



SWAN TURBINE SERVICES PVT. LTD.

An ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Company



Leading Solution Provider
for Rotating Equipments

www.swanturbines.com





POWER MACHINES (INDIA) LTD.

Power Machines stands as a global powerhouse in power engineering, proudly securing its position among the top five industry leaders worldwide in terms of installed-equipment volume. As part of the formidable Power Machines Russia conglomerate, which includes Leningradsky Metallichesky Zavod (LMZ), Elektrosila, Kaluga Turbine Works, and more, the company is synonymous with cutting-edge, highly-efficient solutions across Thermal, Gas, Nuclear, and Hydro power plants, integrated power grids, as well as applications in industry and transport.

Committed to the highest standards, Power Machines boasts a quality management system certified in accordance with ISO 9000 series standards (ISO9001:2015, GOST R ISO 9001-2015), along with compliance with GOST RV 0015-002-2012. The company continually refines its quality management system through state-of-the-art control methods, ensuring the design and manufacture of products that not only meet but exceed the exacting demands of its global clientele. Power Machines stands at the forefront of innovation, delivering exceptional solutions that power the world with efficiency and reliability.





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With a rich 22-year history, Swan Turbine Services has evolved into a foremost global services provider, specializing in the comprehensive spectrum of services for Steam Turbines and Generators, extending up to 1060MW for all brands. Our expertise spans manufacturing, renovation, modernization (R&M), overhauling, refurbishment, repairs, retrofits, and seamless spares supply. This holistic commitment to delivering top-notch services in real-time positions us as a pioneering force in the industry.



The strategic Joint Venture with Power Machines (LMZ) has catalysed an exponential expansion of Swan Turbine's capabilities, offering an extensive suite of services for Total Turbine Solutions. Supported by cutting-edge workshop facilities, Swan Turbine Services excels not only in manufacturing spares but also in supplying non-OEM components for major brands like BHEL, Siemens, Alstom, TDPS, SEC, DEC, Shangu, HTC, HCTC, and more. This collaborative synergy propels us to provide unparalleled services, ensuring excellence from the ground up and cementing our status as an industry leader committed to delivering superior quality and innovative solutions in real-time.





SWAN TURBINE SERVICES PVT. LTD.

A JOINT VENTURE OF POWER MACHINES

An ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Company



Swan Turbine Services Pvt. Ltd. proudly stands as your trusted global partner, providing an expansive range of services meticulously designed for the diverse needs of Power Plants, Petrochemicals, Steel, Fertilizers, Cement, and Paper Industries. Our multifaceted expertise encompasses Manufacturing, Overhauls, Refurbishments, Spares & Services, Repairs & Retrofits, Erection & Commissioning, Reengineering, and the seamless Relocation of power plants.



Behind our success lies a dedicated team of adept and highly qualified professionals, working collaboratively within our state-of-the-art 1,00,000 square foot in-house facilities. This strategic combination of skilled professionals and cutting-edge facilities positions us as a reliable force in the industry, allowing us to consistently deliver excellence, even in the face of challenging projects and tight deadlines.

At Swan Turbine Services Pvt. Ltd., we lead the industry by supplying non-OEM components for major brands like BHEL, Siemens, TDPS, GE, Skoda, Alstom, & more. As the foremost full-line supplier for spares, catering up to 1060MW, we offer a comprehensive and streamlined solution, making us the preferred partner on a global scale. Our commitment revolves around providing unparalleled service and solutions, ensuring that your operations thrive with optimized performance & efficiency. Partner with us for a journey of reliability, expertise, & success in the realm of turbine services.



Technical Mastery

Empowered by the unparalleled expertise of key personnel, each boasting a rich 20 to 25 years of experience garnered from industry giants like Siemens, G.E, SKODA, and BHEL, Swan Turbine Services Pvt. Ltd. emerges as a dynamic force, driving innovation and excellence in the design, manufacturing, testing, repairs, and services of steam turbines, generators, and centrifugal compressors.



Our team comprises 250 skilled and ambitious engineers and technicians, injecting a youthful Vigor into our operations. This dynamic synergy ensures a commitment to excellence in every aspect, be it quality assurance, punctual delivery, or unwavering reliability. At Swan Turbine Services Pvt. Ltd., our technical strength isn't just a credential; it's a living embodiment of our dedication to pushing the boundaries of what's achievable in the ever-evolving landscape of turbine services.



