



INTEGRATED, COMPLETE ONE-STOP ENGINEERING SERVICES AND SOLUTIONS

Company Introduction



+65 6861 0960  sales@wwgengineering.com
www.wwgengineering.com 





BEYOND DREAMS. . .

An Engineer, An Entrepreneur, The Courage to Innovate, to Transform, Offering New Life to Engineering and Plant Equipment

He was trained in world leading Thermal Spraying Coating Company Tocalo Japan, as an R&D Engineer. He was a Regional Technical Sales Manager in Sulzer Metco (Oerlikon Metco) in charge of post-merger Thermal Spraying Coating market development and support. He has worked for a renowned Singapore based Marine Engineering Services Company Horiguchi Engineering taking charge of Thermal Spraying Coating R&D and Sales. As Founding Chairman and Managing Director of the Frontken Group, Mr. Willie has enormous experience in setting up Thermal Spraying Coatings and Engineering Services Companies across Asia Pacific.

Mr. Willie was involved in NASA project while he obtained a Bachelor of Science in Mechanical Engineering at the University of Idaho, USA. He has completed the Executive Master's in Business Administration at Nanyang Technological University, Singapore. Graduated Top in the Batch, he was also the sole recipient of the 2009 Furama Ltd Endowed Book Prize Award. He also holds an Advanced Management Program (AMP) Certification from NTU-Berkeley (Haas Business School, California).

²
“Willie Wong Gold Medal” is the most prestigious award for EMBA Graduates of Nanyang Business School, NTU, annually.

He was the proud winner of the Outstanding Entrepreneur Award at the Asia Pacific Entrepreneurship Awards 2009, and Spirit of Enterprise 2012 Award by SOE Singapore and he was awarded as Business Luminary under Promising SME500 campaign, 2015 by SMBA Singapore.

As the Founder of the company, Mr. Willie is actively joining back leading the company's business since mid-2022, and has help propelled company growth exceeding 500 percent within this short period.

Wong Hua Choon, Willie
FOUNDER / CEO

TECHNOLOGY & ADVISORY BOARD



Dr. Kurnia Wira
Associate Scientist

Dr. Kurnia Wira is an Associate Scientist at WWG Engineering Pte Ltd, specializing in surface and materials engineering. He holds a Ph.D. in Nuclear Engineering/Plasma Physics from the University of Washington and a B.Sc. from Nanyang University.

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With extensive research and industry experience, he has founded several engineering and nanotechnology companies and developed patented nano powder systems. Formerly a Project Manager at Metalock (MTQ Ltd), he now serves as Convener of ISO/TC-229 WG-4 (Nanotechnology), Adjunct Faculty at the Singapore Institute of Technology, and Associate Scientist at Critical Facility Pte Ltd.



Dr. B. Thiyagarajan
Associate Scientist

Dr. B. Thiyagarajan is the Chief Research Scientist and Head of Quality Control at WWG Engineering Singapore and oversees the WWG Materials Analytical Laboratory in India. With over two decades of experience in mechanical engineering, research, and academia, he leads R&D and quality control for thermal spraying and engineering coatings in manufacturing and refurbishment.

He holds a Ph.D. in Production Engineering from NIT Tiruchirapalli, specializing in nanostructured coatings for boiler tubes, along with Master's and Bachelor's degrees in Mechanical Engineering. A Quality Behaviour Analyst (QBA) certified professional, Dr. Thiyagarajan has published widely and contributed significantly to power generation, materials selection, and process optimization, driving innovation and excellence across the WWG Group.



VISION & MISSION

Who we are. . . .

We are not just a company equipped with advanced machinery, precision equipment, and a skilled workforce delivering Thermal (Metal) Spray, Welding, Machining, and Engineering Services.

We are building — and continuously evolving — into a knowledge and technology-based engineering organization. Our focus is on advanced Material Science, Surface Engineering Coatings, Welding, Laser Cladding, and other advanced processes and technologies for mission-critical industrial applications.

Our strength lies in combining Mechanical, Electrical, Electronic, and Instrumentation competencies, both in our workshops and on-site (in-situ).

We are developing a fully integrated support and value chain encompassing Equipment Repair, Refurbishment, Reverse Engineering, Re-manufacturing, and Engineering Service Solutions — positioning ourselves as a Complete, One-Stop Engineering Services Provider.

Our Vision

To be recognized by all its customers as a World-Class Business.

Our Mission

Our mission is to provide quality green solutions, go beyond meeting our client's expectations and goals, provide opportunity for all our employees to succeed, and grow our business profitably by abiding ethical values.

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.

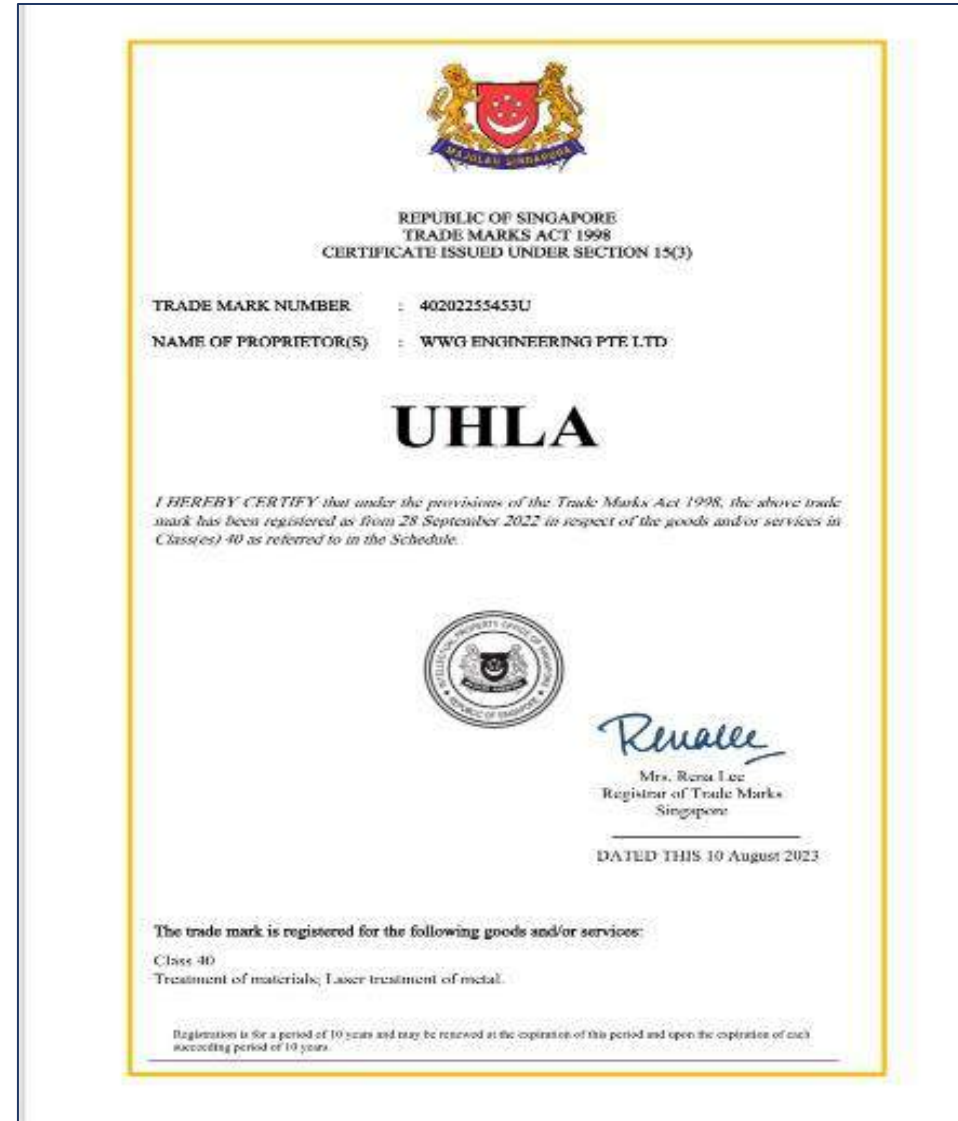
Surface Engineering Modification Technologies and Mechanical Engineering Services can be performed In-house and on-site/in-situ. These include Thermal (Metal) Spray, Rokide Ceramic coating, Plasma Spraying, HVOF coating, COLD Spray Coating, UHLA Ultra High Speed Laser Cladding, Hard Chrome/Nickel Plating, Anti-Corrosion Protective coating (Blasing-Painting, Glass-Flakes Ceramics Epoxy Coating, TSA, TSZ, Inconel etc.), Babbit (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-Compressor-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, Stationary 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.

