

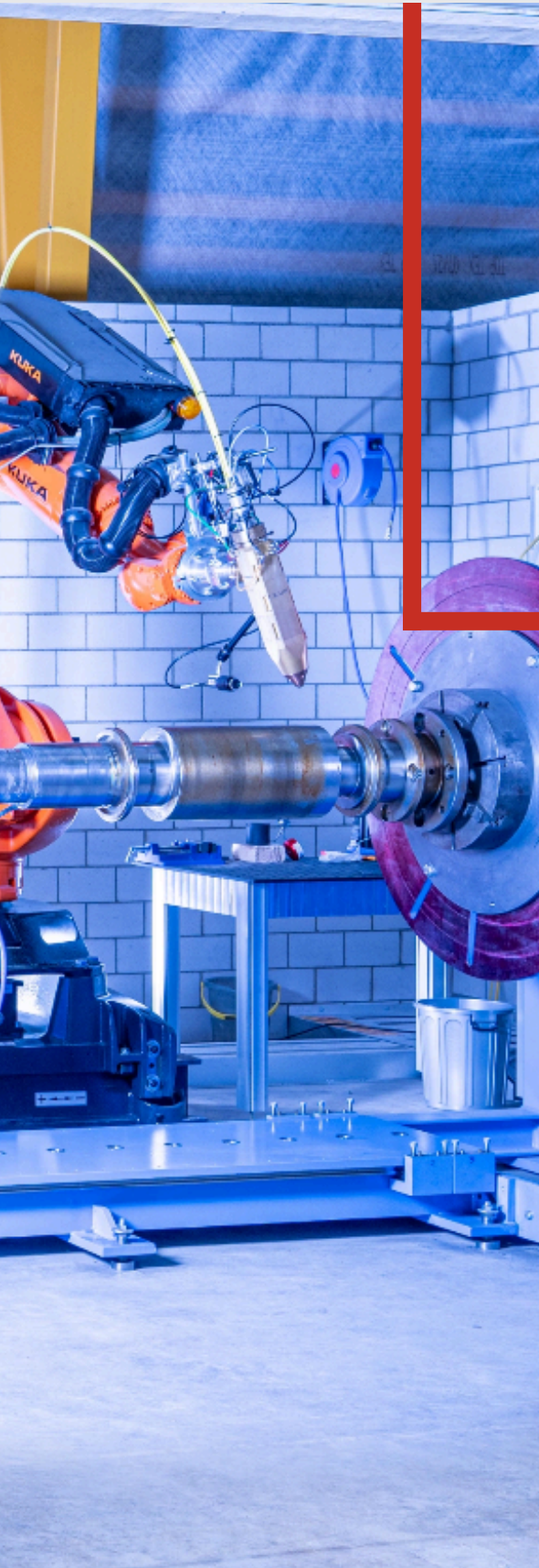


Stellba



CAPABILITY STATEMENT

“Swiss precision, Australian
Expertise”



Content

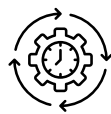
- 01** Company Overview
- 02** Core Capabilities
- 03** Our Powder Solutions
- 04** Precision Machining
- 05** Consulting & Engineering
- 06** Health & Safety
- 07** Supporting Capabilities
- 08** Engineering Excellence
- 09** Contact



COMPANY OVERVIEW

Stellba Australia Pty Ltd combines over 65 years of Swiss engineering excellence with local Australian expertise in surface treatment, additive manufacturing, and precision machining. Our mission is to extend component life, reduce maintenance costs, and optimize industrial performance through innovative, high precision repair and coating technologies. Backed by Stellba Surface Technology AG (Switzerland), we provide Swiss quality solutions with a local presence in Cromer, NSW, serving industries such as Power Generation, Oil & Gas, Mining, and Marine across Australia and the Asia Pacific region.

Our Core Values



SWISS PRECISION

Proven expertise in welding, coating, and machining.



INNOVATION

Advance laser cladding and additive manufacturing.



