

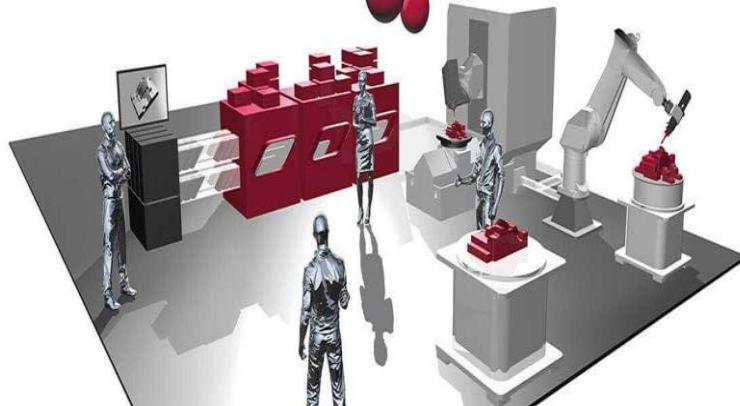
Suralpadi Group of Companies

P.O. Box 137863

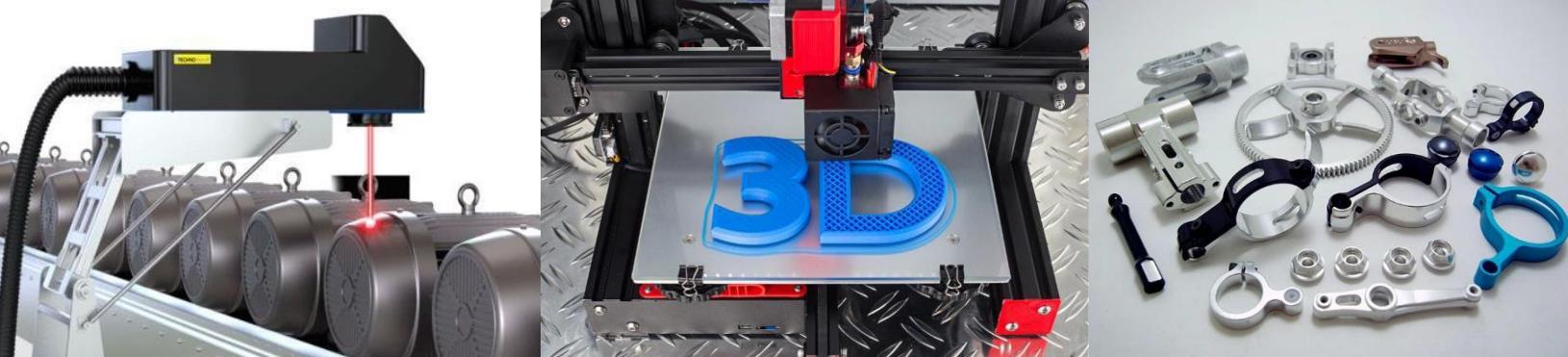
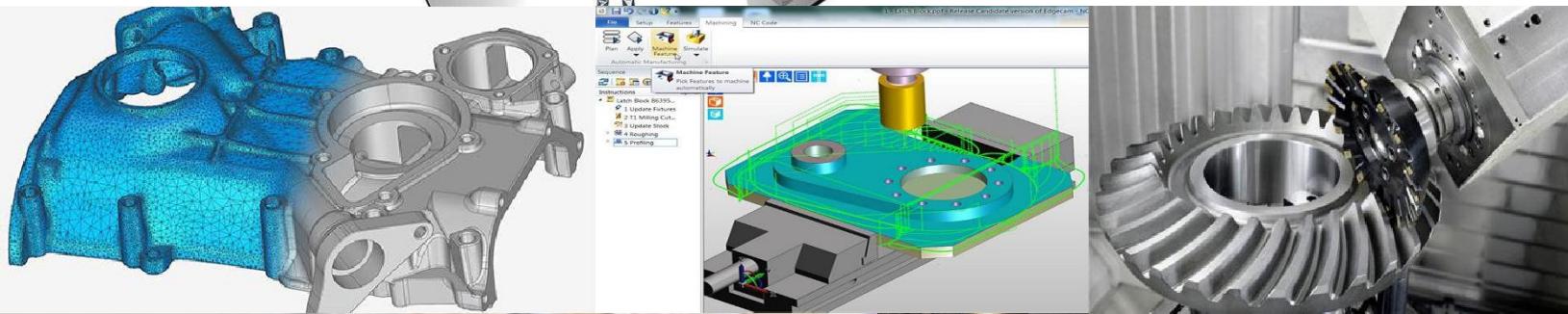
AbuDhabi, UAE

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Innovation | Engineering | Excellence



Our products





Metrology Solutions

FARO

3D Measurement
Technology



- **Portable Arm – FARO ARM (FARO QUANTUM, FARO GAGE)**
- **Portable Laser Tracker – FARO VANTAGE LASER TRACKER**
- **Portable Arm Scanner – FAROBLU® LLP / PRIZM™ COLOR LLP / 8-AXIS SCANNING PLATFORM**
- **Long Range Scanners – FARO FOCUS**
- **Handheld Scanners – FARO® SCANNER FREESTYLE 3D**
- **Trackarm – FARO SUPER 6DOF (6 DEGREES OF FREEDOM) TRACKARM**





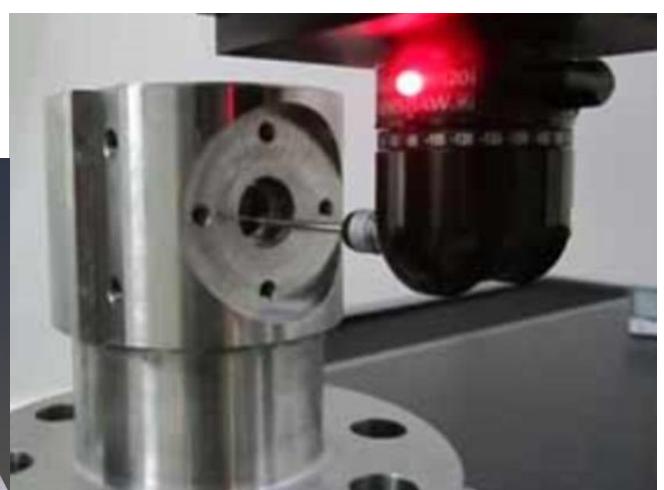
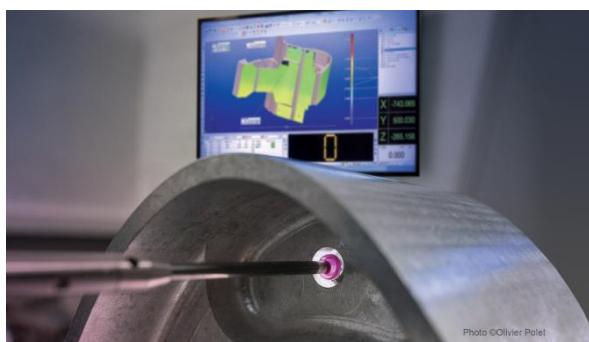
CMM (Bridge type)

- *High resolution optical lines (0.1 micron) with carrier sliding system with dynamic signal processing*
- *Highly reactive structure to environmental temperature changes*