CERTIFICATIONS



WWG Regional Presence

WWG COMPANIES	CONTACT PERSON	CONTACT NUMBER
WWG Engineering Pte Ltd	Willie Wong	+65 9832 1639
WWG Technologies Sdn Bhd	Sri	+65 125010102
Daya Bumimaju Sdn Bhd	Steve Chieng (Bintulu)	+60 16 8701632
	Ashadi Ahmad (Kemaman)	+60 12 9595143
	Sri (Johor Bahru)	+65 80981904
AV Solutions Integrated Sdn Bhd	Willie Wong	+65 9832 1639
WWG Technology Solutions LLC	Rahul Hazra	+97150 139 5244



Employee Strength

- 200 Employees



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

Dubai (UAE)

Sultan Business Centre,
Al Wasl Building - Oud Metha Rd -
Oud Metha -Dubai - United Arab Emirates

WE PROVIDE. . . .

A complete One Stop Engineering Solution's provider for all Industries such as Oil & Gas, Power Plant or Power Generation, Marine, Pharmaceutical, Petrochemical & Water Plants.

ENGINEERING SERVICES

- Refurbishment & Remanufacturing
- Rotating Equipment
- Static Equipment
- Mechanical, Electrical, Electronics, Instrumentation

SURFACE ENGINEERING TECHNOLOGY

- Thermal Spray– HVOF, Metal Spray, Rokide, Ceramic, Arc, Plasma & Flame, Cold Spray
- Special Coating – Laser Cladding, Nickel, Hard Chrome Plating and Babbitt White Metal

MANUFACTURING

- Machining
- Dynamic Balancing
- Fabrication – Welding (Parts, Components, Process Piping & Structural)
- Blasting & Painting

IN-WORKSHOP

ON-SITE (IN-SITU)



MAIN WORKSHOP FACILITY @ PENJURU PLANT



WORKSHOP FLOOR PHOTO

- Areas: About 40,000 sq ft
(Singapore only)
- Our Facilities are Equipped with a broad spectrum of Diverse and Advanced Technologies to Produce High Quality Machining jobs, Quickly, Efficiently & Flexibly.
- Largest Integrated Engineering Solutions Workshop, serving Jurong Island Industries as well as Oil & Gas, Power Plant or Power Generation, Pharmaceutical, Petrochemical, Water, Marine Industry.



Layout Plan - Level 4 Production Area



FACILITIES STRENGTH

Machinery List

(Singapore Only)

- CNC, Vertical Machine Centre: 3 unit
Size: Max. 2000mm x 1500mm x 900mm
- Horizontal Lathes: 15 units
Size: Max. Swing 2440mm x maximum length 15,000mm
- Heavy Duty Lathe: 1 unit
Size: Swing 1,600 mm X L 2,000 mm
- Vertical Lathe: 1 unit
Size: Swing 1,600 mm X H 1,200 mm
- Milling: 3 units
1,000 mm X 600 mm X 600 mm
- Crankshaft & Cylindrical Grinding: 4 units
Size: Maximum Swing OD1350 x max. length 8000 mm
- Surface Grinding: 1 unit
Size: 600 mm X 300 mm X 300 mm
- Horizontal Boring & CNC HMC
Size: 2,400mm X 3,000mm X 2000mm
- Balancing Machine – 2 units
- 3 tones with 2,000 Ø
- 30 tones with 4,000 mm Ø (F)

Welding - Cladding

- MIG (GMAW) x 3
- TIG(GTAW) - Small x 2 / Big x 5
- Arc(SMAW) x 3
- Robotic Laser cladding (6KW)
Swing 1,600 mm X L 12,000 mm
Turntable Swing 2 m X 6 Ton

Laser Cleaning / Rust Remover (2 KW)

Application Chambers

Painting 7,000mm x 5,500mm x 3,500mm
Blasting 7,000mm x 5,500mm x 3,500mm
TSC/Blast 13,200mm x 2,400mm x 2,830mm
TSC 15,000mm x 5,200 x 3,000mm
TSC 4,800mm x 4,000mm x 3,000mm
Cold Spray 6,100mm x 2,400mm x 2,830mm
Blast Booth 1,500mm x 1,500mm x 1,000mm
Blast (F) 15,000mm x 4,500mm x 4,500mm

Thermal (Metal) Spray

Electric Arc Spray	X 4 Units
Wire Flame Spray	X 4 Units
Flame Powder (6 P-II)	X 1 Unit
HVOF Spray System	X 3 Units
Plasma Spray Sys	X 1 Unit
Cold Spray System	X 2 Units
Rokide Ceramic Spray	X 2 Units
ABB Robot	X 3 Units
Horizontal Spray Rotator	X 3 Units
HVOF/Plasma Spray Chiller	X 2 Units

Lifting

Fork Lift	3 Ton	1 Unit (Electric)
Fork Lift	5 Ton	2 Units (Diesel)
Overhead Crane 1	20 T	
Overhead Crane 2	10 T	
Overhead Crane 3	5 T	

Screwed Air Compressors (50, 100 HP) X 5

QUALITY CONTROL (QC)

- 1) Co-ordinate Measurement Machine (CMM)
1500mm x 700mm x 500mm
- 2) NDT – Dye Penetrant Inspection (DPI)
Magnetic Particle Inspection (MPI)
- 3) Hardness, Surface Roughness, Coating Thickness
- 4) Hydraulic Pressure Test (Oil, Water)
- 5) Positive Material Identification (PMI)

JOO KOON WORKSHOP

- 1) Lathe
- 2) CNC HMC (Large)
- 3) Giant Grinding Machine
- 4) Grinding Machine x 5 units
- 5) Milling Machine
- 6) Large Boring Machine
- 7) Electromagnetic Chuck Milling Machine
- 8) Fork Lift