SUSTAINABILITY

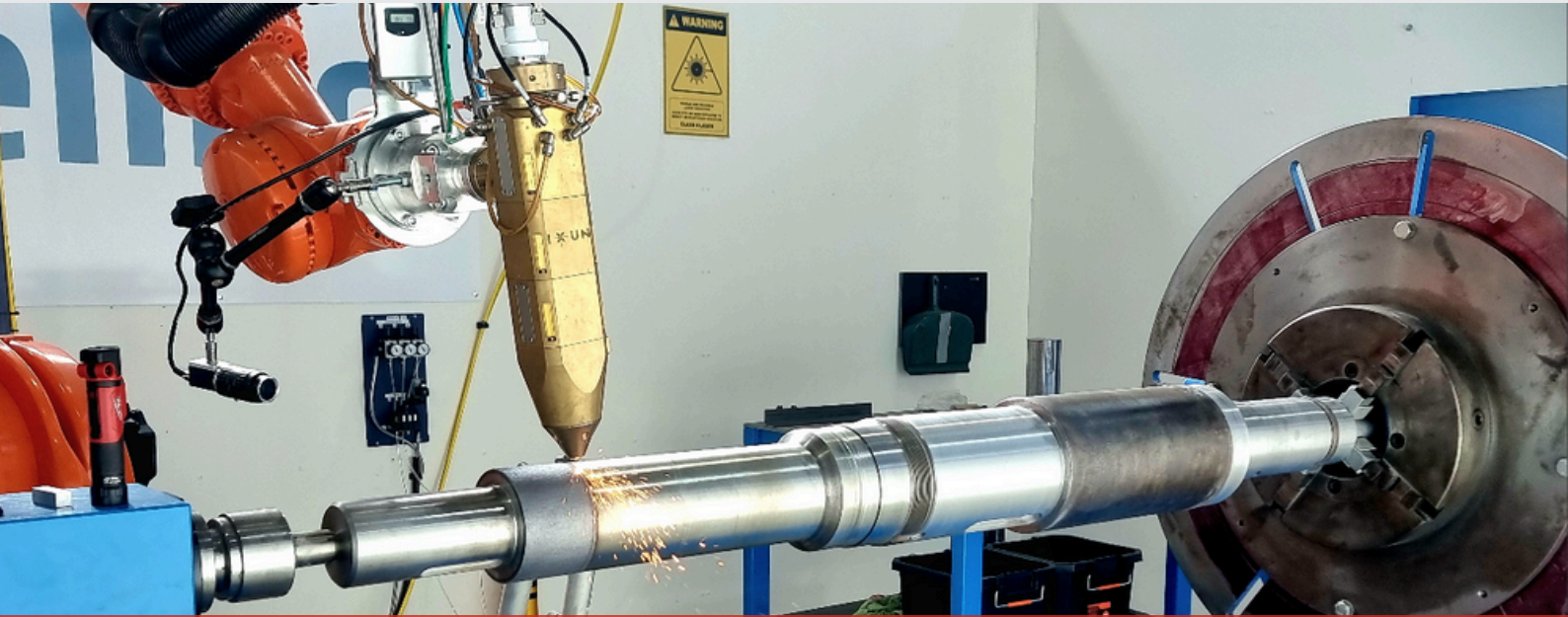
Repair over replace, minimizing environmental impact through innovation.



LOCAL COMMITMENT

Combining global expertise with a lasting commitment to Australia's industry.

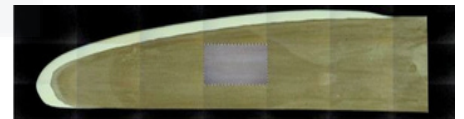




Core Capabilities

SURFACE ENGINEERING & COATING

Stellba provides advanced surface-engineering and welding solutions that address the root causes of wear, corrosion, and surface-related failures. By combining laser cladding and conventional welding processes (TIG, MIG/MAG), Stellba restores the functional and structural integrity of highly loaded components such as turbine blades, rotors, and couplings. Each repair achieves a metallurgical bond with controlled dilution and optimised heat input, ensuring excellent adhesion, precise geometry restoration, and reliable mechanical properties for demanding service conditions.