- *Software supports:*

- *SP25
- *SP80
- *PH20
- TP20
- TP200
- TP2
- TP6

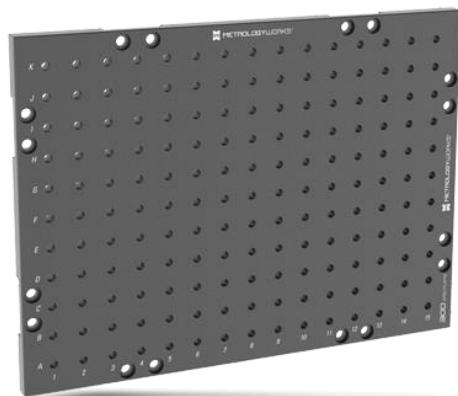




Portable CMM Accessories



- Laser Tracker SMRs & Laser Tracker Ball Probes
- Probes – FARO Arm



- CMM Fixture Plates and Kits



- Rolling Metrology Stands, Portable Metrology Tripods, Magnetic Mounts, and Rolling Granite Carts
- Laser Tracker Tooling & Accessories



Station bed CMM – Probes and Accessories

RENISHAW



- Probes / Styluses



- Change Racks

- Probe Heads



CNC Machines - HURCO

HURCO[®]
mind over metalSM



Double Column Gantry



Boring Mills



Horizontal



3-Axis Vertical



5-Axis



Double Column Bridge Turning Centers



SolidCAM
iMachining – The Revolution in CAM!

The new, revolutionary Milling technology
imachining by SolidCAM



UP TO
70%
TIME SAVINGS





CNC Machines - COSMOS



SolidCAM
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UP TO
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Rapid Prototyping / 3D Printing



- Additive Manufacturing – Metals

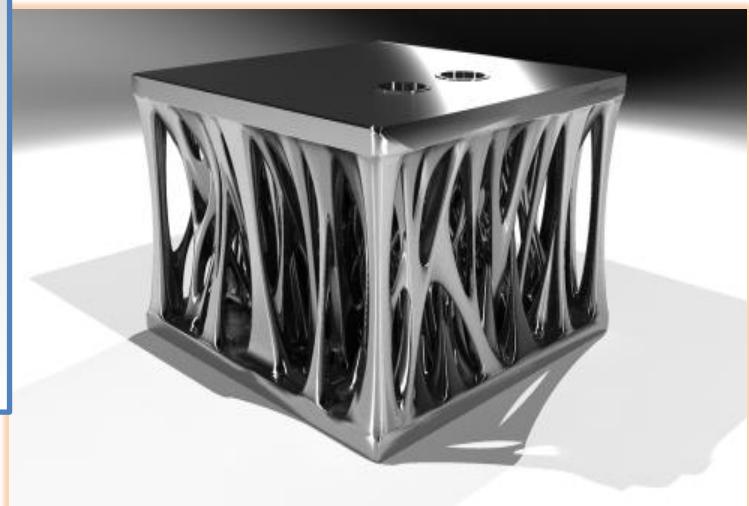
- Metal 3D Printers by EOS
- Flexible and Cost-Efficient Production of High-Quality Metal Parts

- EOS Metal Systems –

- EOS M 100
- EOS M 290
- EOS M 300-4
- EOS M 400
- EOS M 400-4

- EOS Metal Materials:

- Aluminum
- Cobalt Chrome
- Precious Metals
- Tool Steel
- Stainless Steel





Rapid Prototyping / 3D Printing



- Additive Manufacturing – Plastic

- Plastics 3D Printers by EOS
- Modular 3D printing solutions for the flexible and cost-efficient production of prototypes and end product

- EOS Polymer Systems –

- FORMIGA P 110 Velocis
- EOS P 396
- EOS P 500
- EOS P 770
- EOS P 810

- EOS Polymer Materials:

- PAEK - Polyaryletherketones
- PA 11 - Nylon
- PA 12 - Polyamide 12
- TPE - Thermoplastic Elastomers
- PS - Polystyrene





Lab Equipments



Solution Provider and Manufacturer

**Optical Comparators
Vision Measuring Machines
Vision Microscope Systems**



DigiRock DR3 Digital Rockwell Hardness Tester



Vickers Hardness Tester with Measurement
Monitor MV-10V



Fully Automatic Three Indenters Digital Brinell
Hardness Tester AutoBrin AB-3000V



SU-300M Motorized Ultrasonic Hardness Tester



Portable Leeb Hardness Tester SH-500



SU-300H Manual Ultrasonic Hardness Tester



Laser Cutting Machines

XT LASER



GP Series



GT Series



G Series



H Series

XT LASER



XT LASER



XT LASER



XT LASER



XT LASER



T Series

XT LASER



1309A Series

XT LASER



6060A Series

XT LASER



R Series

XT LASER



Automatic Pipe Laser Cutting Machine

XT LASER



Automatic Plate Laser Cutting Machine



Laser Engraving Machines

XTLASER

Laser Marking Machine

XTLASER



Mini Type Fiber Laser Marking Machine

XTLASER



Mini Type Enclosed Fiber Laser Marking Machine



Laser Cleaning Machines

Laser Welding Machines

Laser Cleaning Machine

XT LASER

XT LASER



XT LASER



Fiber Laser Cleaning Machine

3D Fiber Laser Cleaning Robot

Laser Welding Machine

XT LASER



XT LASER



Handheld Fiber Laser Welding Machine

XT LASER



3D Fiber Laser Welding Robot

Jewelry Laser Welding Machine



Test & Measure Equipments

Dimensional

- *Borescopes*
- *Calipers*
- *Coating Thickness Gauges*
- *Depth Gauges*

- *Feeler Gauges*
- *Gauge Block*
- *Granite surface plate*
- *Hardness and Surface testers*



Mitutoyo



Test & Measure Equipments

Dimensional

- *Optical Measuring - Projectors*
- *Protractors*
- *Setting Ring*
- *Setting Standard*

- *Stands*
- *Steel Rulers*
- *Straight Edges*
- *Thickness Gauge*

since1962
BAKER
....a passion for precision





Test & Measure Equipments

Dimensional

- *Micrometer*
- *Micrometer Heads*
- *Microscopes*

- *Height Gauge*
- *Hole and Slot Gauges*
- *Indicators*
- *Laser Distance Meter*

Mitutoyo





Test & Measure Equipments

Gas Analyzers / Gas Detectors

- **Combustion Gas Analyzer**
- **Emissions Analyzer**
- **Indoor Air Quality**
- **Multi-Gas detectors**
- **Safety**
- **Single Gas Detector**
- **Torque Multipliers**
- **Torque Wrench**

Temperature

- **Fixed IR Sensors**
- **Industrial Combo Kit**
- **Infrared Temperature Sensor**
- **Infrared Thermometer**
- **IR Imaging Systems**
- **RTD temperature probes**
- **Temperature Calibrators**
- **Temperature data logger**