MANPOWER STRENGTH – Singapore Only

Corporate
Sales
Engineering
Projects

QA & QC
R & D
Welding
Machining, Lathe, Borer, Milling, VTL

Group Total Staff Strength: 200
Singapore Staff Strength: 105

Grinding
CNC VMC, HMC, Lathe
Thermal (Metal) Spray
Laser Cladding, Laser Hardening,
& Laser Blasting
Blasting & Protective Coating

Electrical, Electronic, &
Instrumentation
Mechanical Fitting & On-site
In-Situ Machining
Laser Alignment
Dynamic Balancing

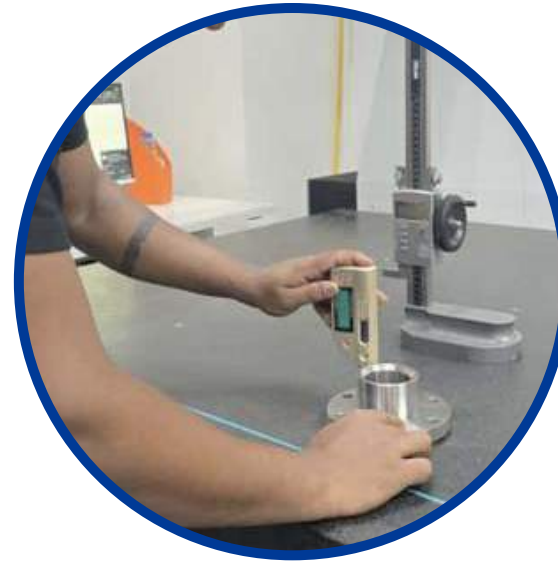
KEY ORGANIZATIONAL PERSONNEL

FUNCTION	NAME
CEO	Willie Wong
BUSINESS OPERATIONS DIRECTOR	Kelvin Tan
BUSINESS OPERATIONS DIRECTOR	Derek Ng
GENERAL OPERATIONS MANAGER	Bernard Tan
SENIOR MANAGER: ENGINEERING, TURBO-MACHINERY, PLANTS EQUIPMENT	Punnaji
TECHNICAL, FABRICATION & REPAIR MANAGER	Uncle Mao
HEAD: R&D (ENGINEERING COATINGS, SPECIFICATIONS, TESTING)	Dr. Thyaga
ENGINEERING MANAGER AND VP PROJECTS	Wilson Lee
DEPARTMENT HEAD, ENGINEERING & QUALITY	Vallavan
SECTION HEAD, INSPECT & MEASUREMENT	Raja
SECTION HEAD WELDING PROCEDURE, TESTING, INSPECTION	Vallavan
MANAGER: PRODUCTION & THERMAL SPRAY	Du Xingli
MANAGER: MECHANICAL, ROTATING & STATIC EQUIPMENT	Bestian Sia
MANAGER: WELDING, LASER CLADDING AND PROJECTS	Xiong
MANAGER, WORKSHOP MACHINING	Zhang
MANAGER, WORKSHOP MACHINING	Nirai Selvan
SUPERVISOR, MECHANICAL EQUIPMENT	A CE
DEPARTMENT HEAD EE&I	Murugavel
SECTION HEAD, BLASTING, PAINTING	Kelvin Tan
SECTION HEAD, HEAT TREATMENT	Vallavan
SECTION HEAD, IN-SITU MACHINING	Bestian Sia
SECTION HEAD L, IN-SITU METAL SPRAY	Du Xingli
SECTION HEAD IN-SITU WELDING	Xiong
MANAGER, LASER ALIGNMENT, PROJECTS (TURBINES, COMPRESSORS, GENERATORS, ENGINES, FANS, MOTORS, PUMPS)	Andy Lim
SALES MANAGERS	Mubarak, Roy Yee, William Chan, Mike, Boon, Zech
CUSTOMER SERVICES & COORDINATIONS	Jen, Anis

WWG BUSINESS BACKBONE



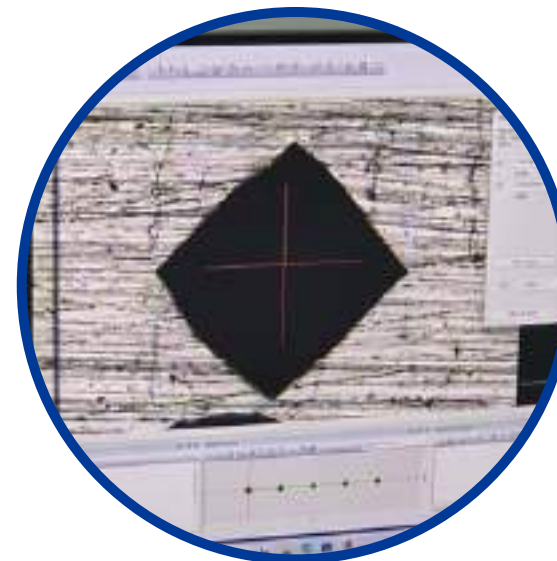
QA/QC-INSPECTION, TESTING & QUALIFICATIONS



Inspection Services like, Dimensional (CMM), LPI, PMI, MPI, Hardness, Roughness Inspection, Coating Thickness gauge

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.



CALIBRATION & MAINTENANCE

Equipment & Machinery

<u>S/N</u>	<u>Equipment Description (C)</u>	<u>S/N</u>	<u>Equipment Description (C)</u>	<u>S/N</u>	<u>Equipment Description (C)</u>	<u>S/N</u>	<u>Equipment Description (M)</u>
1.	CMM (Coordinate Measuring Machine)	1.	TIG Welding Machine	1.	Pressure Gauge	1.	HMC (Horizontal Machining Center)
2.	Measuring Instruments (Vernier, Micrometer, Dial Gauge, etc.)	2.	MIG Welding Machine	2.	Torque Wrench	2.	VMC (Vertical Machining Center)
3.	PMI Analyzer	3.	SMAW Welding Machine	3.	Weighing Machine	3.	HBM (Horizontal Boring Machine)
4.	Hardness Tester	4.	HVOF Thermal Spray System	4.	Lifting Belts & Lifting Eyes	4.	VTL (Vertical Turning Lathe)
5.	Surface Roughness Tester	5.	Arc Spray System	5.	Forklifts	5.	CNC Lathe
6.	Profile Gauge	6.	Cold Spray System	6.	Overhead Cranes	6.	Manual Lathe
7.	Plating Thickness Gauge	7.	Laser Cladding Machine	7.	Air Compressor	7.	Manual Milling
8.	Laser Alignment Kit	8.	Electrode Backing Oven	8.	Hydraulic Press	8.	Surface Grinding
9.	NDT – MPI Yoke	9.	Thermometer / Temperature Measuring Device	9.	Dynamic Balancing Machine	9.	Cylindrical Grinding
10.	Electrometer	10.	PWHT Machine with Chart Recorder	10.	Chain Blocks	10.	Crankshaft Grinding
		11.	Heat Treatment Furnace				

C – Calibrated
M - Maintenance

Lab Collaboration : A*STAR - Agency for Science, Technology and Research

External Laboratories :

- I. PTS (Professional Testing Services)
- II. Element Singapore
- III. Setsco Technology Center
- IV. IMR Test Labs

R&D Program :

<u>Client</u>	<u>Technology / Focus Area</u>
Exxon Mobil	Laser Cladding
Flowserve	Laser Cladding & Welding HVOF (WC)
Celanese	Thermal Spray Coating

Development Program :