Key Processes



Laser Cladding / Additive Repair of journal surfaces, wear zones, and sealing areas using alloy systems such as white-metal, cobalt-based, nickel-based, and steel-based overlays



TIG & MIG/MAG Weld Build-ups and Structural Repairs for dimensional recovery of shafts, rotors, discs, and couplings under controlled heat-input conditions



Engineered Overlay and Rebuild Solutions — tailored to service requirements, ranging from hard facing and corrosion-resistant coatings to high-strength structural restorations



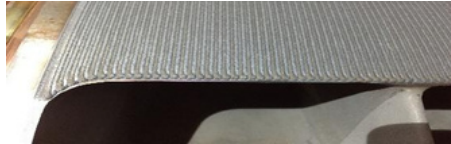
Metallurgical Inspection & Hardness Verification performed during and after cladding, using in-house and laboratory tools (PMI, hardness tester, NDT), supported by long-standing partnerships with accredited metallurgical laboratories

Validated Powder Solution



Iron-Based Powder

Iron-Based Powders Versatile solutions for restoring and structurally repairing steel components using high-strength and corrosion-resistant alloys. Options include stainless, martensitic, and austenitic grades — ensuring long-term durability and cost efficiency.



Cobalt-base Powder

Designed for extreme conditions, these powders offer exceptional wear resistance, corrosion protection, and temperature stability—ideal for critical components and protective coatings.



Nickel-Based Powder

Nickel alloys are ideal for harsh environments, offering excellent corrosion resistance at high temperatures and consistently high performance – making them a trusted choice in power generation, marine, and aerospace applications.