Honeywell

THE POWER OF **CONNECTED**



KAHN

elcometer
inspection equipment

FESTO

AXMINSTER
Tools & Machinery



Test & Measure Equipments

Accessories

Air Velocity Meters

Calibrators

Calipers

Clamp Meters

Contact Digital Thermometers

Decade Boxes

Distance Meters

Electrical Testers

Environmental Meters

Force Gauges

Gas Detectors

Gloss Meters

Hardness Testers

Heat Stress Meters

Indoor Air Quality Meters

Infrared Thermometers

Insulation Testers

LCR Meters

Leak Detectors

REED TEST & MEASURE INSTRUMENTS

HVAC | SAFETY | ELECTRICAL | INDUSTRIAL MAINTENANCE

proceq



NOVOTEST

Tinius Olsen

ELECTRICAL



TEMPERATURE



HUMIDITY



INDUSTRIAL MAINTENANCE



INSPECTION TOOLS



SAFETY



WATER QUALITY



CALIBRATION



ACCESSORIES





Test & Measure Equipments



Light Meters

Manometers

Milli-Ohmmeters

Moisture Meters

Multimeters

Psychrometers

Radiation Meters

Refractometers

Scales

Sound Level Meters

Stroboscopes

Tachometers

Thermal Imagers

Thermo-Hygrometers

Thickness Gauges

Timers

Vibration Meters

Video Inspection Cameras

Water Quality Meters



DeFelsko®



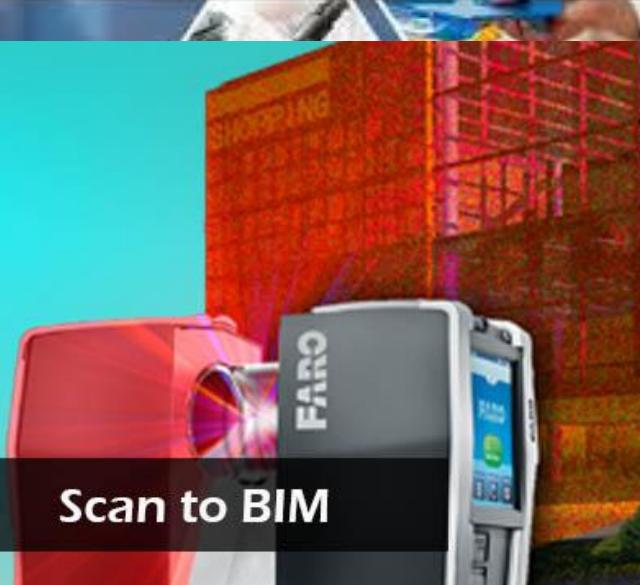
Suralpadi
P.O. Box 137863
AbuDhabi
United Arab Emirates
www.suralpadigroup.com



ENGINEERING SOLUTIONS

THIRD PARTY
MANUFACTURING

ENGINEERING
SOLUTIONS



ENGINEERING SERVICES



METROLOGY SOLUTIONS

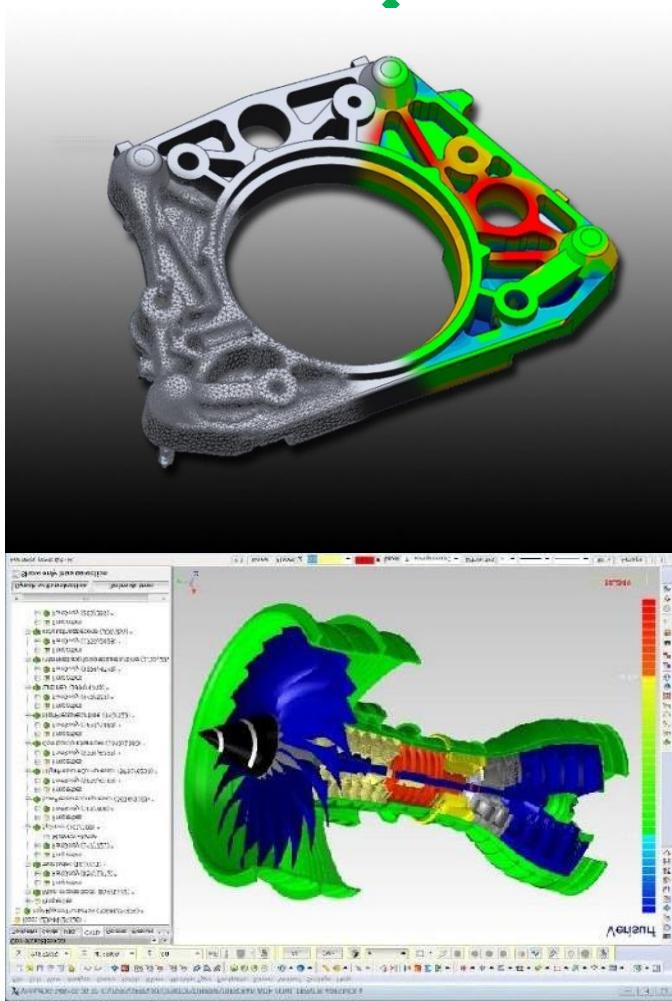


Reverse Engineering – Scan to CAD

- HD LASER Scanning to provide HD quality Point Cloud data/ Scan data
- Create High definition quality 3D Surface CAD models / Solid CAD models
- Process scan data received from customers to develop best quality 3D / 2D Models
- Output formats: iges, stp, dxf, stl etc. (as per customer requirement)
- Deliverables (includes but not limited to):

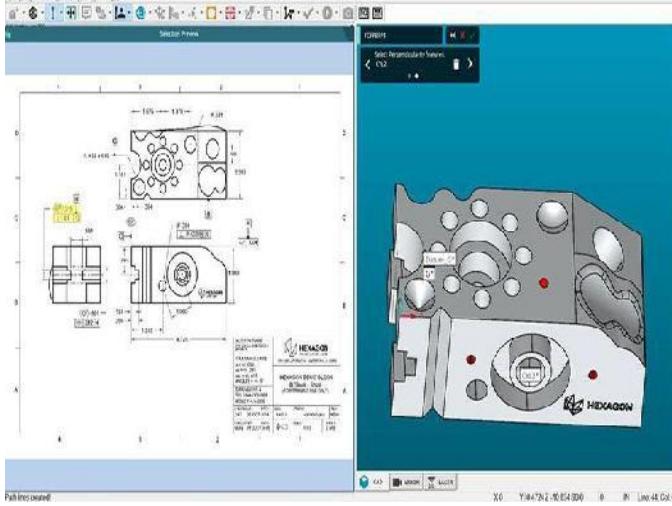
- ❖ **3D CAD Models (Surface / Solid)**
- ❖ **2D Engineering drawings**
- ❖ **Point Cloud data / Scan data**





Non-Contact 3D Inspection – Scan to CAD Inspection

- Non-Contact / CAD-Based Inspection
- Identify deviations of physical objects from CAD data by HD scanning and comparing to CAD
- Process scan data received from customers to perform Scan to CAD 3D Inspection
- Create Professional Inspection Reports
- Deliverables (includes but not limited to):
 - ❖ **3D Inspection Reports (pdf, word, xls)**
 - ❖ **Color Maps**
 - ❖ **Customizable Reports (As per customer requirement)**



Contact 3D Inspection – Probing Inspection

- Contact Inspection by Probing
- Use probed data and identify deviation between nominal and Actual measurement Values
- Process probed data received from customers and perform Dimensional measurements, GD&T etc. as per customer requirement
- Generate Professional Inspection Reports

Deliverables (includes but not limited to):

- ❖ **3D Inspection Reports**
- ❖ **GD&T Reports**
- ❖ **Customizable Reports (As per customer requirement)**

Large Parts Inspection

- Capture measurements of large parts by Probing / Scanning
- Use probed/scanned data and identify deviation between nominal and Actual measurement Values
- Process probed data received from customers and perform Dimensional measurements, GD&T etc. as per customer requirement
- Generate Professional Inspection Reports

