

TNE

Technologies **New Energy**



Who we are

TNE has a global and wide experience in **implementing, maintaining** and **servicing** state-of-the-art industrial solutions on different projects with a focus on energy production markets such as **gas turbines**.

Our technologies and services always go one step forward the market in terms of **efficiency, reliability** and **cost effectiveness**.

We work hard to give our clients leading engineered solutions with the most reliability. This commitment with the clients before, during and after the projects implementation has allowed TNE to grow fast until achieving a significant **worldwide presence**.



What if you could get easy access to solutions to operate your gas turbine plant in a cost-effective manner?

Given the evolution of the electricity market, the changing environmental requirements and the globalization of the energy market.

We can tailor innovative solutions to meet your specific requirements and help you prepare your power plant for tomorrow and beyond.



Cost-effective



Worldwide



**Extensive
partner list**



**24/7
assistance**



**Experienced
team**



**Reliable
Powerplants**

Gas turbines are a common sight in distributed energy applications. Driven by the ever-increasing need for higher peak loads in utilities, facility operators have found it necessary to ensure peak performance of gas turbines.

One way of ensuring efficient performance of the gas turbine is regular maintenance.

Are you wondering what gas turbine maintenance entails?

We have all the answers for you.

The gas turbine may have a simple operating principle, but the equipment comprises of highly specialized components. In addition, these components have extremely fine tolerance of operation. There is an even bigger challenge within the turbine.

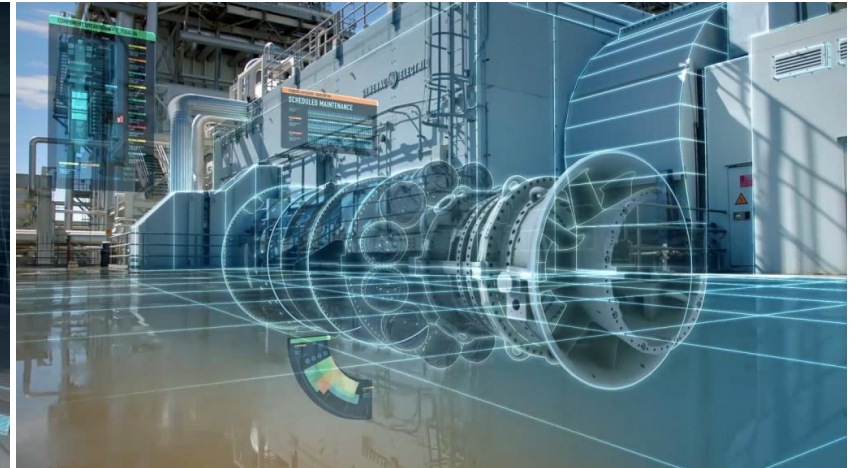
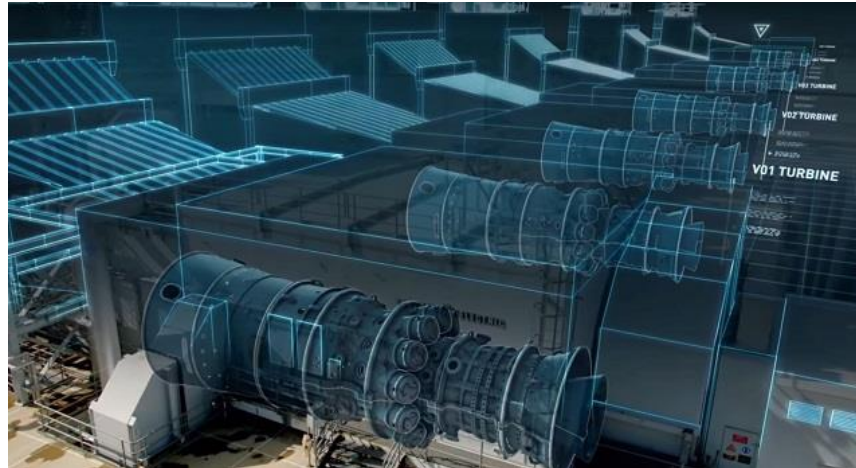
Gas turbines components operate under extremely high temperatures. Today, we have turbines operating at inlet temperatures of 1300 °C and above.