Strategic Alliances

Swan Turbines Service Pvt. Ltd. is defined by our strategic collaboration, exemplified by our Joint Venture with Power Machines Russia, a conglomerate comprising Leningradsky Metallichesky Zavod (LMZ), Elektrosila, Kaluga Turbine Works, and more. Through this dynamic partnership and our state-of-the-art workshop facilities, we stand out in the manufacturing of turbines up to 800 MW in India, aligning seamlessly with the 'Make in India' initiative. Adding to our capabilities, we manufacture all essential spares for Power Machines clients within the country, presenting a comprehensive solution.

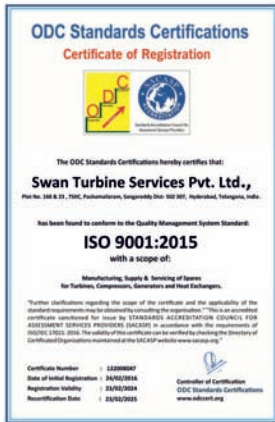


Together with Power Machines (PM), we provide a spectrum of services to PM clients in India, ensuring a holistic approach to their needs. Our unwavering commitment to technological leadership is further solidified through collaborations with academic and research institutions. These partnerships are instrumental in not only meeting but exceeding client expectations in terms of technical services, timely delivery, and top-notch quality. At Swan Turbines Service Pvt. Ltd., collaboration is more than a business strategy; it's the cornerstone of our success in delivering cutting-edge solutions and services to the power industry.



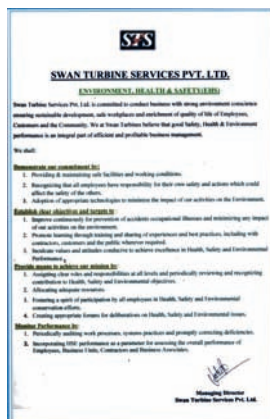
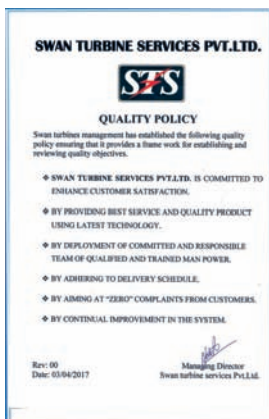
ISO-Certified Excellence

Founded in 2001, Swan Turbine Services Pvt. Ltd. stands proudly as an ISO-certified company, holding certifications in ISO 9001:2008, ISO 14001:2015, and OHSAS 18001:2007. These certifications serve as a testament to our unwavering commitment to upholding rigorous standards in quality, environmental sustainability, and occupational health and safety.



Quality Assurance Commitment

Our dedication to delivering excellence permeates every facet of our operations, from design and production to integration and timely project delivery. At Swan Turbine Services, certified quality management systems, meticulously crafted operational procedures, the competence of our workforce, technical expertise, and a wealth of experience collectively converge to propel us toward and beyond our quality targets. This commitment ensures that each project undertaken adheres to the highest industry standards, providing our clients with the assurance of top-notch quality in every endeavour.



Comprehensive Field Support & Engineering Excellence

At Swan Turbine Services Pvt. Ltd., our dedicated team of experienced professionals ensures the seamless operation of your rotating equipment with around-the-clock support. From thorough bearing inspections to precise minor/major overhauls, swift resolution of forced outages or breakdowns, and meticulous unit installation/relocation, our services are designed to optimize efficiency and enhance the lifespan and performance of your equipment.



Major Overhauling of 300 MW LP Turbine & 135 MW Generator



Major Overhaul of 90.3 MW BHEL STG



Major Overhaul of Shangu make Axial Blower Major Overhaul of 21.6 MW GE make Turbine

Cutting-Edge Efficiency Solutions & Advanced Upgrades

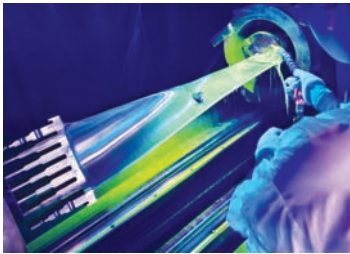
Our forte lies in spearheading efficiency enhancements and turbine upgrades that redefine performance standards. Leveraging avant-garde blade profiles and an unparalleled design analysis facilitated by the most advanced 3D aerodynamics designing system. Our commitment to innovation is reflected in the adoption of the most advanced blade profiles and flow path structures. This, coupled with our sophisticated 3D aerodynamics designing system, places us at the forefront of precision engineering. In collaboration with Power Machines, we ensure that our design capabilities are not just current but ahead of the curve, embracing the latest technological advancements.