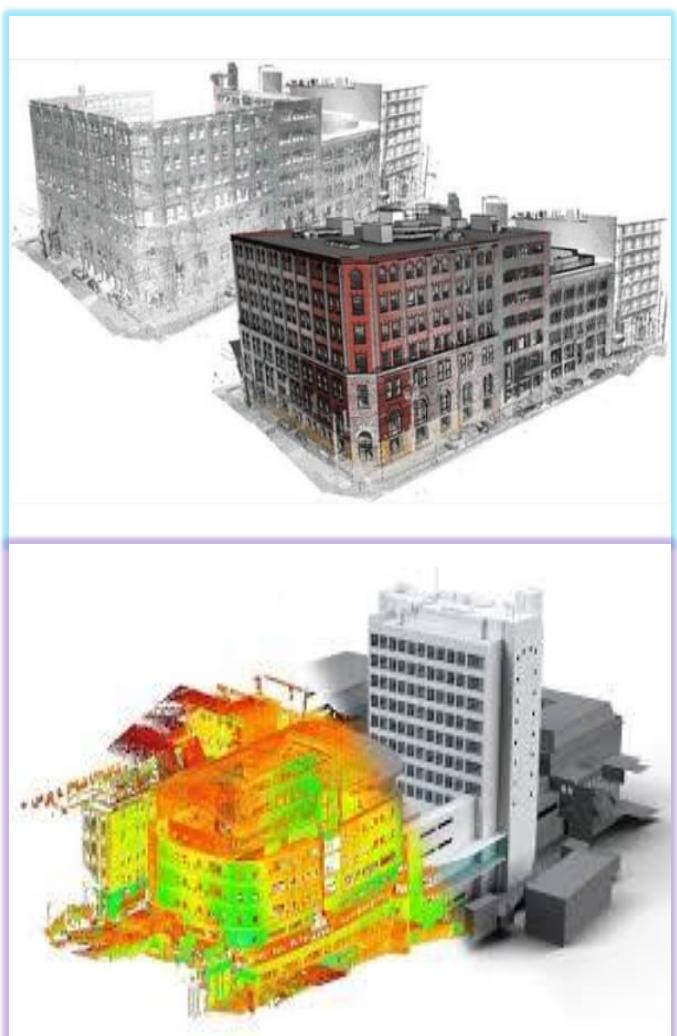
Deliverables (includes but not limited to):

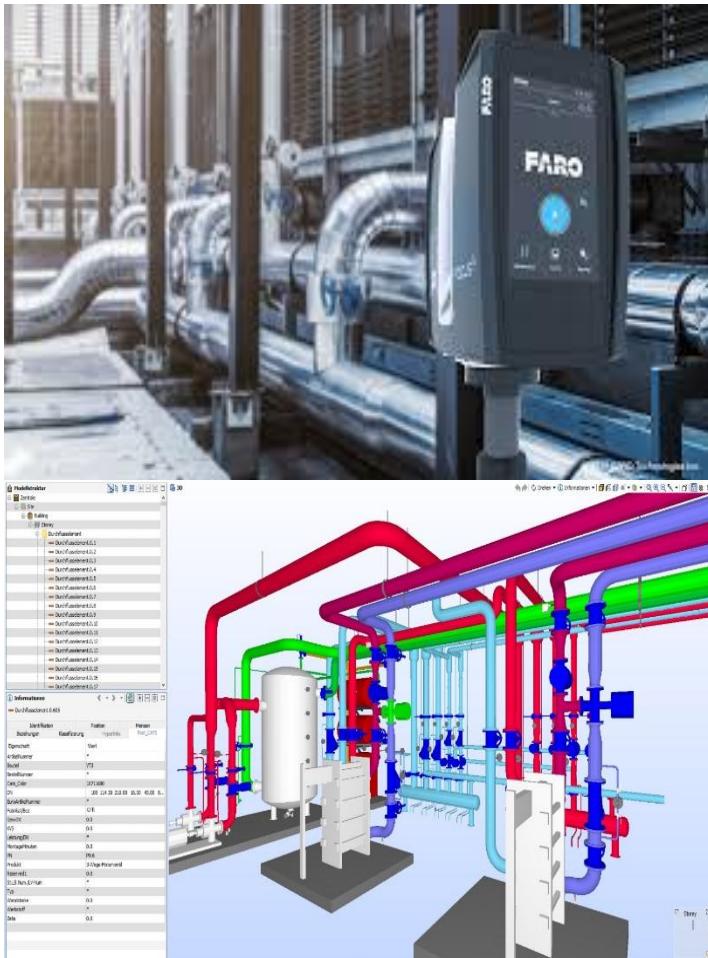
- ❖ **3D Inspection Reports**
- ❖ **GD&T Reports**
- ❖ **Customizable Reports (As per customer requirement)**



As-Built 3D Documentation

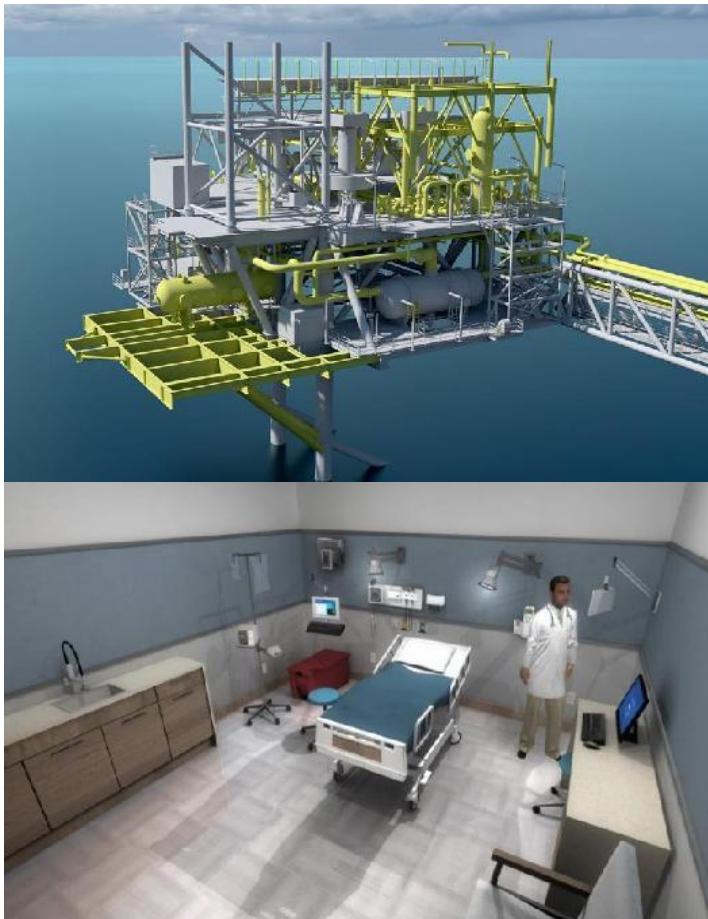
- Digitize and document as-built conditions in high definition with laser scanning technology
- Scanning / 3D Documentation of large-scale areas like
 - ❖ Oil Rigs
 - ❖ Construction / Transportation sites
 - ❖ Historical Places / Museums
 - ❖ Landscape
- Output formats: wrl, xyz, dxf etc. (as per customer requirement)
- Deliverables (includes but not limited to):
 - ❖ **Architectural Models**
 - ❖ **BIM / CIM Models, GA Drawings**
 - ❖ **Point Cloud data / Scan data**