Client

- Halliburton Technology and Manufacturing
- Boiler Master Pte Ltd
- OSS (Oilfield Services & Supplies)
- Toei Engineering Pte Ltd
- A*STAR (HVOF, ARC Spray programs for Halliburton)

Engineering Department : Materials

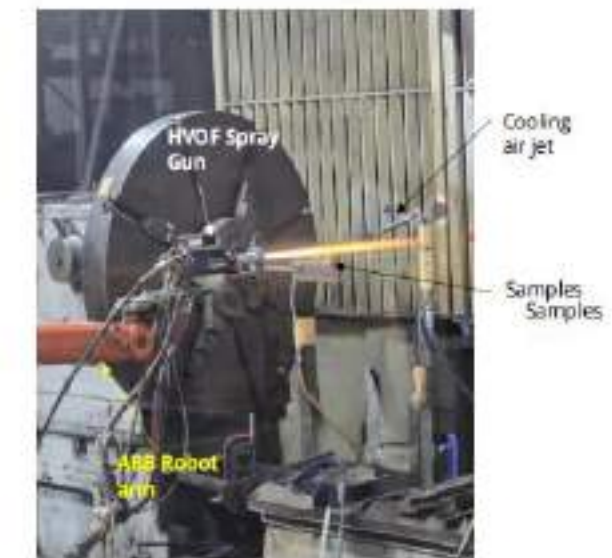
- Cast Iron - Laser Cladding
- Babbit Metal – Laser Cladding

Special Areas: - Corrosion Testing



HVOF Coating Deposition at WWG

- HVOF Spray Gun: WOKA410
 - Fuel: Kerosene (Jet Fuel)
 - Oxygen
- Substrate: Al6061
- Powder: WOKA3660FC (40g/min)



HVOF setup at WWG Engineering Pte Ltd

- **Successfully Commercialized:**
 - Hard Chrome Replacement Coatings by Laser Cladding and HVOF Processes
 - Cast Iron welding on many applications
 - Laser Hardening for Gears & Oil Field Shafts

R & D - SURFACE ENGINEERING TECHNOLOGY

Successful Commercialization

Special Coating

- Laser Cladding



Special Coating

- Nickel & Hard Chrome Plating
- Babbitt White Metal



Current Key R&D: UHLA™ (Ultra HighSpeed Laser Applications)
High Power, High Speed, High Performance Laser Sources (After November 2022)

- Laser Cleaning
- Laser hardening
- Laser Outer Surface Cladding
- Laser Internal Bore Surface Cladding

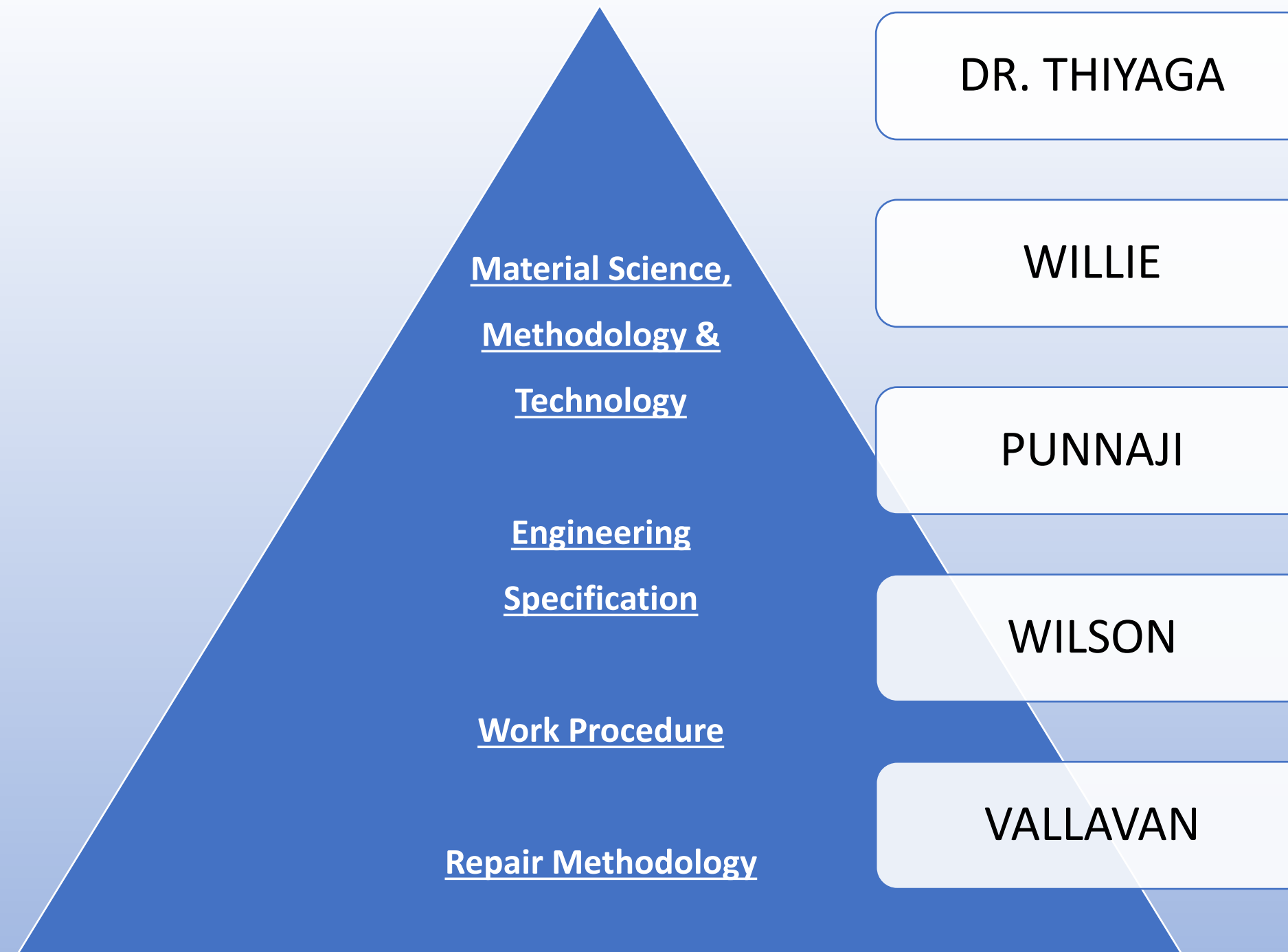
**PRIORITY TOPIC:
HARD CHROME REPLACEMENT COATING**



CNC Automated 6-Axis Laser Cladding
Swing 1,600 mm X Length 12 m



ENGINEERING DEPARTMENT



WELDING TECHNOLOGY



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, Duplex, Super Duplex, Stellite, Aluminium, Bronze, Special Grades,



Established WPS, PQR
Carbon Steel
Austenitic Stainless Steel (316)
Martensitic Stainless Steel
Cast Iron

WELDING METHODS:
SMAW – Arc Welding
GTAW – TIG Welding
GMAW – MIG Welding

Approved by BV Class
Aluminium

DNV Class
(Approval Pending)
Cast Iron
ASTM A536



WELDING TECHNOLOGY

“WWG’s Commitment and Development in the areas of Welding Technology and Qualification “ Established WPS, PQR

