

Our Services

At TECH LAND, we pride ourselves on delivering comprehensive, industry-leading solutions tailored to the demanding needs of the oil, gas, and energy sectors. Our three core service pillars—Mechanical Solutions, Electrical Solutions, and Quality Assurance Solutions—form the foundation of our commitment to excellence, reliability, and innovation. Below, we provide a detailed overview of each service, highlighting the full spectrum of capabilities we offer to support your projects from conception to completion.

1. Mechanical Solutions

Our Mechanical Solutions division is your one-stop partner for all mechanical engineering needs in the oil, gas, and energy industries. With decades of expertise, we deliver end-to-end services that ensure operational efficiency, minimize downtime, and optimize performance for even the most complex systems. We specialize in sourcing, installing, maintaining, and upgrading a vast array of mechanical components, always prioritizing durability, compatibility, and compliance with international standards such as API, ASME, and ISO.

Key Capabilities We Offer:

- **Component Supply and Procurement:** We provide a complete inventory of high-quality mechanical parts, including valves (gate, globe, ball, and check types), pumps (centrifugal, reciprocating, and submersible), compressors (reciprocating, centrifugal, and screw), turbines (gas, steam, and hydraulic), and ancillary spare parts. All components are available as original equipment manufacturer (OEM) alternatives or genuine originals, sourced from trusted global suppliers to guarantee authenticity and longevity.
- **Installation and Commissioning:** Our certified engineers handle precise on-site or off-site installations, ensuring seamless integration with existing infrastructure. This includes alignment, testing, and commissioning to verify full operational readiness, reducing startup risks and accelerating project timelines.
- **Maintenance and Overhaul Services:** We offer preventive and predictive maintenance programs, including routine inspections, vibration analysis, and performance audits. For major overhauls, we disassemble, clean, repair, and reassemble equipment using state-of-the-art tools, extending asset life and preventing costly failures.
- **Custom Engineering and Fabrication:** Need bespoke solutions? We design and fabricate custom mechanical assemblies, such as specialized piping systems, pressure vessels, and heat exchangers, tailored to your unique specifications and environmental conditions.
- **Repair and Refurbishment:** From minor fixes like seal replacements to full rebuilds of rotating equipment, our workshops are equipped for rapid turnaround times without compromising quality.

By leveraging our Mechanical Solutions, clients achieve up to 30% reductions in maintenance costs and enhanced system reliability, empowering your operations to run smoother and more sustainably.

2. Electrical Solutions

In the high-stakes world of oil, gas, and energy, electrical failures can lead to significant disruptions. Our Electrical Solutions team excels in diagnosing, repairing, and enhancing the electrical integrity of critical equipment, ensuring uninterrupted power distribution and control. We focus on precision repairs for pumps, valves, turbines, and compressors, utilizing advanced diagnostic tools and adhering to rigorous safety protocols like NEC and IEC standards.

Key Capabilities We Offer:

- **Comprehensive Electrical Repairs:** We repair all electrical components, including motors, starters, control panels, wiring harnesses, sensors, and actuators. This encompasses stator rewinding for motors, circuit board troubleshooting, and solenoid valve recalibration, restoring equipment to like-new condition.
- **Diagnostic and Testing Services:** Employing tools like multimeters, oscilloscopes, thermal imaging cameras, and insulation testers, we perform root-cause analysis to identify issues such as short circuits, ground faults, or overloads before they escalate. Post-repair, we conduct load testing and functional simulations to validate performance.
- **Upgrades and Modernization:** We retrofit legacy systems with energy-efficient technologies, such as variable frequency drives (VFDs), smart relays, and IoT-enabled monitoring systems. This not only improves efficiency but also integrates with Industry 4.0 protocols for real-time data analytics.
- **Preventive Maintenance and Inspections:** Our scheduled programs include infrared thermography scans, power quality assessments, and grounding verifications to preempt failures. We also provide emergency response services for rapid on-site interventions.
- **Training and Compliance Support:** To empower your team, we offer hands-on training sessions on electrical best practices and help navigate regulatory compliance, including hazardous area classifications (e.g., ATEX or Class I Div 1).

Our Electrical Solutions have helped clients reduce unplanned outages by over 40%, delivering reliable power management that keeps your operations energized and productive.

3. Quality Assurance Solutions

Quality is not an afterthought—it's the cornerstone of every project we touch. Our Quality Assurance Solutions ensure unwavering standards of safety, precision, and compliance across all phases of construction, manufacturing, and operations. Equipped with cutting-edge laboratories and certified personnel, we perform exhaustive testing, validation, and documentation to mitigate risks and exceed client expectations.

Key Capabilities We Offer:

- **Laboratory Testing and Calibration:** We conduct a full suite of tests, including material hardness, tensile strength, non-destructive testing (NDT) like ultrasonic and radiographic inspections, and environmental simulations (e.g., corrosion resistance). Our

calibration services cover pressure gauges, flow meters, thermometers, and more, traceable to NIST or equivalent standards for utmost accuracy.

- **Quality Control in Construction Management:** From site audits to supply chain verification, we oversee every phase—design review, procurement inspection, fabrication oversight, and final handover. This includes risk assessments, process audits, and corrective action plans to maintain ISO 9001 and API Q1 compliance.
- **Advanced Scanning and Modeling:** Specializing in 3D laser scanning and reverse engineering, we create precise digital models of spare parts using CAD/CAM software. This enables virtual prototyping, clash detection, and custom reproductions, reducing lead times for hard-to-find components.
- **Mold Production and Prototyping:** We design and manufacture high-fidelity molds for casting, injection molding, and additive manufacturing (3D printing), ensuring dimensional accuracy within microns. Our expertise spans metals, polymers, and composites, tailored to withstand extreme conditions in oil and gas environments.
- **Safety and Certification Services:** We provide third-party certifications, failure mode analysis (FMEA), and safety integrity level (SIL) assessments. Additionally, our team supports root cause investigations for incidents, generating detailed reports and recommendations.

Through our Quality Assurance Solutions, we help clients achieve zero-defect milestones, fostering trust and enabling scalable growth in regulated industries.

Ready to elevate your projects? Contact us today to discuss how our integrated services can be customized to your needs. We're here to turn challenges into opportunities for success.