Building Information Modeling

- Capture 3D data for building / Construction design at every point of construction with BIM / CIM solutions
- Process scan data received from customers to develop best quality Building / Architecture Models / Customized models
- Output formats: iges, stp, dxf etc (as per customer requirement)
- Deliverables (includes but not limited to):
 - ❖ Architectural Models
 - ❖ BIM / CIM Models
 - ❖ GA Drawings
 - ❖ Point Cloud data / Scan data



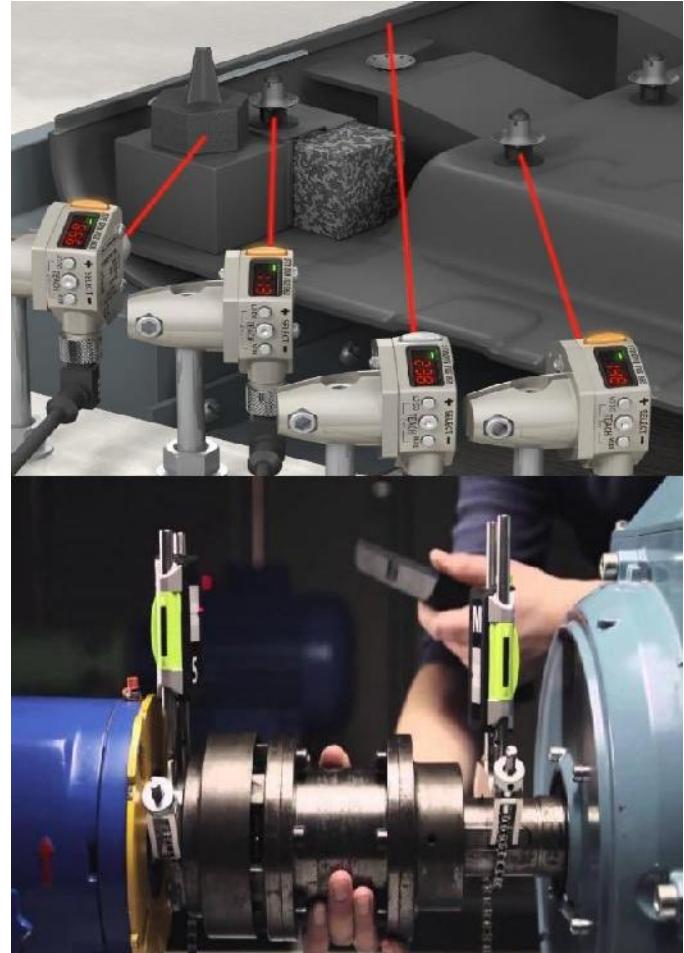
Virtual Simulation

- Virtualize entire sets, characters, objects to simulate Real life experience
- Create Walk through visuals
- Process data received from customers and develop Walkthrough Visuals / Animations etc.
- Animation / Visual effects etc.
- Deliverables (includes but not limited to):
 - ❖ Animation Videos
 - ❖ Simulation Videos
 - ❖ Walk through Videos

Alignment

- Perform Alignments of machines, assemblies etc. By 3D measurement technology / LASER Technology
- Increase machine performance and reduce downtime caused by misalignment
- Generate Professional Alignment Reports
- Deliverables (includes but not limited to):

- ❖ Alignment Reports
- ❖ Customizable Reports (As per customer requirement)

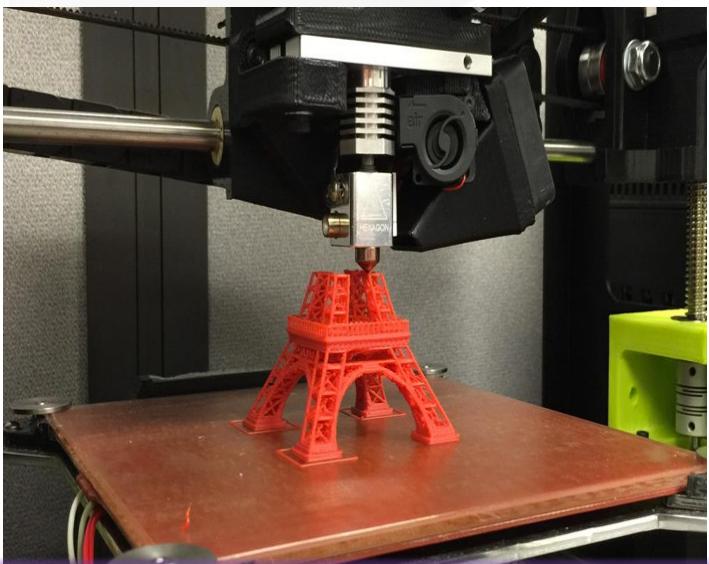
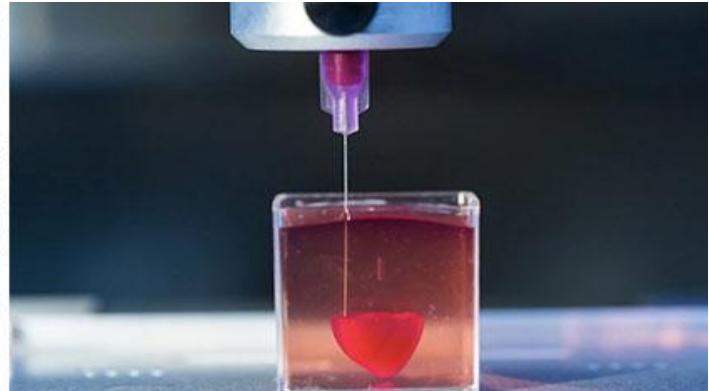


Machine Calibration

- Ensure machines are calibrated and operating at optimal performance
- Increase machine performance and reduce downtime caused by calibration errors
- Generate Professional calibration Reports
- Deliverables (includes but not limited to):
- Calibration Reports
- Customizable Reports (As per customer requirement)



RAPID PROTOTYPING SOLUTIONS



Rapid Prototyping – 3D Printing

- Rapid Prototyping of physical objects from 3D digital models
 - Perform 3D printing of parts for customers across the globe using the 3D model (stl, stp, iges data) received from customers
 - Cost effective Printing with best quality
 - Methods adopted – SLS, SLA, FDM etc
 - Materials: Nylon, ABS, Metals, Custom materials (as per customer request) etc.
- Deliverables (includes but not limited to):

- ❖ **3D Printed Plastic parts**
- ❖ **3D Printed Metal parts**
- ❖ **3D Printed Custom parts**

MACHINING SOLUTIONS



CNC Machining & EDM

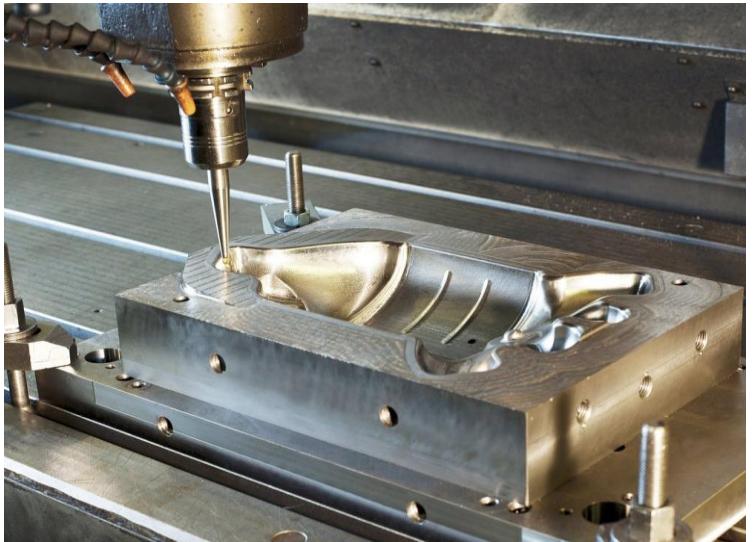
Highly equipped with a wide range of high precision CNC machines to meet the never-ending engineering needs of its customers.

