



INTEGRATED, COMPLETE, ONE-STOP ENGINEERING SERVICES AND SOLUTIONS

WWG

COMPANY PROFILE



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www.wwgengineering.com





WWG PROFILE

At **WWG Engineering Pte Ltd**, we pride ourselves as Singapore's Thermal Spraying Coating, Advance Laser Cladding, Mechanical, Electrical, Electronics Instrumentations and Engineering Equipment Specialists. We are offering 24-Hour Round-The-Clock Services to the industry.

WWG Engineering Pte Ltd is certified under ISO 9001, 14001, 45001 and BizSAFE Star. "UHLA®" is WWG Engineering's proprietary Ultra High Speed Laser Cladding Technology Registered Trademark.

WWG's technology development roadmap has a very clear objective. WWG's mission is to continue assembling some of the most sought-after technologies surrounding and relating to our core engineering services, all under one roof. Automation, CNC Machines, Multi-axis Robotic Arms, Coordinate Measurement Machine (CMM) and Heat Treatment facilities are effectively deployed in WWG businesses. By doing this, we are able to establish a seamless matching of Surface Engineering Modification Technology with Mechanical Engineering Equipment Repair, Refurbishment, Parts Re-manufacturing and Services Solutions, further complementing by Electrical, Electronics and Instrumentations Services.

Surface Engineering Modification Technologies and Mechanical Engineering Services can be performed In-house and on-site/in-situ. These include Thermal (Metal) Spray, Rokide Ceramic coating, Plasma Spraying, HVOF coating, COLD Spray Coating, UHLA Ultra High Speed Laser Cladding, Hard Chrome/Nickel Plating, Anti-Corrosion Protective coating (Blasing-Painting, Class-Flakes Ceramics Epoxy Coating, TSA, TSZ, Inconel etc.), Babbitt (White Metal) Re-metaling, Specialized Welding Including Cast Iron (with approved WPS, PQR), Workshop Machining Turning, CNC Milling, CNC Lathe, CNC Horizontal Boring, Cylindrical, Surface, Crankshaft Grinding, In-situ machining, Line-boring, On-site Milling, Flange Facing, Pipes Cold-Cutting, Laser Alignment, all mechanical equipment and machinery dismantling, troubleshooting, Overhaul, Repair, Dynamic Balancing Re-assembly, Testing, necessary 3rd Party Quality and Marine Class Approval.

As an industrial powerhouse for driving an Integrated, Complete One-Stop Engineering Services and Solutions, Electrical, Electronics, Instrumentations and Laser Alignment Services are among the latest series of WWG Engineering's technological offerings. Such services include Diesel Generators, CNC and Factory Machineries Maintenance, Equipment Troubleshooting, Installations, Panel Design and Services, Cable Glanding and Termination, Laser Alignment of Turbine-Generator-Engine, Motor, Fan, Pump on Rigs, Vessels, FPSO, FSRU, and Oil & Gas Facilities. As a complementing business activity, WWG is a distributor to Kennametal's Stellite and Carbides range of welding rods, powders, carbide inserts and a service partner to refurbish Industrial Die Plates. WWG is also in partnership with Osborne Engineering in White Metal Bearings repair, re-metaling, new White Metal Bearing remanufacturing and a series of Osborne Business Solutions.

Established in January 2012, WWG Engineering Pte Ltd is serving Singapore's Engineering Industry in many diverse categories, such as the Water, Food, Power Generation, Marine, Offshore, Refinery, LNG Terminals, Petrochemical industries, on-board FPSO and FSRU. Founding members and technical teams started primarily as Thermal Spraying Coating, Surface Engineering Experts and Mechanical Technical Specialists with very extensive knowledge and experience in the Rotating, Stationery and Mechanical Equipment. Also, WWG Engineering's team of experienced Engineering and Manufacturing Personnel possess an extremely unique combination of experience in Manufacturing, Mechanical, Materials, Surface Science and Engineering.

With such a Unique and Specialized Technological Engineering background, WWG Engineering Pte Ltd provides Integrated, Complete One-Stop Engineering Services and Solutions, with presences in Singapore, Kuala Lumpur, Johor, Terengganu, and Sarawak Engineering Plants. Already, WWG Engineering is making its mark as a Regional Industrial Leader in the areas of Engineering Equipment and Components Refurbishment, Rebuilding, Repairing and Re-manufacturing.

WWG Regional Presence

WWG COMPANIES	CONTACT PERSON	CONTACT NUMBER
WWG Engineering Pte Ltd	Willie Wong	+65 9832 1639
WWG Technologies Sdn Bhd	Sri	+60 125010102
Daya Bumimaju Sdn Bhd	Steve Chieng (Bintulu) Ashadi Ahmad (Kemaman) Sri (Johor Bahru)	+60 16 8701632 +60 12 9595143 +60 125010102
AV Solutions Integrated Sdn Bhd	Willie Wong	+65 9832 1639



SINGAPORE

42A Penjuru Road
Level 6 Lobby 1
Singapore 609164

KUALA LUMPUR

No 2 Jalan Tembaga SD 5/2F
Bandar Sri Damansara
52200 Kepong
Kuala Lumpur, Malaysia

JOHOR

(Johor Bahru)
No 11 Jalan Bukit 28
Masai Industrial Park
Bandar Seri Alam
81750 Masai
Johor, Malaysia