This is coupled by the presence of corrosive gases and elevated stress levels. Maintenance is about fighting the challenges created by this harsh environment.

We provide crucial gas turbine system components services, capital parts and consumables.

During maintenance, our technicians check every part of the gas turbine system. However, there are certain major components that demand special attention. Here is a list of some of them we take care for you:

- **Turbine**
- **Compressor**
- **Air intake**
- **Exhaust chimney**
- **Gearbox**
- **Combustor**
- **Electric generator**



Our technicians collect system performance data during these inspections. Examples of variables in this case include temperature, pressure, and vibration. The baseline performance data from the original equipment manufacturer (**OEM**) comes in handy here.

Our technicians compare the baseline data and the collected data. Any deviations are noted and lined up for investigations during the next shutdown maintenance session.

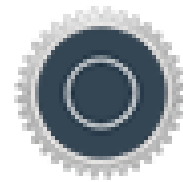
These anomalies are assessed and depending on their severity, prioritized for repairs. The importance of this is to maximize the availability of the turbine. This is also an ideal opportunity to add any performance-enhancing upgrades.

The aim of proper gas turbine maintenance is generally to enhance the productivity of the facility for the long-term.

Following the laid down maintenance and repair procedures will bring the following benefits:

- **Increased system efficiency**
- **Extended gas turbine life-cycle**
- **Reduced maintenance cost**
- **Increased availability of gas turbine**
- **Increased reliability of equipment**

GREAT PLAINS INDUSTRIES



GUSTO GEN

Gas Turbine Model Heavy Duty	Fuel System:	Combustion System & Hardware:	Hot Gas Path Parts:	#1,#2,#3 - Bearing Assembly & Hardware:	
MS 3002	Fuel Nozzles	Combustion Liners	Buckets	Thrust Bearings	
MS 5001P - MS 5001N	Check Valves	Transition Pieces	Nozzles	Bearing Liners	
MS 5002	Piping	X-Fire Tubes & Retainers	Shrouds	Oil Deflectors	
MS 6001	Flow Dividers	Flow Sleeves	Bucket, Shroud & Nozzle Hardware	Various Hardware	
MS 6001B	Fuel Pumps	Combustion Cans	Suport Rings	Bearing Housings	
MS 6002	System Gas	Spark Plug Assemblies			
MS 7001		Flame Detectors			
7 EA		TP Hardware			
7 FA					
9 FA					
DLN technology					
	Inlet and Compressor Casings:	Turbine Casings and Exhaust Frames:	Kit´s Hardware		
	Inlet Bell Mouth	Inlet Bell Mouth	Load Couplings	RTD's	Pressure Transmitters
	Compressor Casings	Compressor Casings	Accessory Couplings	Filters	LVDT's
	Compressor Discharge Casings	Compressor Discharge Casings	Accessory Gear Parts	Lock Plates	Quill Shafts
	Turbine Casings	Turbine Casings	Servo Valves	Nuts, Bolts, etc.	Pick-Up
	Exhaust Frame Assemblies & Diffusers	Exhaust Frame Assemblies & Diffusers	Solenoid Valves	Gaskets, Seals	System Fire
	Bearing Housings	Bearing Housings	Fuel Valves	Motors	Wire
			Control Valves	Vibration Sensors	
			Control System Parts	Magnetic Pick Ups	
			Thermocouples	Pressure Gauges	