Carbon Steel

- WWG-WPS-PQR-1-P1G1 (Qualified without PWHT)
- WWG-WPS-PQR-P1G1-PWHT (Qualified with PWHT)
 - ✓ Approved by 3rd party & Flowserve (US),
 - ✓ Reviewed and endorsed by SETSCO
 - ✓ Welder qualified under this WPS by (Bureau Veritas)

Martensitic Stainless Steel

- WWG-WPS-PQR-P6G4-AW (Qualified without PWHT for non-critical repairs)
- WWG-WPS-PQR-P6G4 (Qualified with Single temper PWHT)
- WWG-WPS-PQR-P6G4-DT (Qualified with Double temper PWHT)
 - ✓ Approved by 3rd party & Flowserve (US)
 - ✓ Reviewed and endorsed by SETSCO

Austenitic Stainless Steel (316)

- WWG-WPS-PQR-P8G1
 - ✓ Internally Approved
 - ✓ Under review and waiting for endorsement by SETSCO

Aluminum (5083)

- WWG-WPS-PQR-M25-GTAW
- WWG-WPS-PQR-M25-GMAW
 - ✓ Qualified & Approved by Class (Bureau Veritas)
 - ✓ Review and Endorsement by SETSCO

Aluminum (6061)

- WWG-WPS-PQR-M23-GTAW
 - ✓ Internally Qualified & Approved
 - ✓ Under review and waiting for endorsement by SETSCO

Cast Iron

- WWG-WPS-DCI-SMAW-01
 - ✓ Internally Qualified & Approved by ExxonMobil
 - ✓ Under review and waiting for endorsement by SETSCO

Under DNV Class-(InProgress)

- WWG-WPS-PQR-A131 (EH36)
- WWG-WPS-PQR-A29 (4140)
- WWG -WPS-PQR-A536 (Cast Iron)

WELDING METHODS:

SMAW – Arc Welding

GTAW – TIG Welding

GMAW – MIG Welding

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
- » Successfully developed and deployed multiple applications for “Hard Chrome Replacement Coatings” with many additional benefits and advantages.
- » Laser Hardening for Gears & Oil Fields Shafts

Established WPS, PQR

- » DSS2205-Using Alloy59 & Stellite 21 Powder (Exxon Mobil)
- » Alloy Steel 4140 - Using 105G Powder (Halliburton)

Qualification In progress

Stainless Steel » Carbon Steel » Cast Iron » Nickel Aluminum Bronze



LOCALIZED PWHT & FURNACE HEAT TREATMENT



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



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 Metallizing
(Flame Wire Spray)**

- **Wire Arc Spray**

- **Electric Arc Spray**

- **Rokide Ceramics Spray**

- **Flame Powder Spray**

- **Plasma Spray**

- **Cold Spray Technology**



SURFACE ENGINEERING TECHNOLOGY

- We offer 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.

Thermal Spray

- HVOF
- Metal, Ceramic, Arc, Plasma, Flame, & Cold Spray

Special Coating

- Laser Cladding
- Nickel & Hard Chrome Plating
- Babbitt White Metal

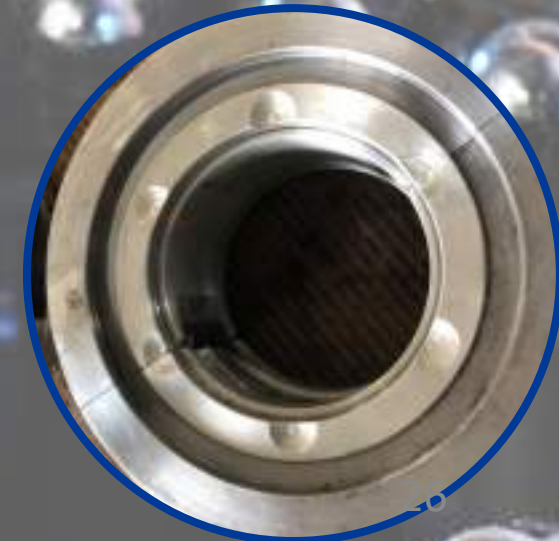
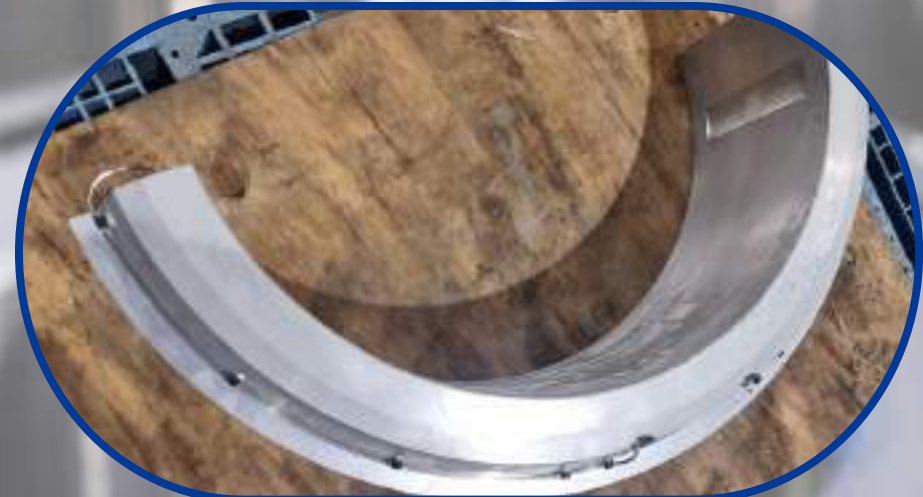


Thermal Spraying

- HVOF
- Metal, Ceramic, Arc, Plasma, Flame, & Cold Spray

WHITE METAL BEARINGS

Centrifugal Casting, Gravity Casting, Thermal Spraying, TIG Welding, Laser Cladding





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.

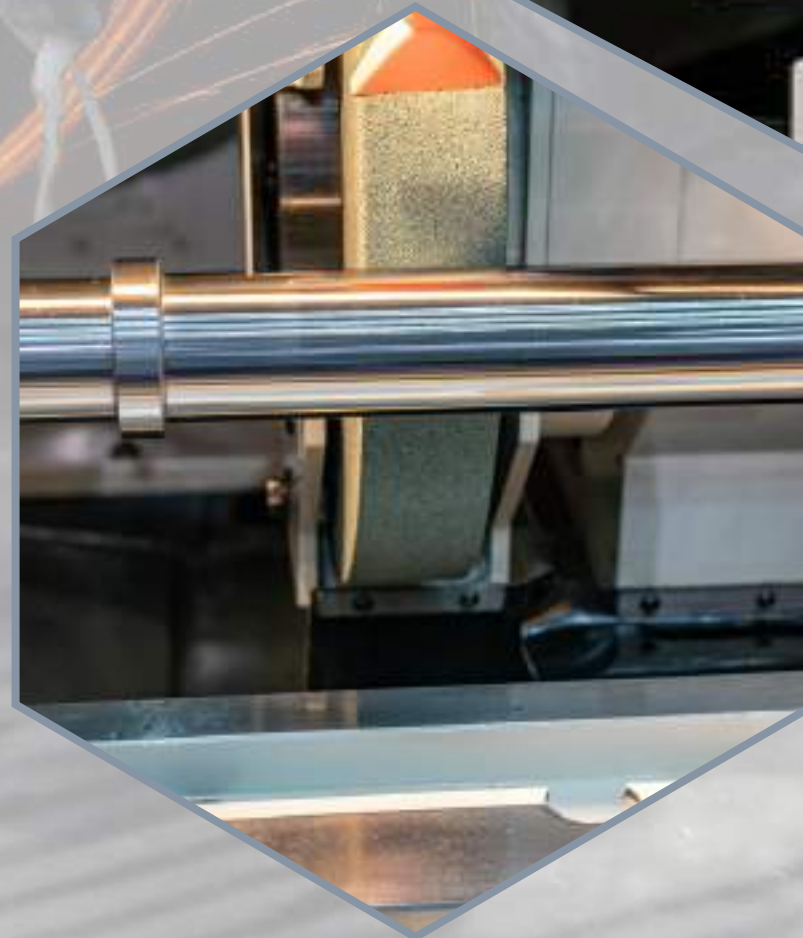
CNC & CONVENTIONAL TURNING, MILLING HORIZONTAL/VERTICAL BORING SURFACE AND CYLINDRICAL GRINDING