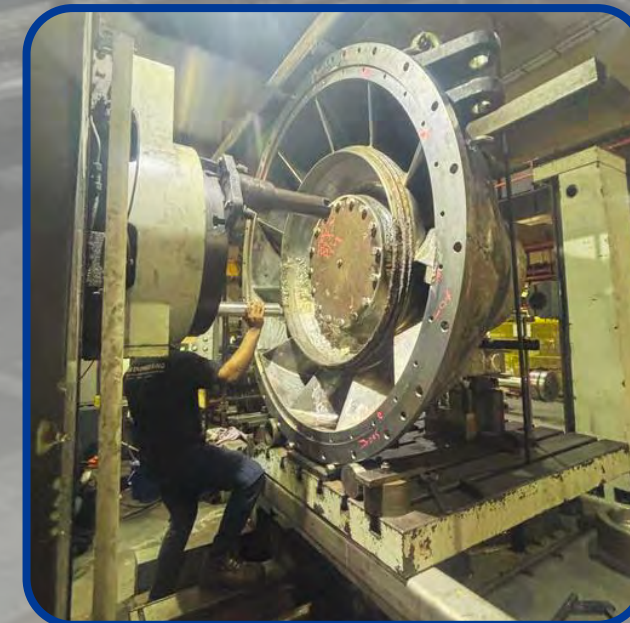
TERENGGANU

(Kemaman)
Lot 13B Kawasan Perindustrian Miel
Jakar Phase IV
24000 Kemaman
Terengganu Darul Iman
Malaysia

SARAWAK

(Bintulu)
No 42 Grandmet Industrial Estate
Jalan Tun Hussein Onn
97000 Bintulu
Sarawak, Malaysia

CNC & Conventional Turning, Milling Horizontal/Vertical Boring Surface and Cylindrical Grinding





Established WPS/PQR

- ✓ Carbon Steel
- ✓ Austenitic Stainless Steel (316)
- ✓ Martensitic Stainless Steel
- ✓ Aluminium (5083, 6061)
- ✓ Cast Iron

WELDING METHODS:

- ✓ SMAW – Arc Welding
- ✓ GTAW – TIG Welding
- ✓ GMAW – MIG Welding

Approved by BV Class

- ✓ Aluminium & CS

DNV & BV Class Approval

- ✓ Cast Iron -ASTM A536
 - ✓ Copper Alloy- ASTM B150
 - ✓ HTS -ASTM A131 & SS316
- (Status: All pending for approval)

WELDING TECHNOLOGY

(Approved WPS/PQR with Marine Class)

In WWG Singapore Engineering Services production facility, we mainly focus on three most demanded welding methods in the industry, which are Electric Arc Welding (we just call Arc Welding), MIG (Metal, Inert Gas) or GMAW (Gas, Metal Arc Welding), and TIG (Tungsten Inert Gas) welding.

We also can perform brazing and silver soldering depending on work requirements.

Material Grades:

Steel, Carbon Steel, Cast Iron,
Aluminium, Bronze, Special Grades.



LOCALIZED PWHT & FURNACE HEAT TREATMENT



Local PWHT up to 900°C
Furnace Heat Treatment upto 650°C



LASER CLADDING, LASER HARDENING, LASER CLEANING & LASER BLASTING

UHLA®
Ultra High-Speed Laser Application

Cladding Materials

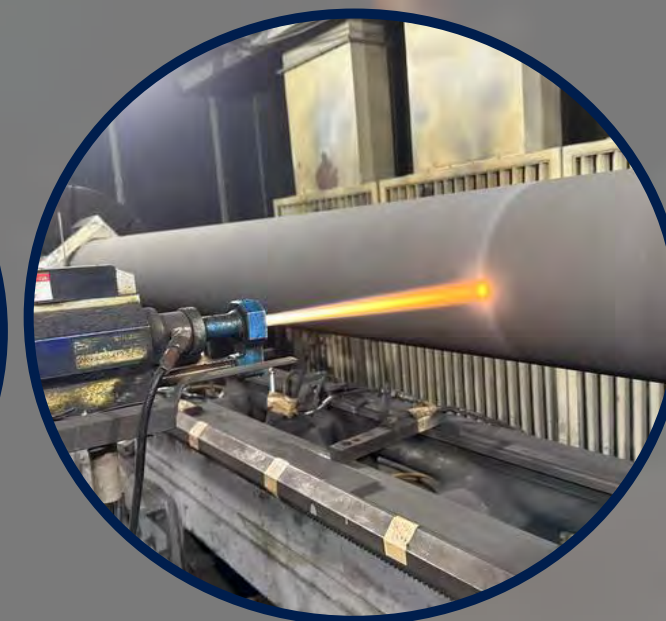
»Stainless Steel »Carbon Steel »Inconel 625 »Stellite »Duplex »Super Duplex »Cast Iron » Nickel Aluminum Bronze



Thermal Spray Coating

We offer a wide range of surface technology to ensure optimal performance of the component surface in different environmental application.

We identify and apply new innovative and engineered coatings that are well tested in increasing equipment life without distorting, cracking, or making the base material brittle.



