blowers

We offer a turnkey service for all blowers and fans, including overhauls, repairs and the supply of spare parts, irrespective of the original equipment manufacturer.

Locomotive propulsion equipment

Sulzer manufactures commutators, traction windings and brush gear. Our versatility is second-to-none and enables us to reverse engineer obsolete parts and support customers with equipment from many different manufacturers.

Marine propulsion equipment

In a break with convention, our repair service has proven that large electrical rotating machines can be repaired at sea. Sulzer has developed technical and practicable solutions for carrying out complete or partial stator rewinds, as well as repairs of generation and bow thruster units on board a ship.

Maintenance contracts/ LTSA

Reliable contracted plant and equipment solutions to help you manage through-life costs and reliability of your turbomachinery. Clearly defined performance indicators and managed risk transfer ensure that you only pay for solutions benefiting your operations.

Electrical BOP and ancillaries

Sulzer provides an extensive range of balance of plant (BOP) services for electro-mechanical rotating equipment such as motors, blowers and many other types of asset. Use our BOP services either on a planned or an emergency basis to maximize the reliability of your operations.

Reverse engineering

Experiencing difficulty in sourcing parts and components for discontinued or obsolete machinery? We'll help extend the lifespan of your equipment by reverse engineering replacement parts, ensuring all materials and dimensions are identical or improved where possible.

Retrofits

We perform thorough technical analysis (including rotor dynamics, bearing, seal etc.) of your equipment to determine suitable modifications required to improve the performance of your equipment.



Bearing services

We replace white metal in bearings of all sizes, from small to large (over 500 mm) using high-quality centrifugal casting for complex bearing repairs, and manual casting for large bearing repairs. We offer upgrades to lube oil systems or bearing geometry to help resolve repetitive failures.

Machining

Machining is of major importance in any repair process. Numerous techniques and precision machinery are used to achieve exact dimensions and material specifications for all repaired components. From dimensioning a shaft after metal spraying or welding to grinding chromium plated rollers and manufacturing new gears, Sulzer has the facilities to deliver.

Lifetime assessments

Turbine rotors of gas and steam turbines can be greatly affected by stress, fatigue, corrosion, embrittlement or cracking. Maximize the lifespan of your rotor with our thorough assessment services.

Asset reconditioning

All machinery suffers from wear during normal operation and proactive maintenance ensures that any loss of efficiency is kept to a minimum. Our in-house facilities and personnel can recondition all types of process equipment, such as engines, compressors, crushers and gearboxes, to optimum condition using the latest materials and engineering tools. We reclaim assembly components using a wide range of material replacement techniques, thereby both improving performance and extending equipment lifetime.

Root cause analysis

Gain a better understanding of the specifics that can lead to early component failure. We offer analysis on metallurgical evaluations, rotor dynamic analysis, finite-element structural analysis, field vibration data and more.

Dynamic balancing

We provide balancing services both at our workshops and on-site, using the very latest electronic precision balancing equipment. Workshop capacity ranges from 0.1 kg to 54'400 kg (0.2 lbs to 120'000 lbs) and to a maximum length of 9 meters (30 feet). Most components can be accommodated and balanced either to a specific tolerance or the applicable ISO or API specifications.

Surface engineering and thermal spraying

We offer surface engineering and thermal spraying to ensure optimal performance. Sulzer can engineer the most suitable surface or coating to improve the performance of a component using varying techniques such as hard chromium electroplating, nickel electroplating and thermal spraying etc.



Specialist industry services

We have engineering experts with decades of experience in key industries such as Mining, Rail and Wind. They are well versed on the specific industry dynamics, ecosystem, operational and engineering challenges faced by their respective sectors and are in a good position to offer targeted engineering solutions to these industries.

Services for mining

We offer complete electromechanical services for heavy haul trucks. We carry out full repairs of wheel sets – servicing both electric motors and epicyclic gear reductions. Furthermore, we can convert old DC systems to AC, improving efficiency while simplifying spare parts inventory and general maintenance. A complete in-house approach ensures a reduced lead time for all repairs and a single point of contact. Our equipment exchange programme cuts downtime provides a fast-tracked pathway to regain production with minimal downtime.