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: 4 units
Size: Maximum Swing OD1350 x
max. length 8000 mm



MANUFACTURING & REVERSE ENGINEERING



Machining & Re-manufacturing

- CNC
- Cylindrical Grinding
- Boring & Milling

Manufacturing

New Parts

Reverse Engineering



Dynamic Balancing (Grade 1.0, & 2.5)

- Turbines, Flywheels, Fans, Impeller, Rotor

Dynamic Balancing

Turbines

Flywheels

Impeller

Rotor



MECHANICAL EQUIPMENT REPAIR & REFURBISHMENT



- Steam Turbines
- Gearboxes
- Pumps
- Propulsion Parts



MECHANICAL EQUIPMENT REPAIR & REFURBISHMENT

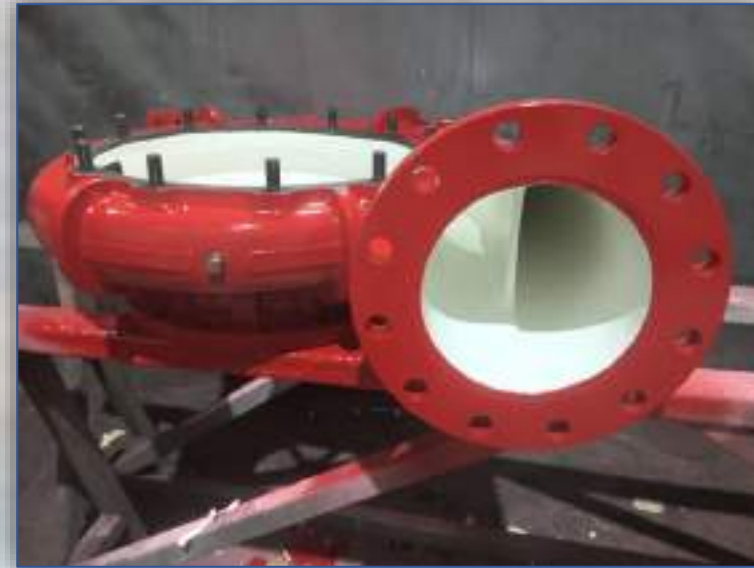


- Electrical Motors
- Blower Fans
- Gears, Valves
- Hydraulic Cylinders



PUMPS, COMPRESSORS, VALVES

Machining & Repair



PUMPS, COMPRESSORS

Machining & Repair



ROTORS

Machining & Repair



STEAM TURBINES

Machining & Repair



STEAM TURBINES

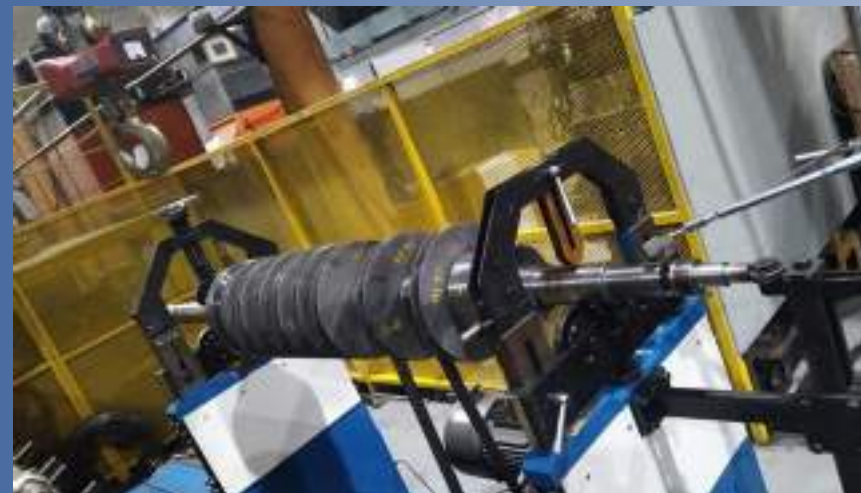
Machining & Repair



Hydraulic Cylinder Rod / Hydraulic Cylinder Barrel

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





DYNAMIC BALANCING

1

**Crankshaft
Electrical Rotor
Turbine Rotor
Cooling Tower Fan & Pump Impeller**

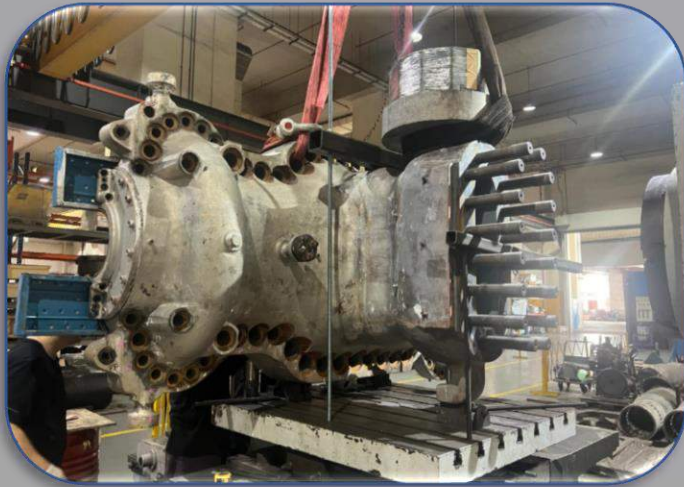
2

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

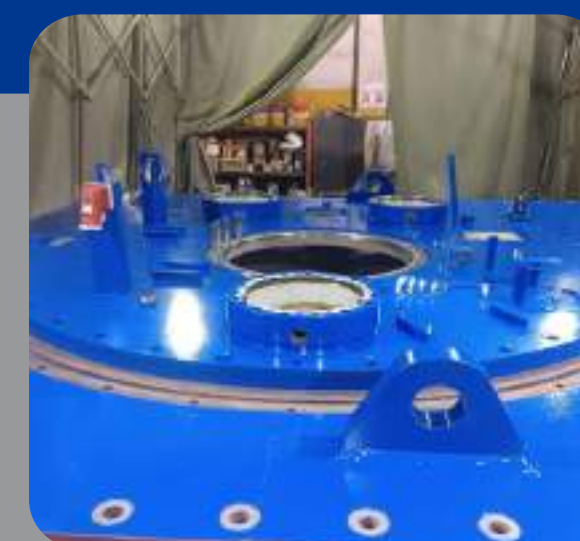
3

**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.**

CRITICAL EQUIPMENT REFURBISHMENTS



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



LASER ALIGNMENT

USING HIGH PRECISION

- 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



ON-SITE / IN-SITU SERVICES

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

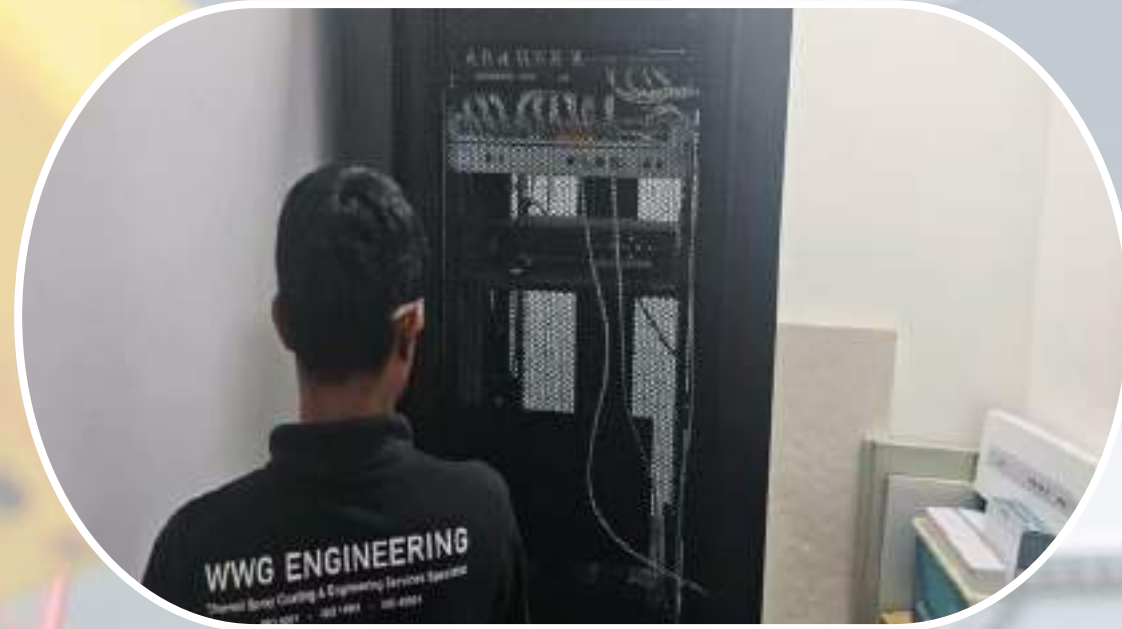


ON-SITE / IN-SITU SERVICES

- **In-Situ Repair**
- **Dismantling**
- **Re-installation**
- **On-site Welding**
- **Inspection**
- **Blasting & Painting**



Electrical, Electronics & Instrumentation Services



Services Offered:

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

Distributor and Service Partnership



Thermal Spraying, Laser Cladding, Welding Consumables



PTA System



Stellite Rods



Alloy Based Material and Components



KENNAMETAL 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 | |

CLIENTS & PARTNERS