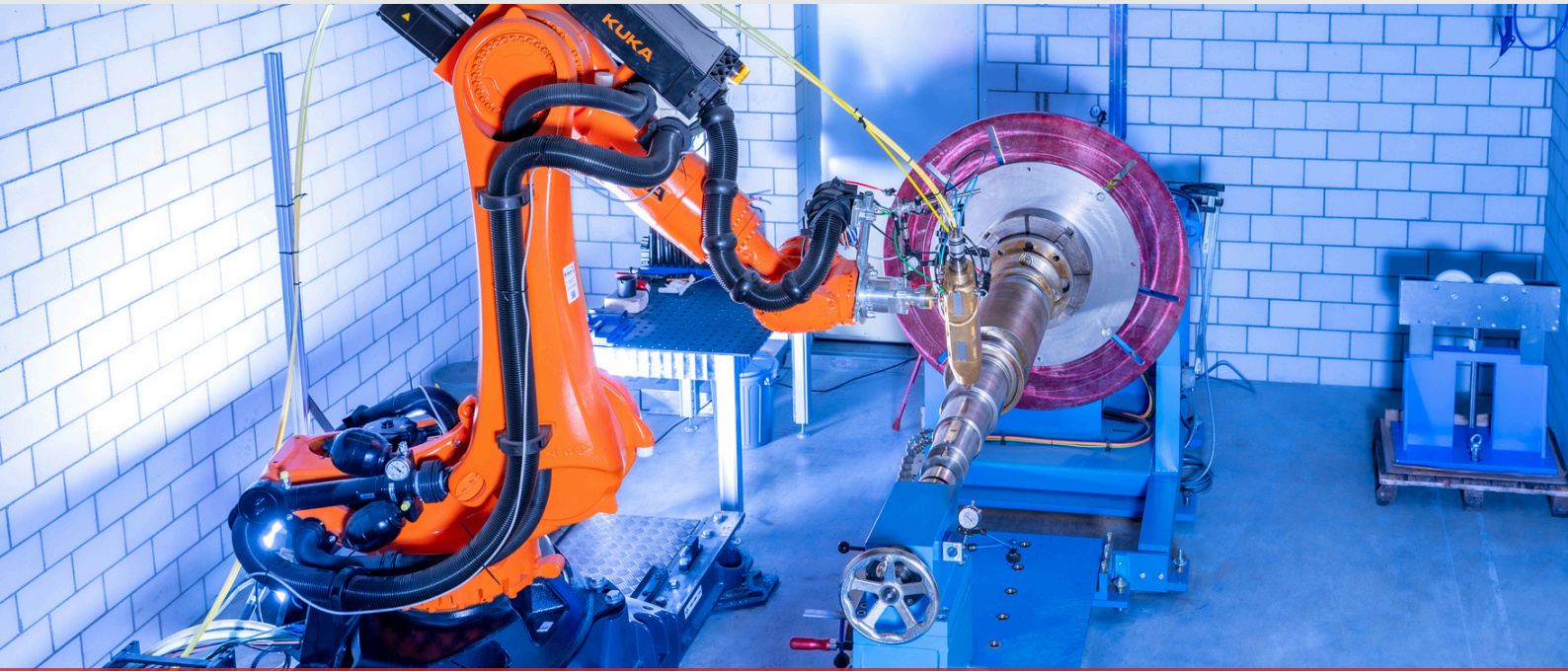
Light Metal Powder

These powders are lightweight and corrosion-resistant, enabling precise repairs of light components while preserving strength-to-weight ratios for structural parts. Additionally, overlays can be welded to improve conductivity, reduce metal-on-metal abrasion, and provide emergency running properties that protect components under critical conditions.



White Metal Powders

White Metal Powders Optimized for bearing applications, they reduce friction and wear through self-lubricating properties, ensuring smooth operation and extended service life. Unlike traditional casting, these powders create a metallurgical bond, delivering superior adhesion and durability for high-load environments.



Precision Machining & Workshop Infrastructure

Stellba's Cromer workshop integrates large-scale machining and high-precision finishing to support both pre and post-cladding operations. Components up to 6 metres in length, 2 metres in diameter, and 5 tonnes in weight can be machined, ground, and verified within a single controlled workflow. The workshop is also equipped for shaft straightening and run-out measurement, ensuring accurate geometry and proper alignment of critical rotating components.



Key Equipment

- Heavy-duty turning machines – capacity up to 6 m length / Ø 2 m / 5 t
- Bridge crane (5 t) for heavy-component handling
- Post-cladding machining and grinding facilities
- Burnishing and finishing operations for surface integrity
- Run-out measurement tooling



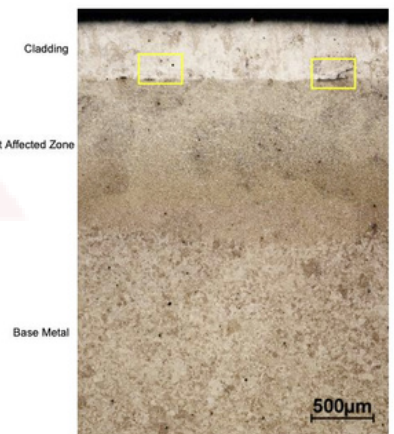


Consulting & Engineering Services

Stellba's welding engineers and material specialists provide diagnostic and advisory support across the entire repair process. From material identification and failure analysis to procedure qualification and quality control, each step is guided by technical expertise and practical field experience. At Stellba, we continuously invest in new welding and coating technologies and actively collaborate with universities and research institutes. This commitment ensures that our protective layers and repair solutions evolve with the latest material innovations and meet the specific service conditions of each customer.

Key Capabilities

- Root-cause failure analysis combining PMI and hardness testing with supporting metallurgical laboratory investigations
- Material selection and repair strategy definition
- WPS, PQR and procedure documentation and compliance
- On-site welding supervision and quality control
- Technical advisory for rotating equipment, pressure components, and other critical industrial assets



Workplace Health & Safety Management System

At Stellba, we set industry standards in laser safety and workplace protection. Our most valuable resource is our people, and their safety is our top priority.

We are committed to a zero-harm workplace, integrating advanced safety protocols into every process. Our systems align with site and customer requirements while following international best practices. Through disciplined risk management and proactive safety leadership, we continuously improve our safety performance.