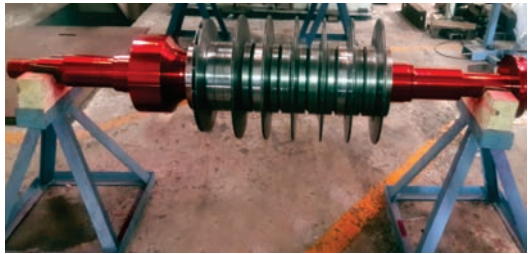
At Swan Turbine Services Pvt. Ltd., we don't just enhance turbines; we redefine their potential, setting a new standard for performance and reliability in the industry.

NDT and RLA Excellence

At Swan Turbine Services Pvt. Ltd., we pride ourselves on our unwavering commitment to excellence in Non-Destructive Testing (NDT) & Remaining Life Assessment (RLA). In the nucleus of our services, we specialize in a comprehensive array of critical assessments, encompassing everything from meticulous boroscopic inspections and precise vibration analyses to Blade failure analysis & exhaustive electrical diagnostic testing. Our state-of-the-art Metallurgical and NDT labs, equipped with in-situ metallography, field & lab microscopes, ultrasonic testing, magnetic particle testing, dynamic hardness testing, and more, underscore our dedication to precision. At Swan Turbine Services, we leave no detail unattended, setting the standard for meticulous testing & assessment in the industry.



Magnetic Particle Inspection (MPI)



Liquid Penetrant Test



Ultrasonic Test (UT)



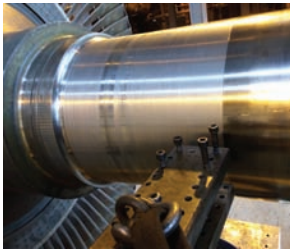
Positive Material Identification (PMI)



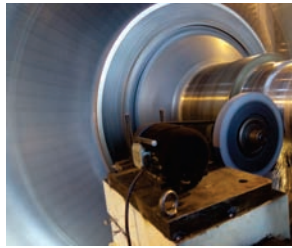
Hardness Test

In-Situ Machining Expertise

Our expertise extends to in-situ machining of rotors, journals, shrouds, and slip rings, offering precision refinements for turbine and generator rotors. Dynamic balancing of turbine rotors and on-site field balancing services are tailored to your specific needs. Additionally, our services cover in-situ refining of turbine carriers, governing valve seat replacement, and ESV/MSV valve seat replacement, all conducted on-site for maximum convenience and efficiency.



*In-situ Journal machining
of 600 MW LP Rotor*



*In-situ Journal grinding
of 600 MW LP Rotor*



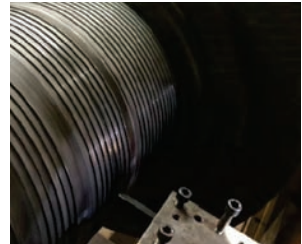
*On Site field Balancing
of 600 MW LP Rotor*



*On site field Machining 1060 MW
Generator rotor*



*In-situ machining of sealing fins on inner casing
and on HP rotor of 200 MW*

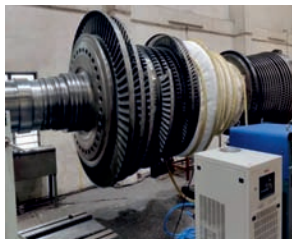


Bend Removal of Shafts

Unique facility for bend removing/runout rectification of shafts/rotors Carried out more than 25 rotor bend removals.



600 MW HIP TURBINE



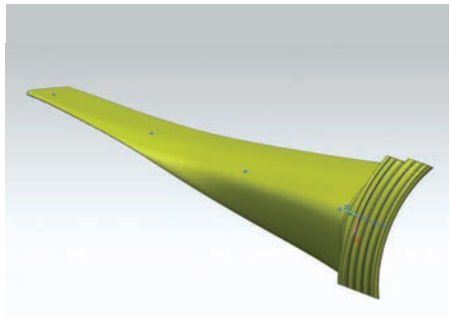
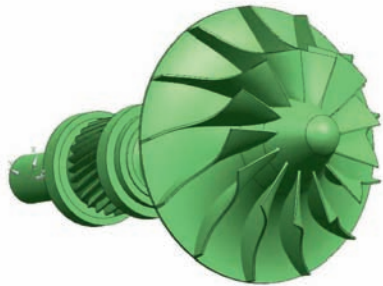
360 MW HIP TURBINE



135 MW HIP TURBINE

Innovative Reverse Engineering Solutions

Leveraging cutting-edge technology such as Faro portable coordinate measuring equipment and advanced 3D scanners, we bring innovation to your site. Our reverse engineering services involve scanning your turbine, compressor, or rotary equipment, generating detailed drawings for all spare parts during overhauling, and maintaining the data in our repository. This empowers us to manufacture bespoke spares according to your requirements, providing fitment and material guarantees for optimal performance and reliability.