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WWG QHSE OBJECTIVES



Objectives	Targets
<ul style="list-style-type: none"> On Time Completion of Job Reduce Rework in Jobs 	<ul style="list-style-type: none"> 95 % Completion of job on time over a period of one year. Zero Critical Errors which requires complete rework of the work
<ul style="list-style-type: none"> Increase the awareness of general health and well-being. 	<ul style="list-style-type: none"> 10% reduction in Sick Leave
<ul style="list-style-type: none"> Continue efforts to reduce injuries in the workplace. Monitor and reduce Accident Frequency Rate and Accident Severity Rate 	<ul style="list-style-type: none"> Zero Accident Frequency Rate and Accident Severity Rate Zero Fatality
<ul style="list-style-type: none"> Promotion of Energy and Resource conservation Control of Hazardous Substances 	<ul style="list-style-type: none"> Reduction of 5 % paper & Power usage over a period of a year. 100 % Disposable of Hazard substances complying to regulatory requirements

WWG SAFETY COMMITMENT

SAFETY is our
responsibility
and priority

WWG Safety Responsibilities



- Take care of your own health and safety, and that of other people.
- Full commitment and cooperation to meet its health and safety obligations including following reasonable instructions regarding health and safety.
- Work in safely manner by following your employer's direction and learning how to use all equipment properly, including obeying all safety signs, following work instructions and wearing any personal protective equipment required.
- Work and use equipment safely and follow any workplace policies, procedures, and work instructions. You must not interfere with or misuse any equipment provided for your health and safety and health and safety of others.
- Always be aware of a hazard or an incident (Including near miss) relating to health and safety, you should report it to your supervisor immediately.

WWG SAFETY CULTURE



Components:

- Management Commitment
- Involvement
- Communication
- Learning & Reporting
- Monitor, Review & Update
- Training
- Recognize and Reward

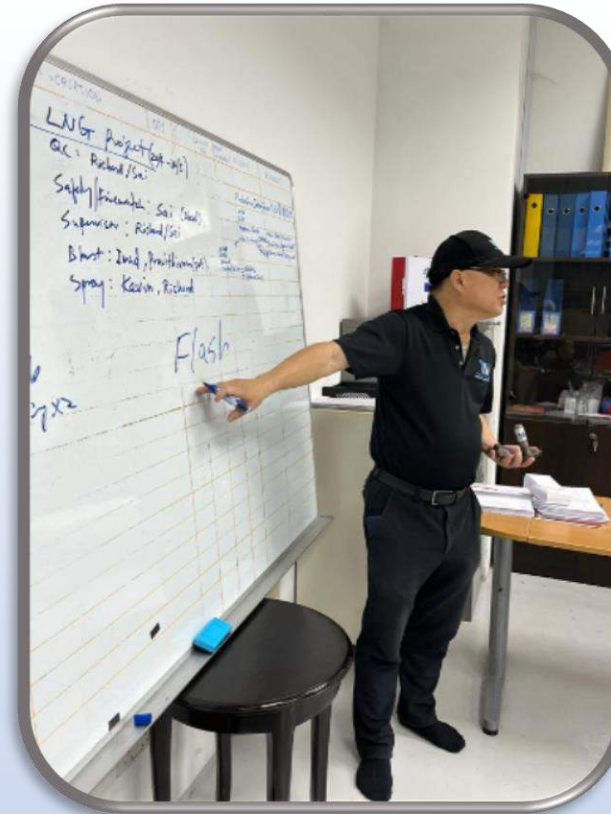
WWG HSE - KPI Systems

WWG HSE - KPI Systems (past 3 years)