- **HVOF
(High-Velocity Oxygen Fuel)**

- **Wire Arc Spray**

- **Rokide Ceramics Spray**

- **Plasma Spray**

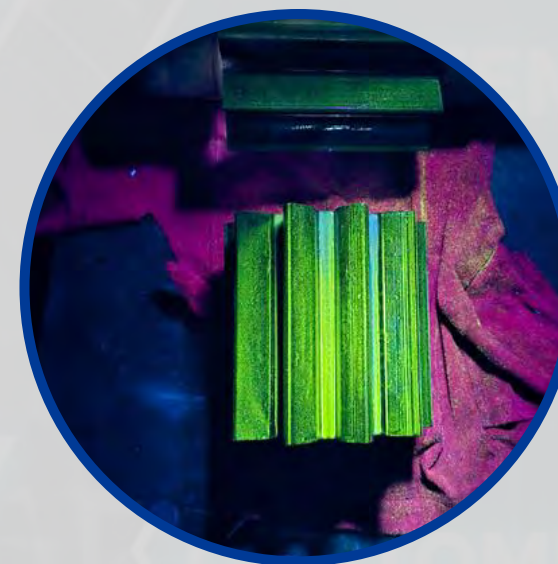
- **Wire Metallizing
(Flame Wire Spray)**

- **Electric Arc Spray**

- **Flame Powder Spray**

- **Cold Spray Technology**

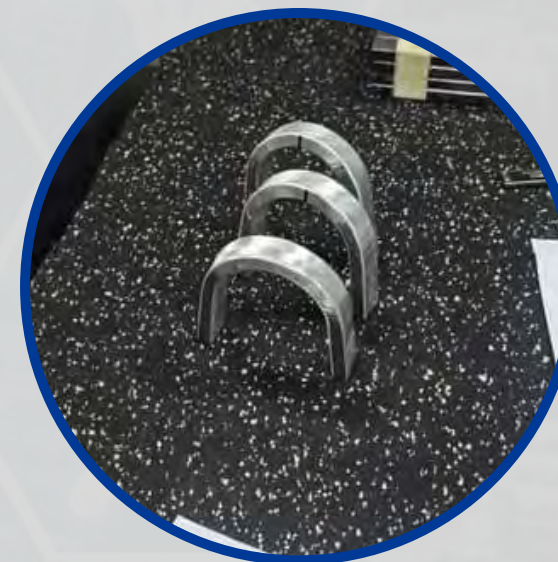
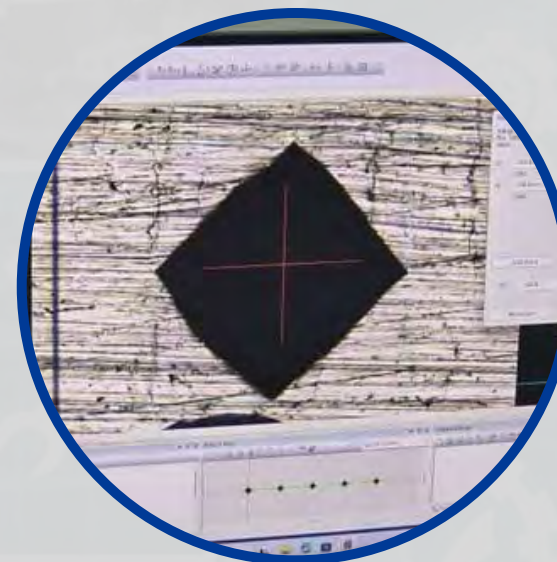
QA/QC-Inspection, Testing, Qualifications & Engineering Specifications



Inspection Services like, Dimensional, LPI, MPI, Hardness, Roughness Inspection

Procedure qualifications and various required testing for laser cladding, Hardening, welding and spray coating according to required standards with the Class approval.

Quality control (QC) inspection is a critical step following fabrication and part repair, ensuring that components meet specified standards and tolerances. One such method is Coordinate Measuring Machine (CMM) dimensional inspection, Hardness testing, Surface roughness, micrometers and profilometers, each tailored to provide high accuracy and repeatability in their measurements. By performing these inspections, manufacturers can ensure the reliability, safety, and performance of their components, thus maintaining high standards of quality in their products.



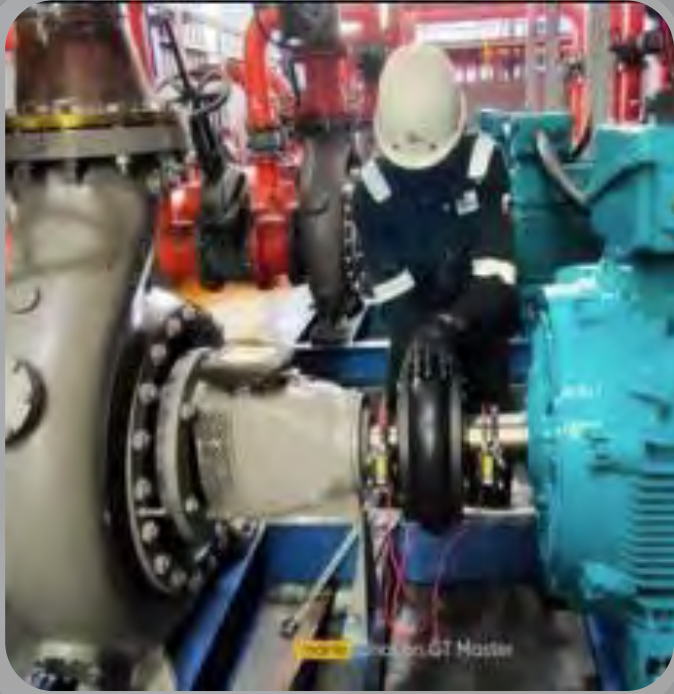
MECHANICAL EQUIPMENT REPAIR & REFURBISHMENT