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Gas Turbine Aero derivative	Fuel System:	Combustion System & Hardware:	Hot Gas Path Parts:	Bearing Assembly & Hardware:	
GE LM 1600	Fuel Nozzles	Combustion Liners	Buckets	Thrust Bearings	
GE LM 2500	Check Valves	Transition Pieces	Nozzles	Bearing Liners	
GE LM 2500	Piping	X-Fire Tubes & Retainers	Shrouds	Oil Deflectors	
GE LM 6000	Flow Dividers	Flow Sleeves	Bucket, Shroud & Nozzle Hardware	Various Hardware	
GE LM 100	Fuel Pumps	Combustion Cam	Suport Rings	Bearing Housings	
RR Avon	Piping Gas	Spark Plug Assemblies			
RR Olympus		Flame Detectors			
RR RB 200		TP Hardware			
RR Trent		Gas Condenser			
RR Spey					
	Inlet and Compressor Casings and Cooling Systems	Turbine Casings and Exhaust Frames:	Kit´s Hardware:		
	Inlet Bell Mouth	Inlet Bell Mouth	Load Couplings	RTD's	Pressure Transmitters
	Compressor Casings	Compressor Casings	Accessory Couplings	Filters	LVDT's
	Compressor Discharge Casings	Compressor Discharge Casings	Accessory Gear Parts	Lock Plates	Quill Shafts
	Turbine Casings	Turbine Casings	Servo Valves	Nuts, Bolts, etc.	Pick-Up Ind
	Exhaust Frame Assemblies & Diffusers	Exhaust Frame Assemblies & Diffusers	Solenoid Valves	Gaskets, Seals	Systems Fire
	Bearing Housings	Bearing Housings	Fuel Valves	Motors	
			Control Valves	Vibration Sensors	
			Control System Parts	Magnetic Pick Ups	
			Thermocouples	Pressure Gauges	

Steam Turbine Model	Stationary Components	Valve Components	Steampath Components	Packing Rings
General Electric	Oil deflectors	Components for Assemblies	Gibs	Rings HP, IP, LP turbine sections
Siemens	Atmospheric relief diaphragms	Manufacture of disassembled components by manufacturers	Shims	Seal
Alstom	Seal rings		Arch springs	Rings radial seal
Hitachi	Thrust plates		Spacers	Rings turning gear
MAN	Support shims		Ledge	Positive radial sealing
	Keys		Joint Keys	
	Gibs		Lockwire	
	Journal Bearings		Center pins	
	Pump Bearings		Dowels	
	Bearing		Exhaust hood spray nozzles	
	Deflector Oil			

Generators for Turbine	Stationary Components	Hardware Assembly	Packing Rings
General Electric	Oil deflectors	Gibs	Rings HP, IP, LP turbine sections
Alstom	RTD's	Shims	Rings radial seal
Hitachi	Seal rings	Arch springs	Rings turning gear
Brush	Thrust plates	Spacers	Positive radial sealing
	Support shims	Ledge	
	Keys	Joint Keys	
	Gibs	Lockwire	
	Journal Bearings	Center pins	
	Bearing	Dowels	
	Deflector Oil		
	Cupling		

Gear Box Turbine	Stationary Components
Flenders	Pinion
Philadelphia	Gearwheel
	Tapered bearing
	Axe cupling
	Calibrated Holes
	Seal
	Gasket
	Bolts

Implementation, modernization and upgrades

- Electromechanical assembly of electrical panels and frames;
- Design and assembly of control center for conventional and intelligent engines;
- Technical feasibility studies in thermal and hydraulic generation systems;
- Maintenance of combustion engines for energy generation use;
- Maintenance of gas and steam turbines in open cycles and combined cycles;
- Installation of gas and steam turbines in open cycles and combined cycles;
- Maintenance of hydraulic and auxiliary turbines;
- Installation of hydraulic and auxiliary turbines;
- Protection systems;
- Open and sheltered substations;
- Installation, parameterization and commissioning: frequency inverters, soft-start and intelligent electronic relays;
- Assembly and installation of aerial and sheltered substations.
- Site survey (design and implementation of wireless radio frequency systems) for the collection of data for productive processes and storage;
- Execution of auxiliary works (electrical and mechanical);
- Project management;
- Maintenance management;
- Technical Teams management (projects, maintenance, technical assistance);
- Generating units operation.