CNC machines include:

- ❖ Hollow spindle turning centers
- ❖ Multi-axis horizontal machining centers
- ❖ Turn-mill centers
- ❖ Multi-axis vertical machining centers

Electrical Discharge Machines (EDMs) include:

- ❖ Multi-axis wire
- ❖ Multi-axis spark EDM
- ❖ EDM Rapid drilling





Heavy Machining

Handle from simple components to very large and complex components.

Heavy machining capabilities include:

Crane pedestal machining on CNC floor borer
Repair of dredger cutter shaft

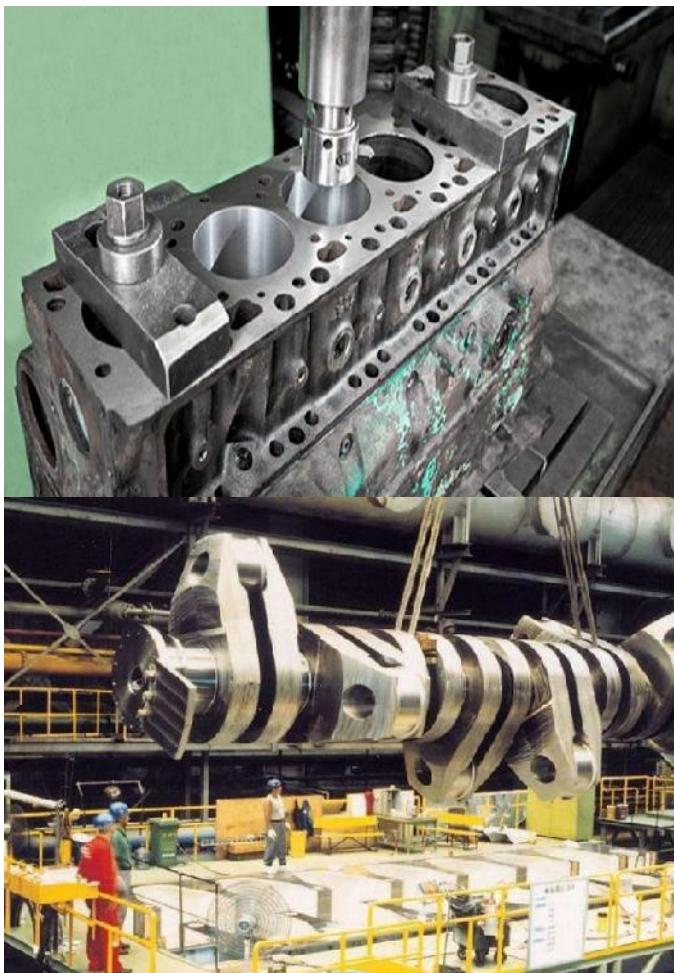
- ❖ **Horizontal machining (up to 28 m long and 3.5 m high)**
- ❖ **Cylindrical grinding (up to 8 m long)**
- ❖ **Flange facing - up to 4.5 m dia**
- ❖ **Horizontal machining (up to 28 m long and 3.5 m high)**
- ❖ **Deep hole drilling and honing (up to 9m long)**
- ❖ **Gear hobbing, hardening and grinding**
- **up to 1.7 m dia and 20 modules**
- **Turning - up to 1.2 m dia and 9 m long**

Engine Parts Reconditioning

Reconditioning services for most engine types, ranging from compact, high speed, 4-stroke petrol engines to large, slow speed, 2-stroke diesel engines, which can be used in generators, boats and ships, heavy equipment and commercial vehicles.

Components reconditioned are:

- ❖ **Engine blocks**
- ❖ **Connecting rods**
- ❖ **Piston rods**
- ❖ **Camshafts**
- ❖ **Cylinder liners**
- ❖ **Exhaust valve assemblies - valves, seats, housings, cages**
- ❖ **Cylinder heads**
- ❖ **Piston crowns and skirts**
- ❖ **Crankshafts**



In-situ Machining

In-situ needs of heavy industries for machining and alignment of equipment / structures such as:

- ❖ Engine components - engine blocks, liners
- ❖ Flanges - crane pedestals, thruster mounting locations, spades
- ❖ Trunnion pins
- ❖ Stern tube housings and A-frames
Construction equipment components such as buckets, sticks and booms
- ❖ Large fabricated steel structures
- ❖ Precision foundation surfaces



Welding And Fabrication

Wide range of welding processes are equipped to meet the customer needs.

The welding processes include:

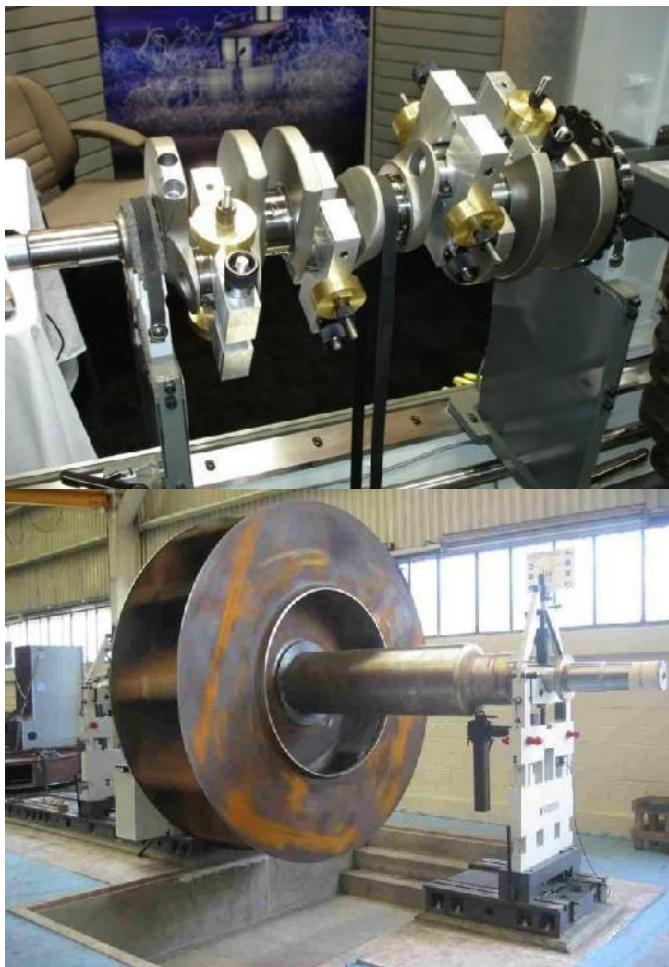
- ❖ Tungsten Inert Gas (TIG)
- ❖ Metal Inert Gas (MIG)
- ❖ Fusion welding
- ❖ Plasma Transferred Arc (PTA)
- ❖ Submerged Metal Arc (SMAW)
- ❖ Submerged Arc (SAW)



Dynamic Balancing

Well equipped with advanced dynamic balancing machineries to cater to components of various shapes, sizes and weight configurations. Components that are regularly balanced include:

- ❖ **Flywheels**
- ❖ **Cardan shafts**
- ❖ **Impellers**
- ❖ **Couplings**
- ❖ **Drive gears**
- ❖ **Blower fans**
- ❖ **Central and offset loaded rigid rotors**
- ❖ **Crankshafts**
- ❖ **Multi-stage rotor assemblies**
- ❖ **Propeller drive shafts**
- ❖ **Cardan shafts**



Metal Casting

Industrial components are cast in a foundry that houses a CNC pattern shop, induction furnaces and a metallurgical laboratory.