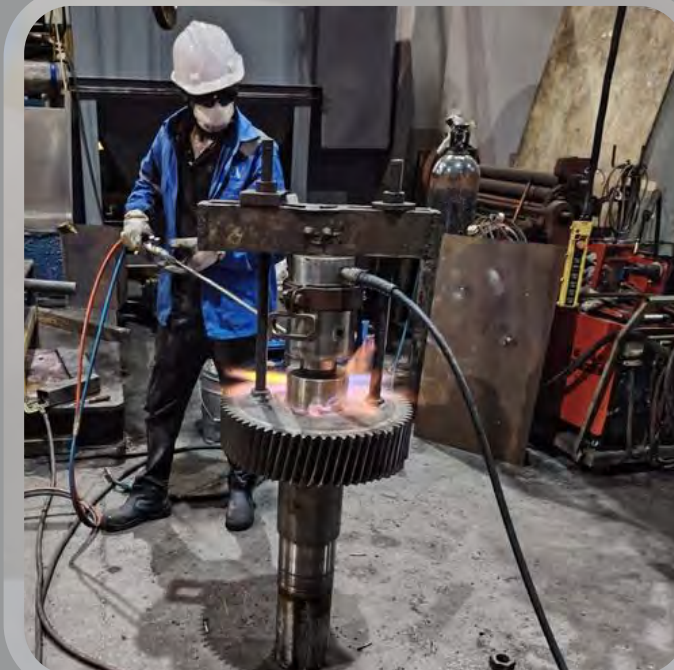
- Steam Turbines
- Gearboxes
- Pumps
- Propulsion Parts



MECHANICAL EQUIPMENT REPAIR & REFURBISHMENT



- Electrical Motors
- Blower Fans
- Gears, Valves
- Hydraulic Cylinders



HYDRAULIC CYLINDER ROD | CYLINDER BARREL

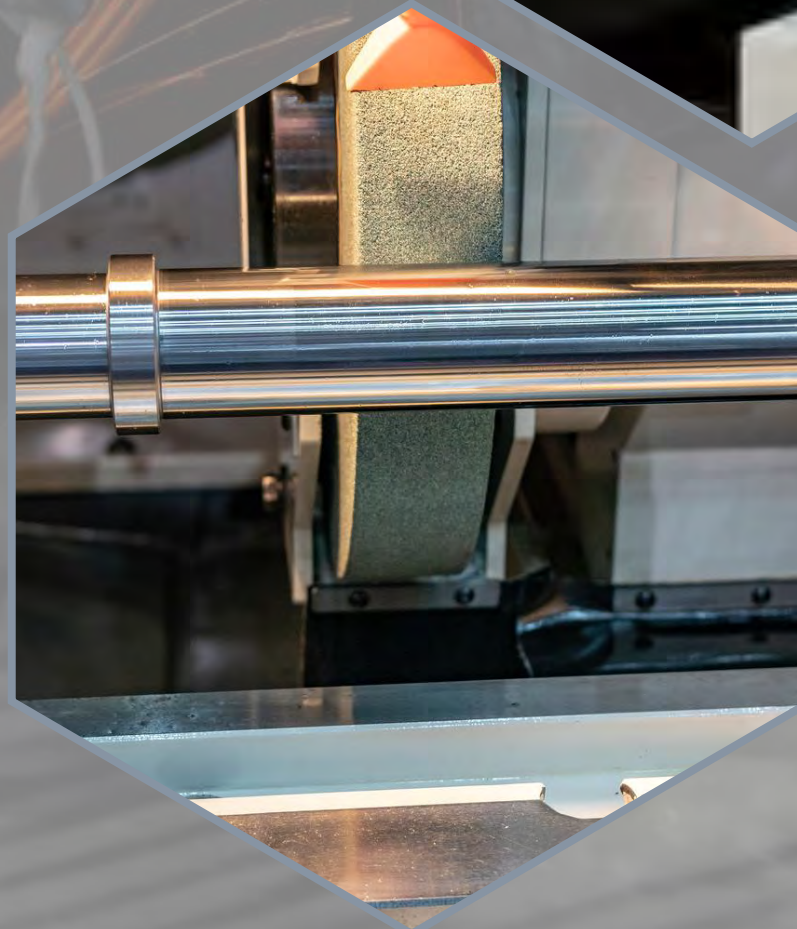
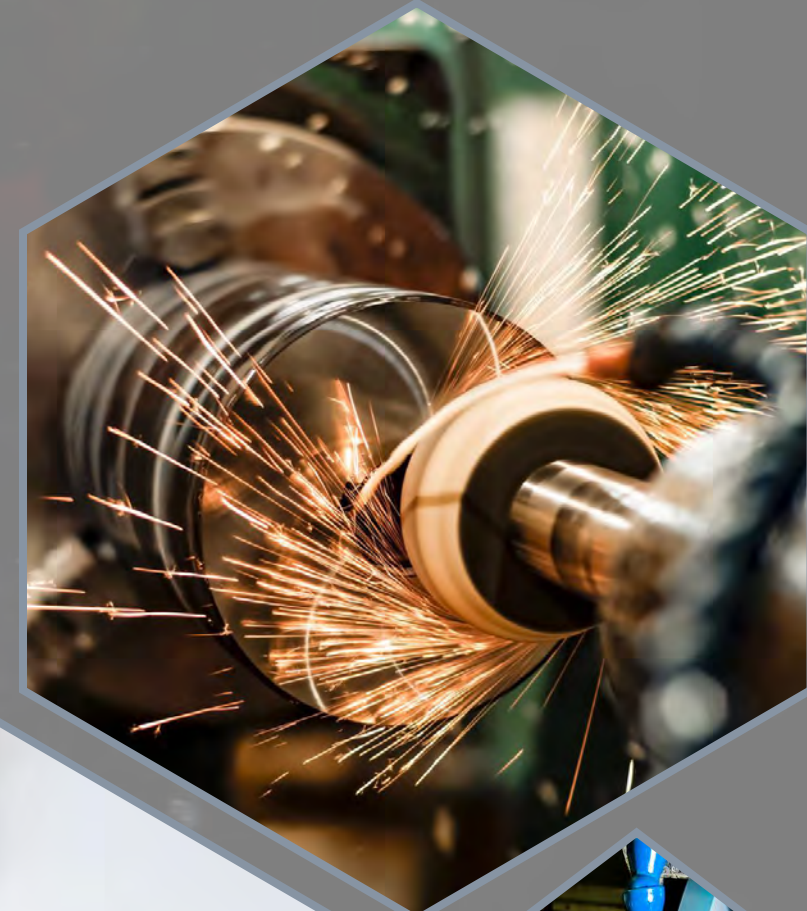
- HVOF Coating
- Laser Cladding
- Hard Chrome Plating
- Piston Rod Repair
- Barrel Honing
- Barrel Refurbishment
- Pressure Testing
- Overhaul
- Assembly