Our WH&S system includes:

- Documented health and safety protocols, regularly reviewed and updated
- Systems that operate in alignment with ISO 45001 principles
- Safety is a shared responsibility – every team member is committed to maintaining a zero-harm environment
- Trained Laser Safety Officers and comprehensive laser safety programs for all personnel
- Emergency readiness through qualified first aid officers and response wardens
- Comprehensive tracking and reporting of safety performance metrics for continuous improvement
- Continuous investment in protective technologies and controlled environments

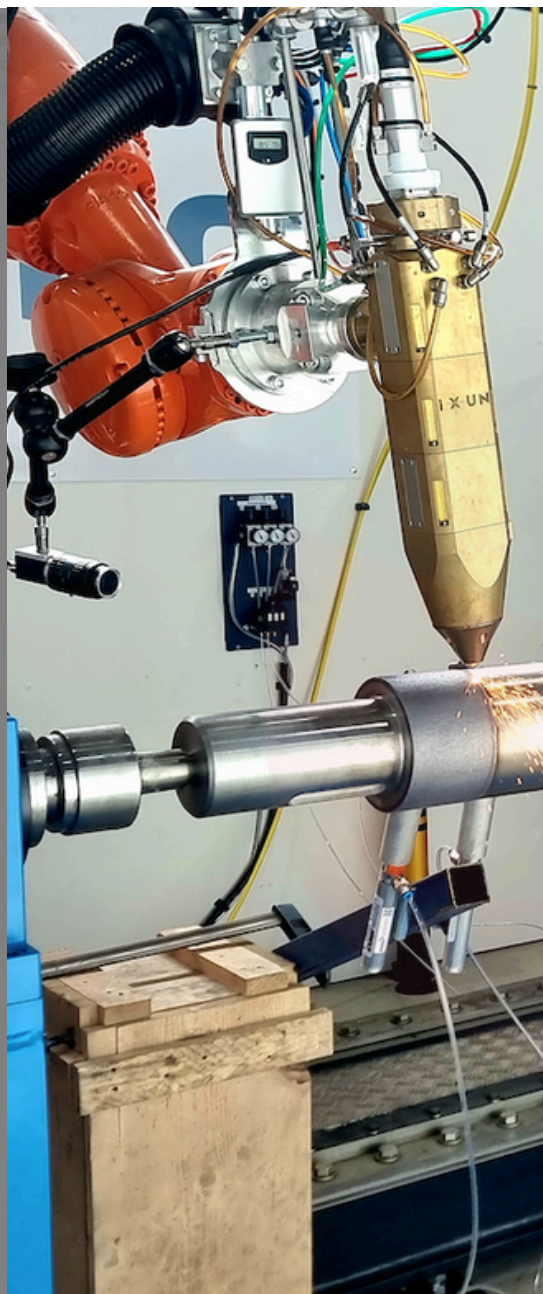


RELIABILITY & ASSURANCE THROUGH EFFECTIVE QUALITY MANAGEMENT

We are proud to guarantee consistent and sustainable production quality through our stringent approach to quality management. To meet all standards and adhere to specifications, Stellba has invested in advanced radiographic testing procedures, nondestructive dye penetrant testing, and collaborative inspections with three independent parties for ultrasonic and magnetic particle testing.

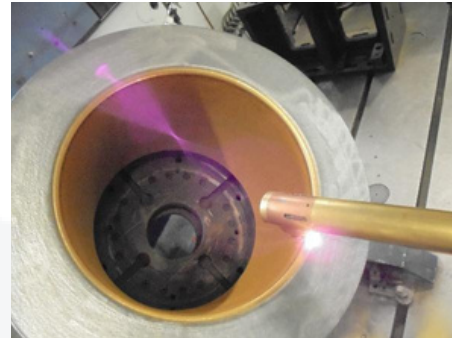
Additionally, we integrate highly precise 2D and 3D measurement scanning and modeling, along with Positive Material Identification (PMI) to ensure dimensional accuracy and material integrity. Our processes have been inspected and certified by prominent OEMs.