Cast materials include:

- Non – Ferrous
 - **Aluminum alloys**
 - **High lead tin bronze**
 - **Pure copper**
 - **Gunmetal**
 - **Pure lead, etc.,**
- Ferrous
 - **Gray cast iron**
 - **Low alloy steel**
 - **Tool steel**
 - **Stainless steel**
 - **White cast iron, etc.**





Heat Treatment

A variety of heat treatment services are available for parts that have special engineering requirements such as high toughness, surface hardness and / or corrosion resistance. Heat treatment processes include:

- ❖ **Induction hardening**
- ❖ **Gas carburizing**
- ❖ **Gas nitriding**
- ❖ **Flame hardening**
- ❖ **Tempering**
- ❖ **Stress relieving**
- ❖ **Liquid nitriding / TRIBOX**
(equivalent to quench, polish, quench)
- ❖ **Furnace hardening**
- ❖ **Stress relieving**
- ❖ **Annealing**

Plating

Plating processes carried out include:

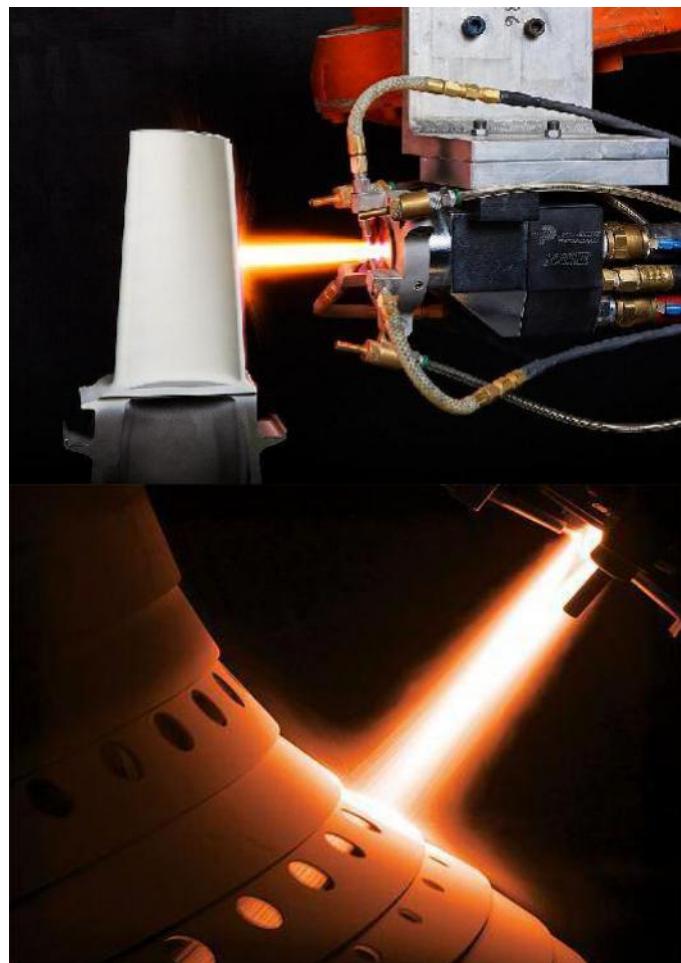
- ❖ **Hard chrome plating**
- ❖ **Electroless nickel plating**
- ❖ **Low-stress nickel plating**
- ❖ **Copper plating**
- ❖ **Plating**
- ❖ **Selective in-situ plating**
- ❖ Regularly repaired components include:
 - ❖ **Hydraulic jack piston rods & cylinders**
 - ❖ **Mud motor rotors**
 - ❖ **Downhole tools**
 - ❖ **Compressor crankshafts**
 - ❖ **Plungers & spools**
 - ❖ **Pump shafts**
 - ❖ **Motor shafts**



Thermal Spray

Mechanical parts that require repair by build-up or resistance to abrasion, wear, corrosion or temperature can be coated with the use of following thermal spray processes:

- ❖ **Plasma spray**
- ❖ **Twin wire arc spray**
- ❖ **High Velocity Oxy Fuel (HVOF)**
- ❖ spray Components that are repaired or coated include:
 - ❖ **Steel mill rolls**
 - ❖ **Print and plastic industry rolls**
 - ❖ **Hydraulic cylinder piston rods**
 - ❖ **Engine piston rods and crankshafts**
 - ❖ **Turbine parts**
 - ❖ **Downhole tools**
 - ❖ **Steel mill rolls**
 - ❖ **Rotor shafts**
 - ❖ **Print and plastic industry rolls**
 - ❖ **Hydraulic cylinder piston rods**

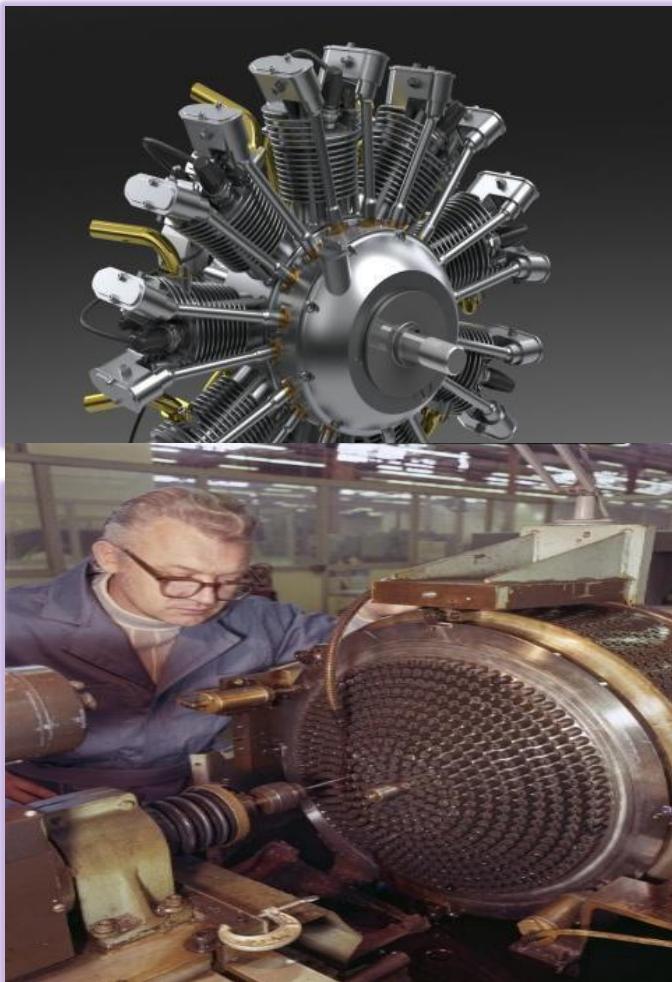


White Metal / Babbitt Bearings

Manufacturing and refurbishment of hydrodynamic bearings for OEMs and operators of rotary equipment. Chemical analysis, ultrasonic bond testing and dye penetrant testing are carried out to ensure high quality and compliance with industry standards. Bearing types worked with are:

- ❖ **Tilt pad journal bearings**
- ❖ **Journal bearings - plain and multi-lobe**
- ❖ **Pedestal bearings**
- ❖ **Thrust bearings - tilt pad and self-levelling**
- ❖ **Vertical thrust and guide bearings**





Equipment Overhauling

We carry out complete overhauling of various types of assemblies. Some examples of equipment refurbished include hydraulic cylinders, pumps, gearboxes, crushers, dredging assemblies and material handling equipment.