3D Modeling and Designing



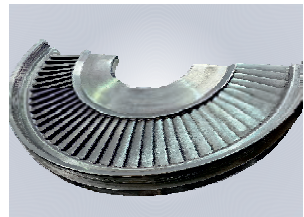
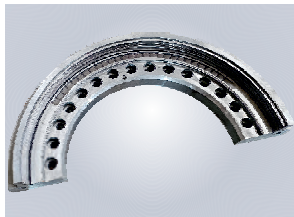
3D Scanning Technology

Facilities

Advanced Manufacturing Facilities:

Swan Turbines operates cutting-edge manufacturing facilities specializing in the production of a wide array of precision components. Our expertise extends to the manufacturing of Steam Turbine components, including Rotors, Diaphragms, Casings, Blades, Carriers, Bearing Housings, Casings, Bearings, Labyrinth Seals, Oil Seals, and much more. In addition to Steam Turbine parts, we also excel in the production of Compressor Spares, Booster Spares, and Pump Spares, encompassing Rotors, Casings, Impellers, Seals, Bearings, Oil Seals, and various other critical components. Our commitment to excellence in manufacturing ensures that each component meets the highest standards of quality, precision, and durability, contributing to the seamless and efficient operation of diverse industrial systems.

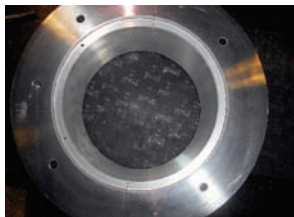
Manufacturing of Guide Blade Carriers and Diaphragms



Manufacturing Generator, Turbine & Gear Box Bearings



Generator Bearings

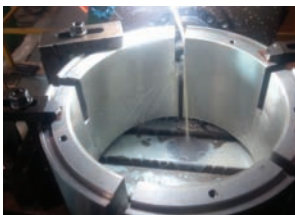


Turbine Bearings

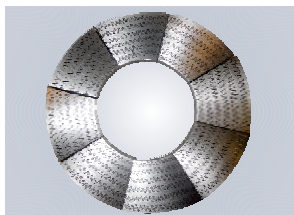


BFP Motor Bearings

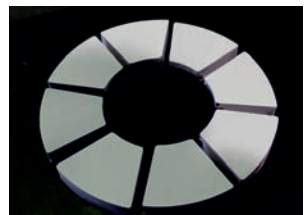
Manufacturing Tilting Pads & Thrust Pads



600MW Tilting Pads



80 MW Thrust Pads



Thrust Pads

Facilities

Cutting-Edge Machinery Portfolio

At Swan Turbine, our facilities are equipped with a state-of-the-art arsenal of machinery, including CNC Lathes, CNC Milling machines, CNC VTL (Vertical Turret Lathes), CNC Horizontal Boring machines, HMC (Horizontal Machining Centres), Laser Profile cutting machines, CNC 5axis, CNC 6axis, CNC Laser welding and CNC Laser marking units. These advanced machines exemplify our commitment to precision engineering and technological excellence, ensuring that we meet and exceed the evolving demands of our industry with unparalleled efficiency and accuracy.