CRANKSHAFT, CYLINDRICAL & SURFACE GRINDING

- Shafts
- Piston Rods
- Pins & studs
- Bearing Components
- Hydraulic and Pneumatic Parts
- Machine tool components
- External & Internal Cylindrical Grinding

Crankshaft & Cylindrical Grinding: 4units
Size: Maximum Swing OD1350 x
max. length 8000 mm



LASER ALIGNMENT

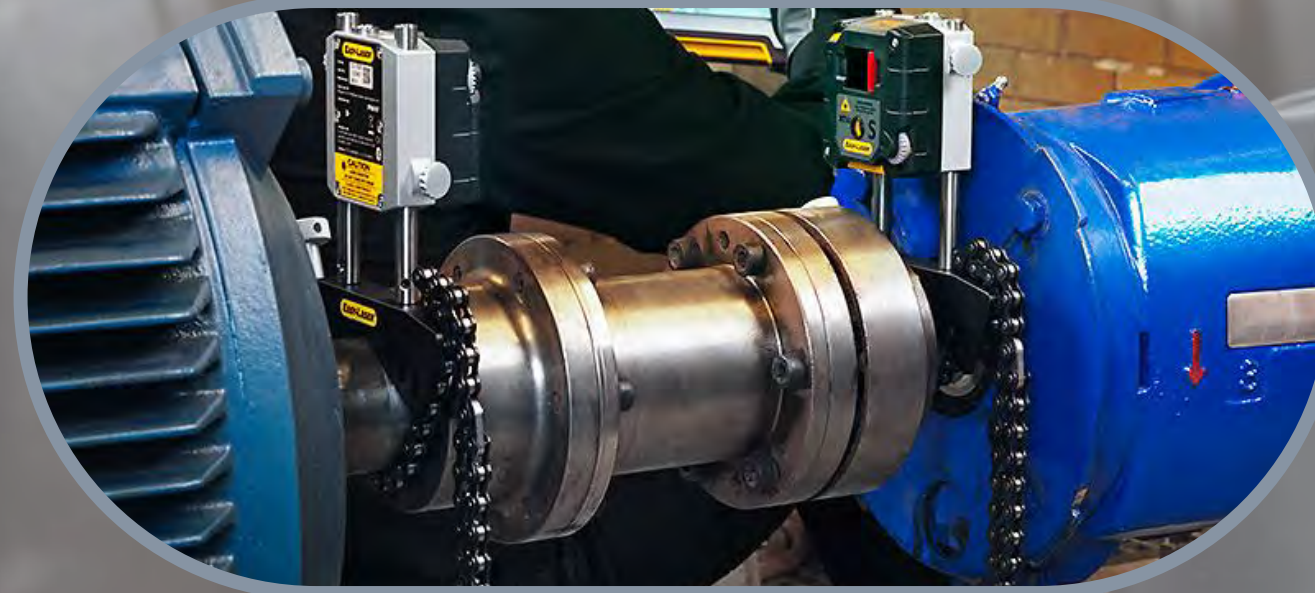
USING HIGH ACCURATE

- SKF TKSA Series 51 & 71
- PrufTechnik Rotaling

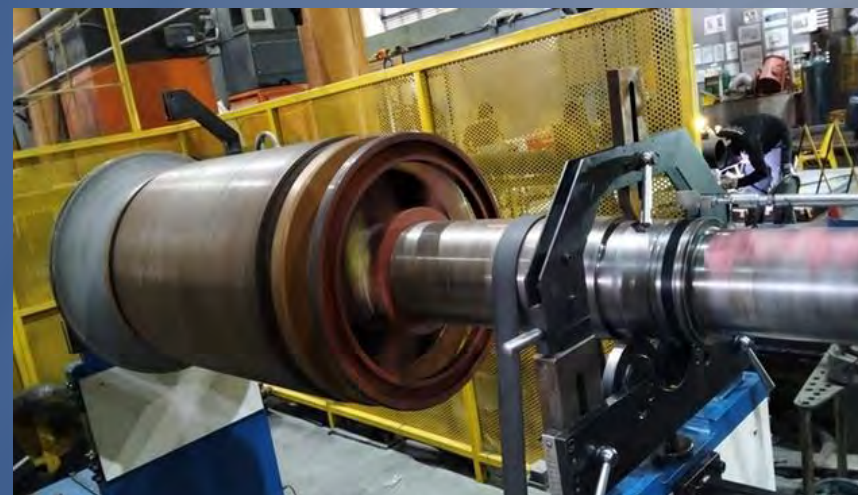


Distance Cover up to 10M

- Electrical Motors, Fan & Pump
- Engine to Gearbox unit
- Turbine to Gearbox
- Marine propulsion Shaft
- Any Rotating machinery with Couplings



DYNAMIC BALANCING



1

Crankshaft
Electrical Rotor
Turbine Rotor