Services for rail industry

- HVAC
- Radiator fan repairs
- Bogie frame refurbishments
- Brake caliper refurbishments
- Line filter inspections and repairs
- Air receiver pressure testing
- Traction motor repairs and rewinds
- Coil and commutator refurbishment and new manufacture
- AVR board electronics
- Auxiliary generator refurbishments
- Main generator repairs and refurbishments
- Wheelsets

Services for wind farms

Sulzer offers specialist on-site wind turbine repair service that can react to unplanned maintenance issues, with a particular emphasis on generator and gearbox repairs. With turbine uptime as a priority, Sulzer has dedicated resources that can be deployed to both onshore and offshore generating facilities. In many cases, this can reduce downtime and maintenance costs substantially.



Case study: Responsive complex overhaul of ship propulsion motor

Service: Repair and maintenance

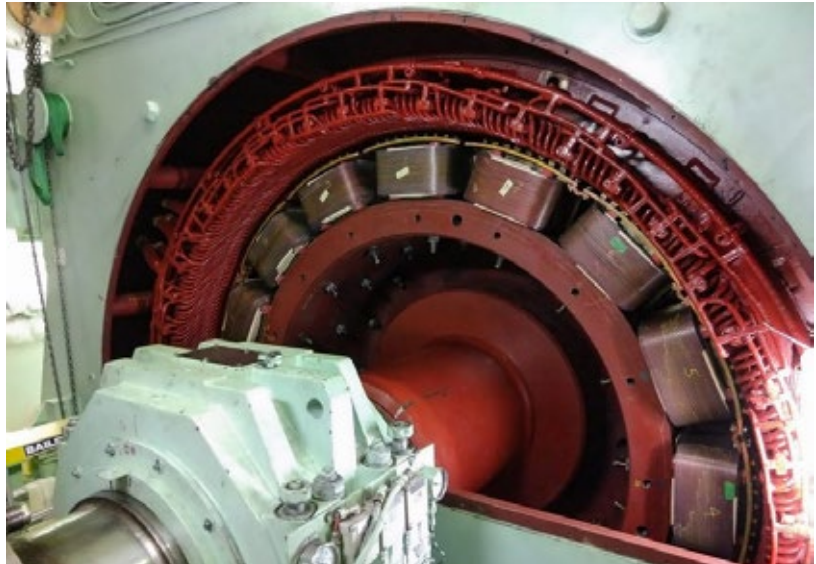
Location: Australia

Industry: Cruise

Project key facts:

Motor's output power: 19 MW

Project completed in 26 days



Challenge

A cruise liner operating with a reduced top speed can have difficulties keeping to its itinerary, so when one vessel had to cancel a destination, the owners needed the situation resolved quickly to avoid further escalation and impacting its bottom line. The winding systems in one of the propulsion motors were damaged, requiring a complete replacement of the stator coils. Extreme constraints in the confines of the propulsion room also made this a challenging endeavor.

Solution

First, Sulzer experts conducted a series of inspections including a core test on the motor's stator to ensure that it was in a suitable condition for rewinding, which contributed to the development of the detailed plan for the solution. Sulzer's global network was called upon and contributed to various components of the project. Sulzer UK's coil manufacturing shop was tasked with the coil production. The on-site deployment saw 16 Sulzer experts working round the clock for the coil replacement.

Impact

Despite the difficult conditions, the Sulzer team worked night and day, installing, taping, varnishing and painting the new windings before reassembling the motor and completing the project in just 26 days. As testament to the quality of their work, the motor required no additional balancing after assembly.

Case study: Navigating a complex generator turnaround in 16 days

Service: Repair and maintenance, motor and generator rewind services

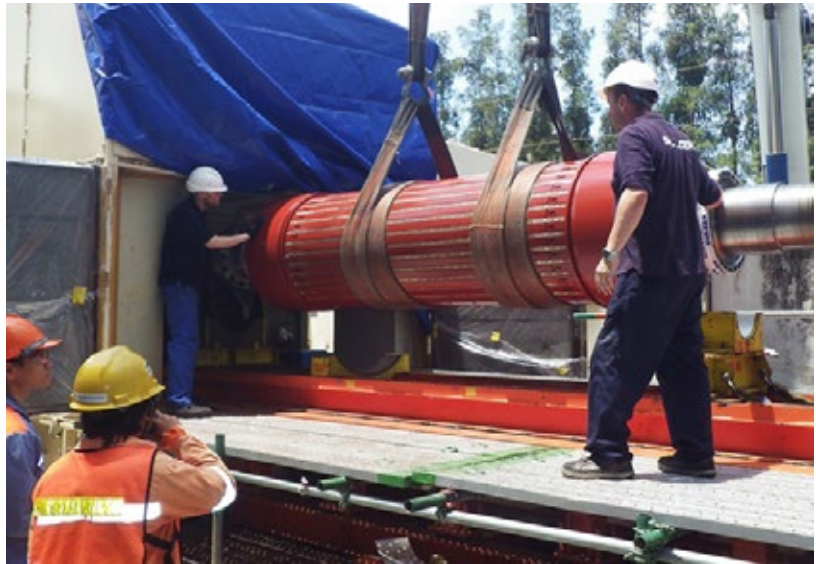
Location: Thailand

Industry: Power generation

Project key facts:

Generator's capacity: 45MW

Project delivered in 16 days



Challenge

When one of Thailand's largest independent power producers required urgent and timely repairs to one of its six 45 MW gas-fired generators, they turned to Sulzer to get them back to full power as quickly as possible. The generator's location proved to be operationally challenging as the rotor removal had to be conducted with care, negotiating through tight spaces and obstacles.

Preliminary investigation showed that there was a fault with the stator core and two of the stator windings need to be replaced. Complete inspection of the rotor and provision for some more routine maintenance procedures were required.

Solution

Sulzer's experts were given a 16-day window to complete the repair and return the generator to service. A cross-regional effort made this possible with our local team, agent and Birmingham team, where replacement coils would be manufactured. As part of a wider maintenance program, the Sulzer team suggested that the remaining five generators should receive an age-appropriate inspection so that early warning signs could be picked up and actioned. The continuing program will involve the engineers visiting the power plant at times when individual generators are taken off-line for planned maintenance.

Impact

As a result of the successful inspection, recommendations and repair works carried out to restore the 45 MW generator to a fully operational state, prior to departing for their return journey, part of the repair team was invited to visit one of the customer's other sites to complete some remedial works and preventive maintenance checks on several other generators.

Case study: Getting generator back online in record-time with best-in-class technical expertise

Service: Root-cause analysis, reverse engineering, coil manufacturing

Location: Kalimantan, Indonesia

Customer: Major Cement Producer

Project key facts
Generator capacity 55MW

Project delivery lead time
12 weeks

Roebel bars engineered
48 Top & 48 bottom bars



Challenge

Production at the cement plant came to a complete halt due to outage in its generator, which the plant relies as its sole independent power source at a remote location in Indonesia. The breakdown of the 55 MW generator was caused by strand-to-strand faults that eventuated into a stator connection phase ground fault. Due to the excessive amount of winding oil contamination from a leaking bearing labyrinth seal, the ground fault flash resulted in a stator fire. With orders due and reputation at stake, the customer needed to salvage the situation or risk alienating its customers.

Solution

Sulzer's technical proposal came in tops amongst all other proposals where the OEM and other vendors could only deliver the solution in more than 6 months.

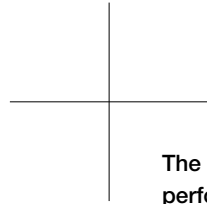
A thorough investigative inspection by Sulzer's experts revealed that the failure was attributed to the stator winding design having parallel stranding, which caused high circulating currents. Sulzer's targeted solution involved reverse engineering new 360° Roebel bars which none of the competition offered, in record lead-time of 12 weeks. Tapping into the company's global network and expertise, the Indonesia team collaborated closely with experts from the Birmingham service center in UK where the bars were engineered.

To alleviate the plant's order fulfillment pressure, Sulzer's EMS experts did a quick partial repair to the failed stator windings so that the customer could work through their material stockpile and meet existing orders

Impact

The benefits of switching to Roebel bars were quickly apparent. Winding temperatures were greatly reduced, allowing the generator to be run more efficiently, providing energy cost savings to the cement plant. In terms of reliability, electrical circulating currents were all but eliminated, greatly reducing the risk of any future premature failures. Reduced winding temperatures also meant less thermal stresses on the winding insulation, improving service life. With the generator up and running, the pressure on the customer's other facilities was alleviated too, with the plant now operating at full capacity.





The Sulzer Services division is your partner for uptime and enhanced performance for your rotating equipment and more. Our dedicated people provide unrivalled service and expertise to meet your operational needs – anytime, anywhere.

Through a network of over 100 service sites around the world, Sulzer provides cutting-edge parts as well as maintenance and repair solutions for pumps, turbines, compressors, motors and generators. We service our own original equipment, but also all associated third-party rotating equipment run by our customers, maximizing sustainability and life cycle cost-effectiveness. Our technology-based solutions, fast execution and expertise in complex maintenance projects are available at our customers' doorsteps ensuring minimal downtime.

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