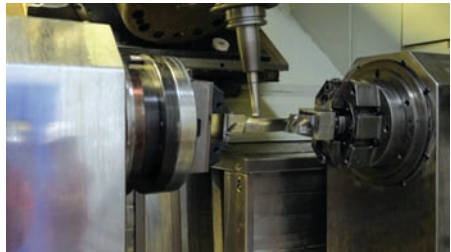
CNC 4 Axis



Vertical Turning Lathe



CNC 6 Axis



CNC 5 Axis



Laser Profile Cutting



CNC Lathe



New Impeller & Geared Shaft



New Nozzle Segment



Inter Stage Seals



Manufacturing of Turbine rotor



Manufacturing of Compressor rotor



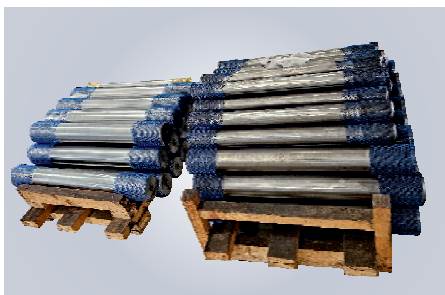
Manufacturing of Turbine Casing



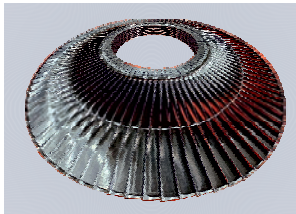
TRT Inlet Guide Vanes



Manufacturing of Governing Valves



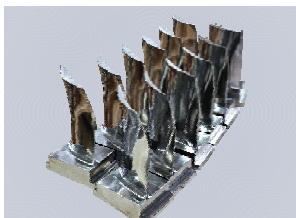
Manufacturing of Studs



300 MW LP last stage blades



210 MW Blades



Compressor Blades



300 MW Blades



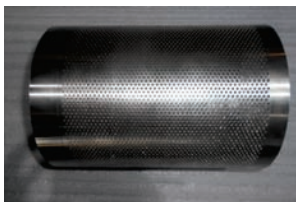
25 MW Blades Assembly



40 MW SST 300



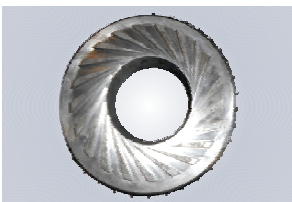
Oil Seal



Steam Strainer



Assembly of Nozzles & L Rings



Diffuser



*Imported Special Sealing
Fin strips (Bohler)*



Fin Rolling Equipment



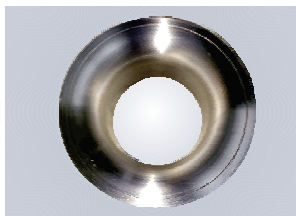
Oil Seal Fins



Manufacturing of FD Fan



Manufacturing of ID Fan



600 MW GV Valve Seat



600 MW GV Coupling



600 MW GV Connector



600 MW GV Bonnet inner end Bush



600 MW GV Valve stem



600 MW GV Valve Stem Bushing



600 MW GV Valve Stem Bush



Refining of Rotor



*Reblading of
660 MW HP rotor*



Manufacturing of Allen Bolts



Manufacturing of Taper Pins



Manufacturing of Washers

Advanced Refurbishment Services

Swan Turbine Services specializes in the meticulous refurbishment of turbines up to 1060 MW, employing a comprehensive range of services. Our expertise extends to critical processes such as Reblading, Precision Machining of Rotors, Journals, and Shrouds, Metal Build-up of Journals, Casing Repairs, Casing Crack Rectification, Valve Seat Replacement, Rotor and Casing Refinement, and numerous other intricate procedures. Our commitment to excellence ensures that each refurbishment is executed with precision and dedication, guaranteeing the optimal performance of turbines.



100 MW Turbine Rotor HSDB



Machining of Turbine Rotor



Impeller Disc Vane Scooping



*Drilling & Reaming of impeller
disc lock pin holes*

Additionally, we extend our refurbishment services to a diverse array of equipment, including Compressors, BFPs (Boiler Feed Pumps), CEPs (Condensate Extraction Pumps), FD & ID Fans, and Pumps. Our advanced refurbishment processes are tailored to enhance the longevity, efficiency, and reliability of the equipment, meeting and surpassing industry standards. Swan Turbine Services stands as a trusted partner for comprehensive and advanced refurbishment solutions across a broad spectrum of industrial machinery.

Dynamic Balancing Facility



High Speed Vacuum Tunnel Balancing Machine

Capacity : 30 Ton Max

Dimensions : Length 9.5 Mtr.
Max Dia 3.1 Mtr.
RPM 15500

High Speed Balancing Vacuum Tunnel

Capacity : 100 Tons

Dimensions : Job Length 16 Mtr.
Wheel Dia 4.5 Mtr.
RPM 3600



Mobile Low Speed Balancing Machine

Capacity : 100Grms. -100 Ton Max

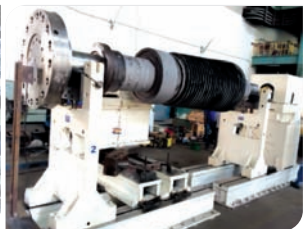
Dimensions : Length 15,000 MM.
Dia 6,000 MM.



100 T LSB 125 MW LP Rotor



80T LSB 600 MW HIP Rotor



60 T LSB 200 MW HP Rotor

Clients Visit



Power Machines Team Visit



Schenck Team Visit



Hitachi Japan Team Visit



SEPCO Team Visit



OMAN Team Visit



NTPC SIPAT Rotor Repair Team

Participated in NTPC Exhibition



Interaction with NTPC Executive Director



At NTPC

Clientele

STS has executed wide range of jobs in India as well as in overseas market for the countries like.

Overseas Market



International Clients



National Clients OEM's



Others





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