Cooling Tower Fan & Pump Impeller

2

We can offer up to 30 tones with 4,000 mm Ø
Dynamic Balancing capability for
troubleshooting &
correction of unbalanced rotating equipment
experiencing vibration

3

Dynamic Balancing allows sets of bearing pedestals
to be connected to sensors and the unbalance at the
two planes can be independently identified, thus
reducing vibrations to a level that will prolong the
bearing life and will reduce noise levels.

ON-SITE / IN-SITU SERVICES

- In-Situ Repair
- Dismantling
- Re-installation
- On-site Welding
- TSA and TSZ
- Blasting & Painting
- Inspection

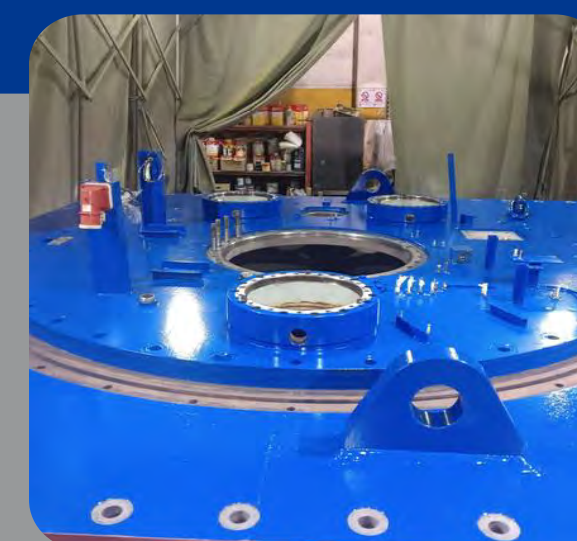
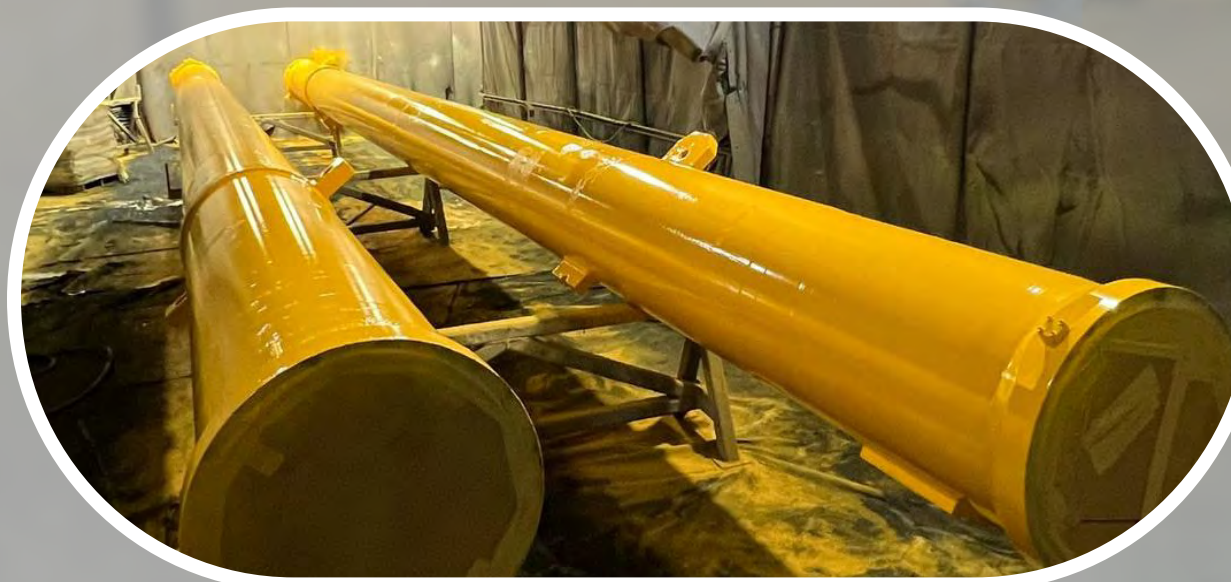
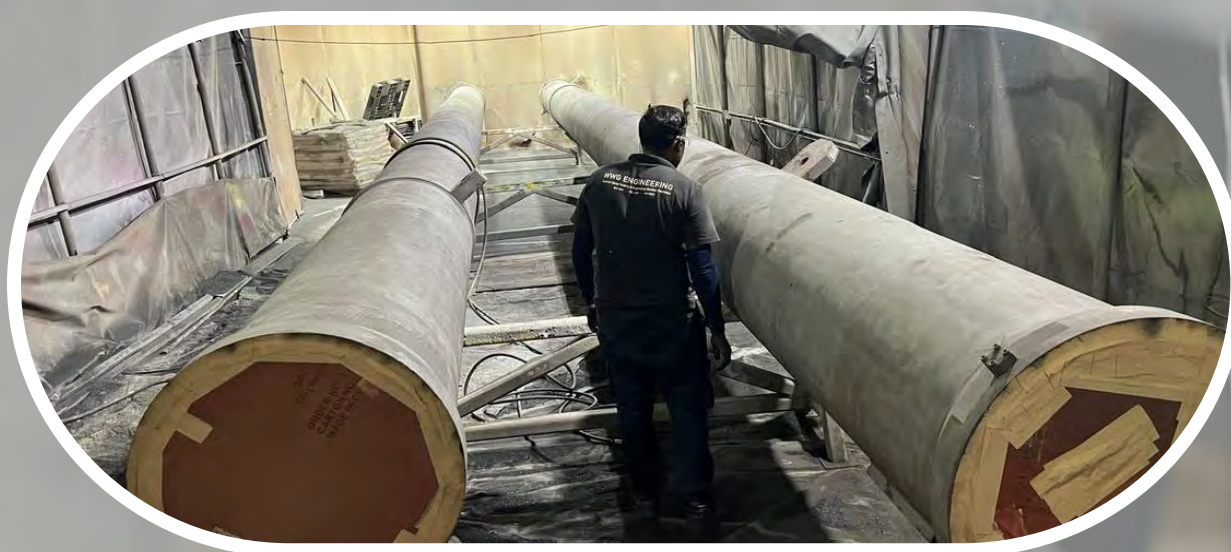