The typical overhauling process involves:

- ❖ **Factory Acceptance Test (FAT) and equipment inspection, depending upon customer requirement and feasibility**
- ❖ **Dismantling of received assembly**
- ❖ **Repair of components in consultation with customer**
- ❖ **Final inspection of new or repaired components**
- ❖ **Final assembly as per functional requirements**
- ❖ **Complete pre-inspection of individual parts**
- ❖ **Replacement or manufacturing of items that are beyond repair**

Hydraulic Systems

Hydraulic engineering solutions for critical operations in the oil & gas and marine industries.
Services offered are:

- ❖ **Refurbishment and upgradation of cylinders, hydraulic power packs, valves, pumps, motors and winches**
- ❖ **Piping, pressure testing and flushing of hydraulic lines**
- ❖ **Designing, manufacturing and commissioning of new hydraulic systems**

Leveraging a team of OEM certified experts and its workshop facility, we offer economical and quality hydraulic solutions to its customers.

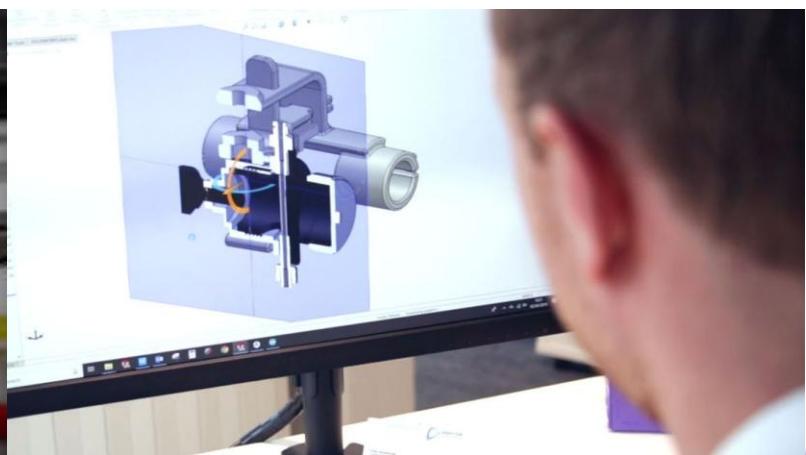
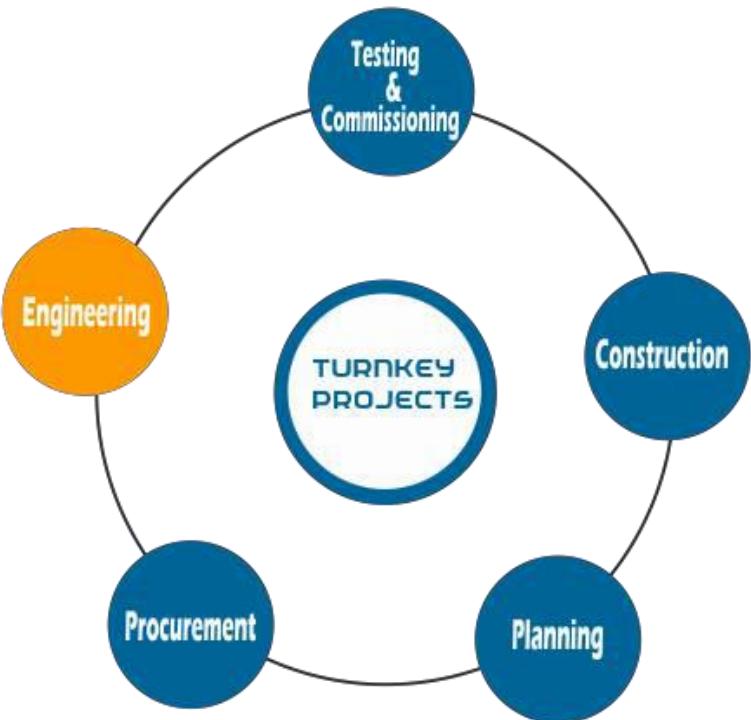
TURNKEY SOLUTIONS

We offer an end-to-end solution to its customers. The company has the infrastructure and capability to take on projects involving **SETTING UP** complete production lines of large, complex structures and assemblies.

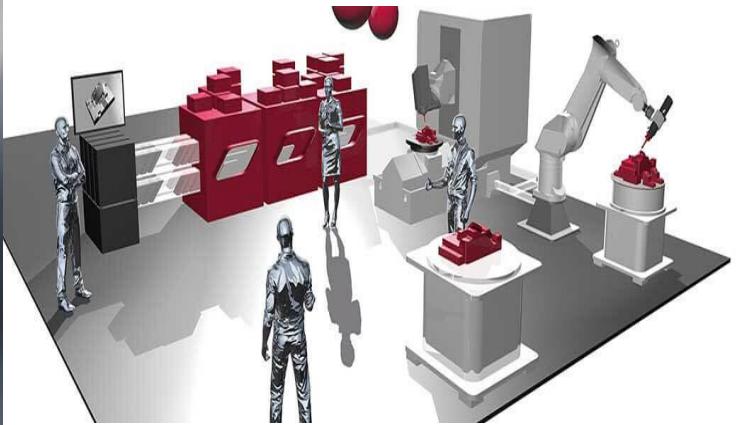
The scope of service includes:

- ❖ **Designing**
- ❖ **Sourcing**
- ❖ **Manufacturing**
- ❖ **Special treatment /processing of materials Coatings**
- ❖ **Factory Acceptance Test (FAT)**

Turnkey projects undertaken range **from large material handling equipment to multiplex gearboxes** and everything in between.



CONSULTANCY SOLUTIONS



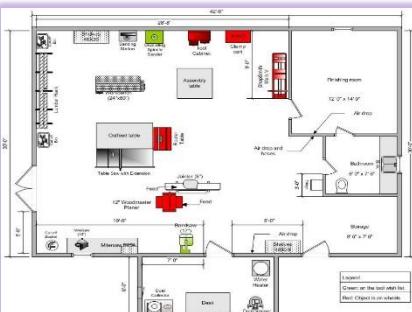
We have **a unique business model** that incorporates a holistic approach, keeping in mind the overall client requirements. While most advisory firms fall short on seeing through on their strategy or having any skin in the game, our business mode of providing **an “end-to-end” business solution** ensures that the company stays with the client till the mutual end objective is achieved.

While the end-to-end service offering is applicable to most companies operating within the Engineering industry, it is especially beneficial to companies such as equipment suppliers and contractors looking for additional support post the research and advisory services.

Through our company’s dedicated research, advisory and Business development teams, the client is able **to access varied pools of knowledge and service expertise** to maximize the company’s potential and opportunities available within the market.

Consulting services focus on four areas:

- ❖ ***Project Life Cycle Support***
- ❖ ***Market Entry and Growth Advisory***
- ❖ ***Contract Management Services***
- ❖ ***Design and Engineering Services***
- ❖ ***Complete Setup of Manufacturing Facilities / Factories***



CUSTOMER BASE

Few of the many customers:



King Abdullah University
of Science and Technology



شركة الزاهد الصناعية
ZAHID INDUSTRIES



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