***No recorded injury
for the past 3 years**

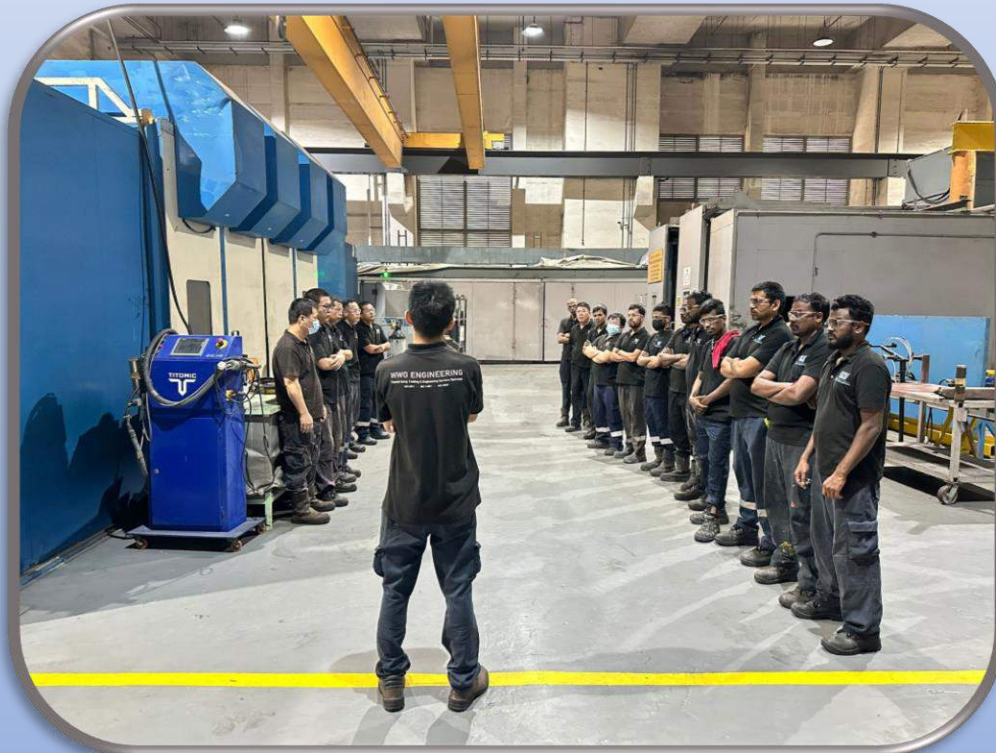
WWG				
S/No	Calendar Year	2023	2024	2025
1	Total Number of Employees	65	80	105
2	Total no. of man hour worked	168480	231600	285600
3	No. of Near Miss Incidents	0	0	0
4	No. of First Aid Injury/ Illness Cases	0	0	0
5	Medical Treatment Case (0 day Medical Certificate with Light Duty)	0	0	0
6	Non Reportable Incidents	0	0	0
7	Reportable Incidents (Medical Certificate \leq 3 days)	0	0	0
8	Fatal Accidents	0	0	0
9	Dangerous Occurrence	0	0	0
10	Total Lost Day's/ No. of Lost Workday Injuries/ Illnesses reported to Ministry of Manpower(Local Reportable Cases)	0	0	0
11	Frequency Rate (FR) [(sum 5+6+7+8+9)*200,000/ Total Manhhrs worked]	0	0	0
12	Severity Rate (SR) [Total Lost days*200,000/ Total Manhhrs worked]	0	0	0

WWG HSE PRACTICES



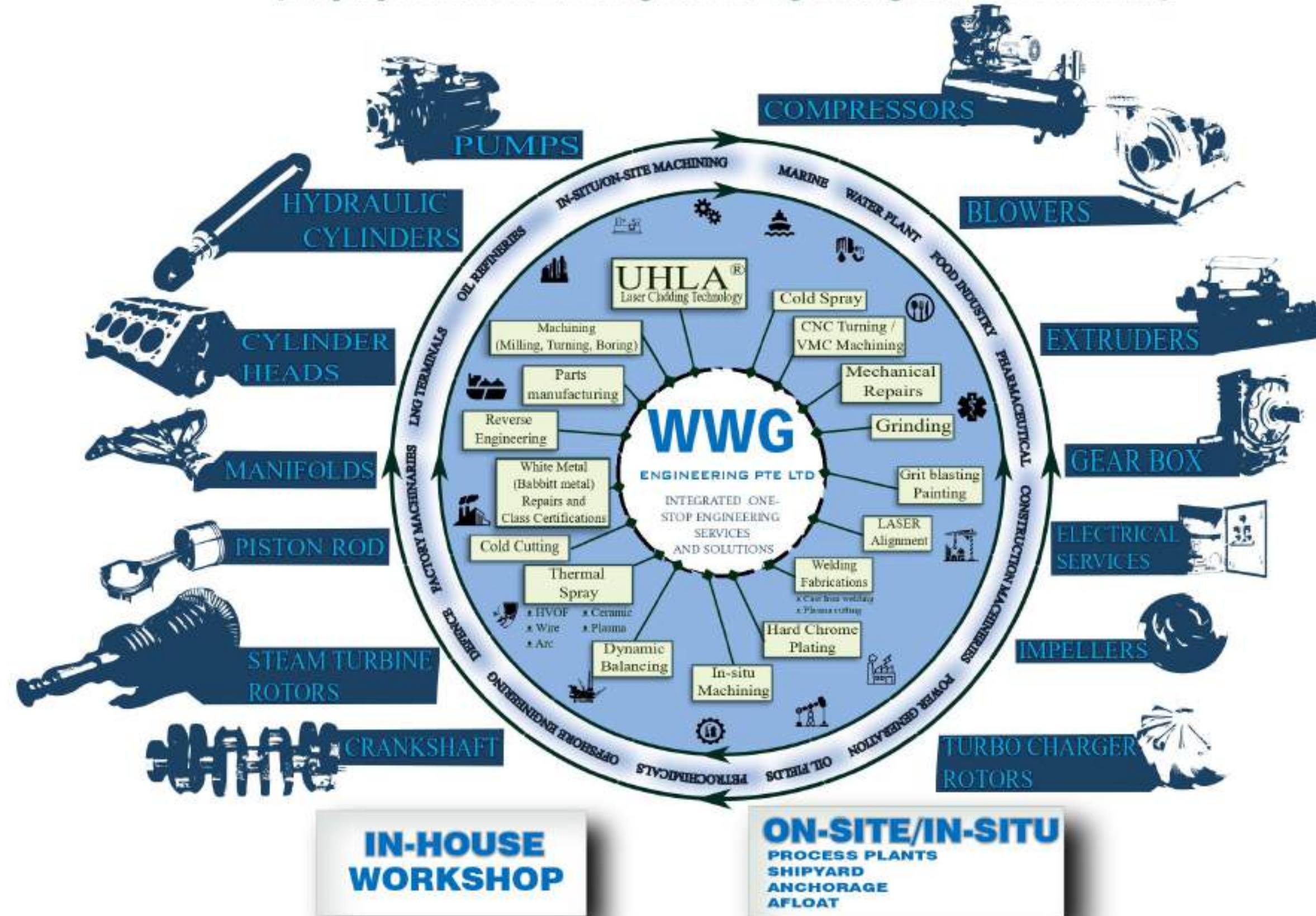
HSE Practices

- Daily morning Briefing/Weekly/ Multilingual Briefing
- Management Walkaround / Inspection
- Assigning a dedicated HSE personnel at site
- Creating Risk Assessment and conducting review.
- Conducting a regular inspection of PPE and equipment



WWG ENGINEERING BUSINESS MODEL

(Uniquely Structured knowledge-based Engineering Services & Solutions)



QUESTIONS & ANSWERS



ADDRESS:

42A PENJURU ROAD SINGAPORE 609164

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WORKSHOP: LEVEL 4, BAY 1