ON-SITE / IN-SITU SERVICES

Line-boring, Flange facing, Cold cutting, In-situ milling, Laser Alignment

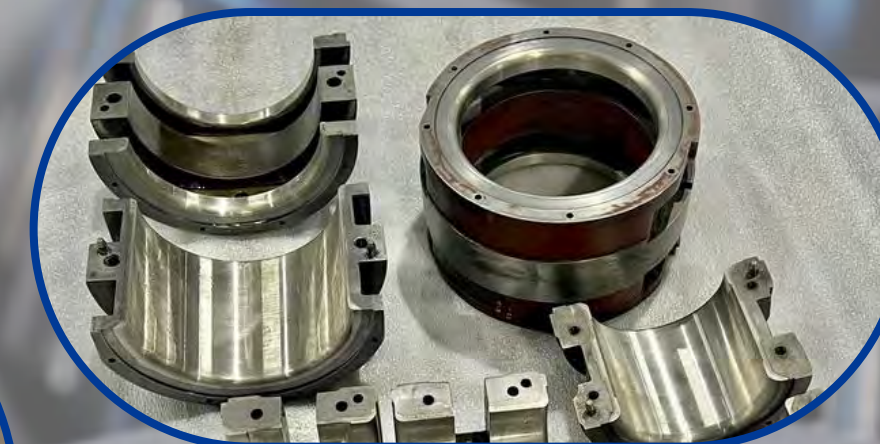
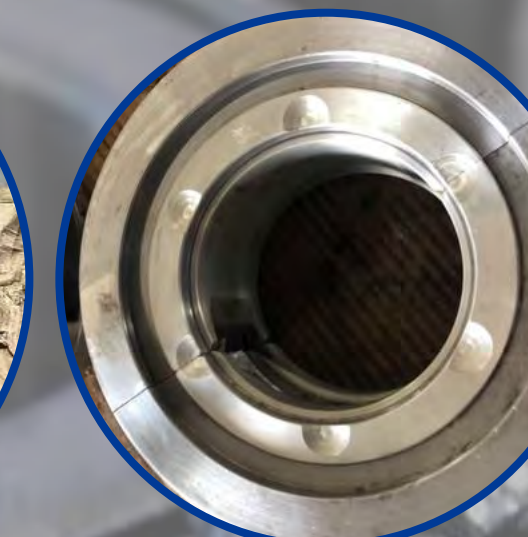
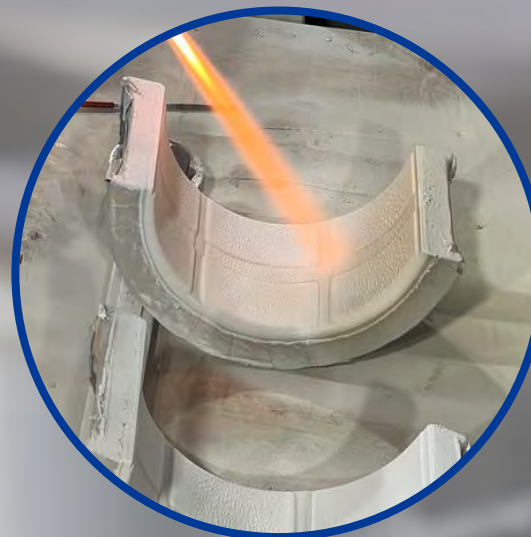