Eletrobrás – Amazonas Energia

Regeneration of Detroit motors 12V71
start-up with gas turbines start 5001P TGG
3 and 4
Brasil



Amazonas Energia

Engine maintenance Wartsila 18V46 and
powerplant bloc 4
Brasil



Amazonas Energia

Technical consulting of the hydroelectrical powerplant Balbina Brasil



Ministry of Defense - Aeronautics

Installation Project of a transformer of 4MVA and duplication of 13.8K of distribution line of 13.8 KV, underground, aerial, internal to CINDACTA. Brasil



Manaus Energia

General supervision of HGPI gas turbines,
maintenance and GE 7 EA
Brasil



INITEC/OGX

Assembly, integration and start-up frame
7FA; combined cycle D series 500MW
Brasil



INITEC/OGX (powerplant Parnaíba II)
Structure assembly and auxiliary
equipment
Brasil



INITEC/OGX
System Assembly CO² TG 53 E 54 Frame 7
FA.
Brasil



CT Brigadier López

Rev SGT5-4000F – Siemens – 283 MW

TV -Siemens SST-700HP – 140 MW

Argentina



CT El Bracho (Pluspetrol)

2 x TG GE 9171 E – 244 MW

Argentina



CT Porto SUAP – Iberdrola
 2 x Turbine 7 FA – 360 M
 Rev TV – GE D11 – 278 MW
 Pernambuco
Brasil



CT Necochea

2x TV ANSALDO BABCOCK & WILCOX (2x 33 MW)

2x TV AEG WALTER & CIE (2x 70 MW)

Argentina



Oscar Smith

General Electric,
Modelo PG6111FA – 80 MW
Argentina



CT Rufinox

28 Motors CAT 3516B – 31,9 MW
Argentina



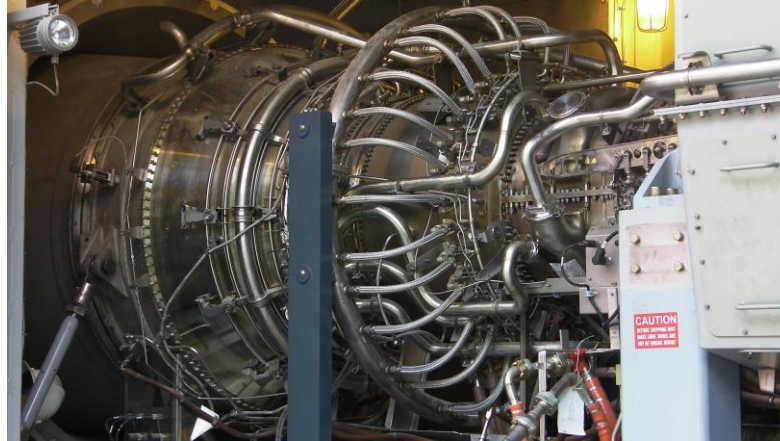
CT San Vicente

28 Mot. CUMMINS QSK50-G9 – 27,6 MW
Argentina



CT Tacoa

Turbine GE LM 6000 – 52 MW
Venezuela



CT Central Esperanza (Rancagua)

1 Turbine FR. 5, 18,8 MW
Chile



INITEC/OGX (powerplant Parnaíba II)
Structure assembly 69kVA
Brasil



Dresser-Rand
Gas turbine maintenance, Start-up Frame
7B- conversion 7 EA – 55 MW at Amazonas
Energia.
Brasil



Our headquarters to the world are in the city of Maia, Oporto where we have all our operations including workshop area, R&D dedicated space, offices, meeting and lounge area for our clients.



Providing a welcoming vibrant environment, including, the best of local design, the building is a perfect home for collaboration and innovation.

Using the best innovation, practices and methodologies, the TNE team provides training, workshops, innovation programs and immersions for local partners.

Ideation, co-creation, work and learning spaces for 2 to 60 people are scattered throughout the building.

However its key objective is to enhance innovation, TNE was developed in order to catalyze and unlock opportunities for countries accelerated growth and sustainable development.

To that end, we host global and local delegates – from academic to professional and catalyze realistic and sustainable solutions to challenge our work from social to the physical environments.



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TNE Agents