

SAI-TECH GROUP

Large-Scale Manufacturing & Engineering



Since 2003



Large-Scale Fabrication & Precision Machining

From Plate to Proven Assembly — Fabrication, Machining & Repairs at Scale

ENGINEERING EXCELLENCE SINCE 2003

End-to-End Solutions

Precision fabrication, machining, remanufacturing, reverse engineering & metal 3D printing — delivered from fully integrated facilities.

Our Scale & Capability

- 230,000 ft² total built-up area
- 70,000 ft² covered bays
- 100,000 ft² assembly + staging yard
- 40-ton overhead cranes
- Fully equipped machining, welding, blasting & paint bays

Our People & Process

- 100+ technical professionals with deep industry expertise.

Global Delivery Footprint

Installed products in **UAE, KSA, USA, Europe, Australia** & beyond.

Trusted worldwide for:

- Large structural fabrications
- Skids & modular assemblies
- Precision-machined & reverse-engineered components

Metal 3D Printing

Direct Energy Deposition (DED) additive manufacturing using high-power laser deposition + multi-axis CNC motion.

- Materials: **Inconel 625/718, tool steels, Invar, titanium, stainless & super duplex steels**
- Each print undergoes **post-process machining, inspection, and heat treatment**
- Ideal for **repairing worn components, complex geometries, and low-volume production runs**

KEY CAPABILITIES

- Multi-axis robotic deposition head
- Build size flexibility: up to **800 mm height**
- Deposition: **5-15 mm³/s** (alloy dependent)
- Post-print stress relieving + precision machining

Use Cases

- Turbine blades with cooling channels
- Rebuilding shaft faces & flanges with Inconel cladding
- Aerospace brackets with weight-saving features
- Pressure-rated prototypes for oil & gas assemblies

Reverse Engineering & 3D Scanning

Integrated 3D laser scanning, photogrammetry, and CAD modelling for legacy, damaged, or undocumented components.

- Accuracy: **±0.1 mm scan precision**
- CAD outputs: **STEP, IGES, STL**
- Integrated **defect mapping + geometry restoration**
- Full-dimensional inspection reports + production-ready CAD

Surface Treatment & Coating

12m x 5m enclosed sandblasting booth + dedicated industrial paint shop.

- Coating systems: zinc silicate primers, high-build epoxies, polyurethane topcoats
- Controlled DFT application + process documentation

SPECIALIZED SERVICES

Weld Overlay Cladding — EDP wear plate, TIG, MIG, strip cladding

Heavy Refurbishment — roller assemblies, pump casings, structural rebuilds

Precision Repair — CMM-based dimensional restoration + machining alignment

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ISO 9001 · 14001 · 45001

40-ton overhead handling

Turning & boring up to Ø 5,000 mm



Scan for vendor pack & capacity list

Equipment list · Certifications · Sample projects

Cutting → forming → welding → machining → blasting/paint → assembly



Component Life Extension & Industrial Overhauls

Restoring OEM Quality — Extending Asset Life

SAITECH specializes in the **overhaul and refurbishment** of worn or damaged industrial components. Using advanced **machining, welding, and cladding techniques**, we restore OEM-level reliability for clients in **cement, power, mining, and oil & gas**.

In-House Capabilities

- Bearings & Rotating Equipment – housings, shafts, impellers, and mill components
- Wear-Resistant Overlays – SAW, TIG & MIG welding for long life
- Balancing & Alignment – precision fitment for heavy equipment
- Reverse Engineering – when OEM drawings or spares are unavailable

Value Delivered

- Components refurbished to OEM specifications
- Faster turnaround, avoiding long OEM lead times
- Full traceability & documentation provided
- Cost-effective life extension for critical assets



FABRICATION & HEAVY STRUCTURAL WORKS

Precision-Built Fabrication for Industrial Projects

SAITECH delivers **precision-built structural fabrications** tailored to exact customer needs. Our expertise covers **skids, pressure vessels, ducts, tanks, support structures, and complex assemblies**. We manage the **entire fabrication cycle in-house** — from raw plate processing to forming, welding, surface treatment, and final finishing. This integrated approach ensures **quality control, shorter lead times, and proven reliability**.

Fabrication Capabilities

- Plate bending up to **3 meters wide** and **60 mm thick**.
- Rolling of pipes and cones with wall thicknesses up to **80 mm**.
- Welding processes: **SAW, TIG, MIG** handled by qualified and coded welders.
- Certified for **carbon steel, stainless steel, duplex alloys, and Inconel**.
- Lifting and material handling systems for components up to **40 tons**.
- Fully equipped **sandblasting and industrial paint bays** with DFT control.
- Full **documentation and traceability** support (WPS, PQR, MTR)



Hyperbaric Chamber – Precision-fabricated, tested chamber



Skid for Offshore EPC – Fully integrated with platform support

Application Areas

- **Mining & Earthmoving:** Buckets, wear-resistant components, and offshore structures designed for harsh operating environments.
- **Oil & Gas:** Large industrial valves, custom housings, and pressure-rated components for critical infrastructure.
- **Modular Skids & Frames:** Rapid-deployment process skids and support frames, engineered for long-term reliability.
- **Power, Cement & Industrial Facilities:** Base structures, lifting frames, and equipment housings for heavy-duty applications



Heavy-duty Valve Housing — Machined and welded for oil & gas sector



Excavator Buckets — Fabricated for global mining clients

CNC MACHINING & BORING

High-Precision Machining for Large and Complex Parts

SAITECH's machine shop is equipped to deliver high-accuracy CNC machining services tailored to complex geometries, large components, and tight-tolerance requirements. We utilize robust 3-axis CNC milling machines with adjustable multi-directional heads, and a range of CNC lathes and boring equipment. Our shop supports full-scale production, part rebuilds, and precision prototyping

Machining Capabilities

We are equipped with horizontal and vertical CNC lathes for high-efficiency turning, as well as table-type boring machines with rotary axes for dimensional precision. Our 3-axis milling heads enable cutting across the X, Y, and Z planes, allowing for flexible machining of diverse part geometries. We also operate:

- Deep-hole drilling machines up to **3000 mm depth** for oil & gas shafts and turbine rotors
- Turning capacity for components up to **Ø 5000 mm**, ideal for pressure housings and flanges
- Manual lathes and mills for quick rework
- Support for steel, Inconel, duplex, bronze, and other alloys
- Specialized tube sheet & baffle drilling for heat exchangers and condensers



Half Counterweight (Ø4600)
Precision boring for large assemblies



Custom Drilling Tube Sheet
Machined to tight tolerance

Industries & Applications

Our CNC-machined components are deployed in:

- **Power generation** → machining shafts, housings, turbine parts
- **Oil & Gas** → Producing flanges, pumps, pressure housings, and tube sheets & baffles for heat exchangers
- **Mining** → rebuilding drill rig spares, re-machined castings
- **Cement and steel plants** → Mill housings, couplings, custom fittings
- **Defense & infrastructure** → Prototypes and low-quantity custom jobs

Why Choose SAITECH for CNC Jobs?

We combine **large-format machining capacity** (Ø 5 m turning, 3 m drilling) with **certified quality systems** to deliver precision at scale. Our ISO 9001-certified quality systems ensure process traceability and consistent performance for every batch



Nozzle Lip Machining
CNC rework for re-engineered spares



Customer Mold Machining
Complex geometry re-manufacture



Flanged pipe head (Ø4.2 m) — Oil & gas critical component