GRIT BLASTING & PAINTING, TSA, GLASS FLAKE CERAMIC EPOXY COATING

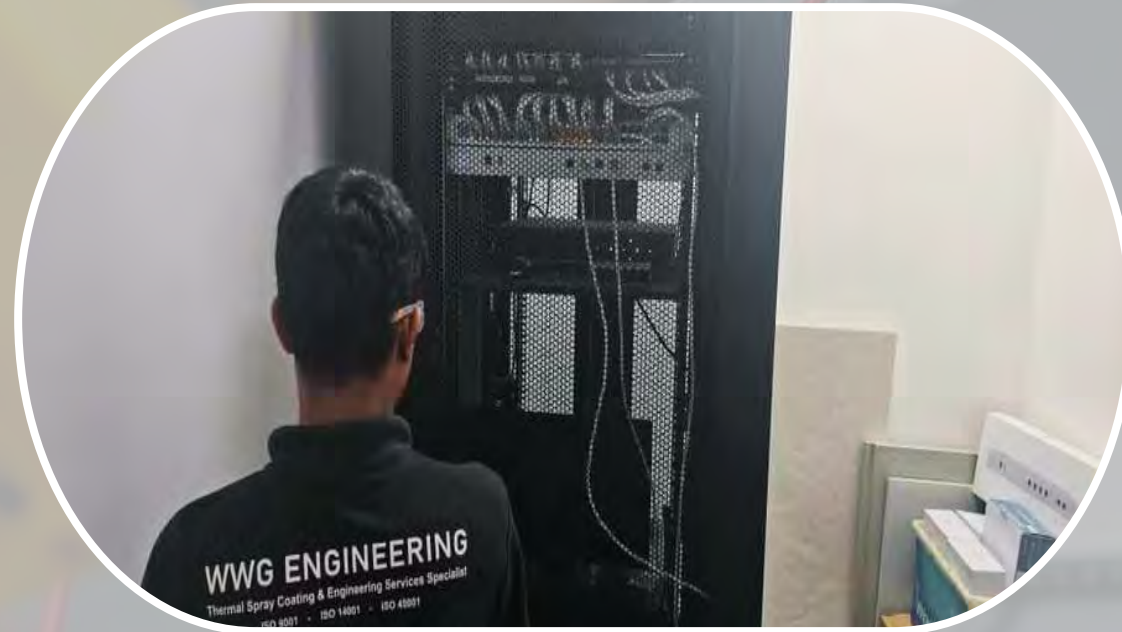


WHITE METAL BEARINGS

Centrifugal Casting, Gravity Casting, Thermal Spraying, TIG Welding



ELECTRICAL, ELECTRONICS & INSTRUMENTATION SERVICES



Services Offered:

- CNC Machine
- Machine Maintenance
- Troubleshooting
- Panel Board
- Air Compressor
- Motor Overhauling
- Generator Inspection
- CCTV Installation



Thermal Spraying, Laser Cladding, Welding Consumables



PTA System



Stellite Rods



**Alloy Based Material
and Components**



KENAMETAL is a global provider of solutions to wear, heat, and corrosion problems and is a world-class manufacturer of alloy-based materials and components. These consumables come in the form of rod, wire, powder, and electrode and can be custom engineered to meet individual customer needs. In addition to welding consumables, Kennametal also offers its expertise and experience in coating services in the form of HVOF (High-Velocity Oxy Fuel) coatings and weld hardfacings.

Kennametal offers its proven heat, wear, and corrosion experience and customized solutions to a broad range of industries, including:

- | | | | |
|--------------|--------------------|-----------|---------------------|
| * Aerospace | * Power Generation | * Forging | * Food Processing |
| * Oil & Gas | * Steel | * Dental | * Valves & Fittings |
| * Automotive | * Timber | * Glass | |



White Metal Bearings

- + Babbit Bearing Repair.
- + White Metal Bearing Manufacture
- + Bearing Design, Analysis and Engineering.
- + Flexible & Gear Coupling Manufacturing



GT Fuel Systems

- Repair and overhaul of
- + GT Flow dividers.
 - + Fuel Nozzles.
 - + Air Compressors.
 - + Fuel Pumps
 - + GT Fuel Valves



Training Services

- + GT Mark V, VI Training
- + Other Technical Training
- + Non-technical & Management Training.



Condition Monitoring

- Services & Products for
- + Vibration Analysis.
 - + Dynamic Balancing.
 - + Laser Alignment.
 - + Thermography.
 - + Annual Inspection Service.