Supporting Capabilities



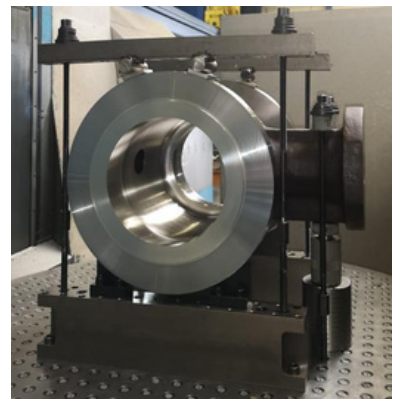
Surface Engineering

- Coating repair and surface restoration — covering both hard facing for wear resistance and corrosion-resistant overlays for protective applications.
- Structural weld build-ups for components such as discs and couplings, where mechanical strength and metallurgical integrity are critical.
- Metallurgical bond control and verification, ensuring consistent adhesion and low dilution.
- Comprehensive corrosion and erosion protection, tailored to each service environment.



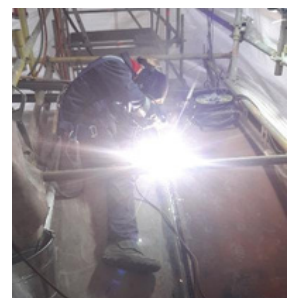
Precision Machining

- Large component turning and milling
- Grinding, burnishing and polishing
- Dimensional restoration and metrology



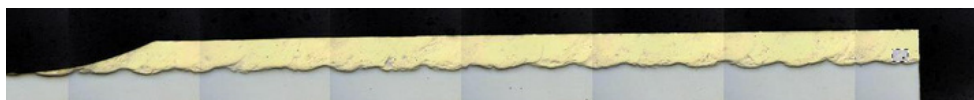
Field Execution

- On-site welding quality audit
- Parameter verification and inspection
- Failure analysis and reporting
- Dye-Penetrant Testing and PMI



Knowledge and Expertise

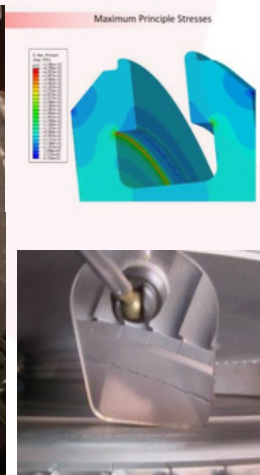
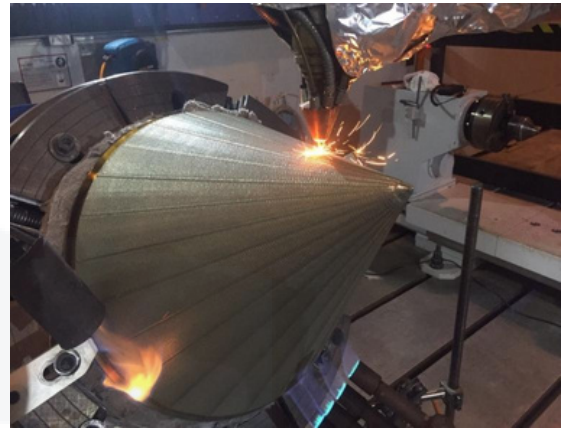
- Extensive experience with cast and forged chromium-molybdenum steels, as well as stainless steels including martensitic, duplex, super duplex, and precipitation-hardened grades.
- Proven welding expertise across steam turbines, compressors, and auxiliary components.
- Integrated knowledge in materials science, welding technology, and mechanical engineering, ensuring reliable performance and structural integrity in demanding applications.



Engineering Excellence **Laser Repair & Metallurgical Breakthrough**

A Metallurgical Masterpiece

Stellba achieved what had never been attempted before: welding a 5 mm Stellite 6 layer on a large surface with highly variable geometry. Mastering internal stresses through precisely controlled heat distribution and intelligent programming resulted in a dramatically extended lifecycle for the Pelton needle, setting new standards in durability and performance.

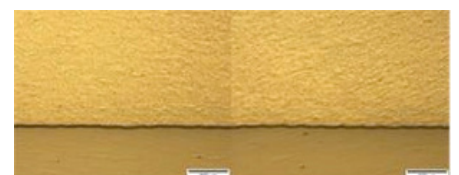
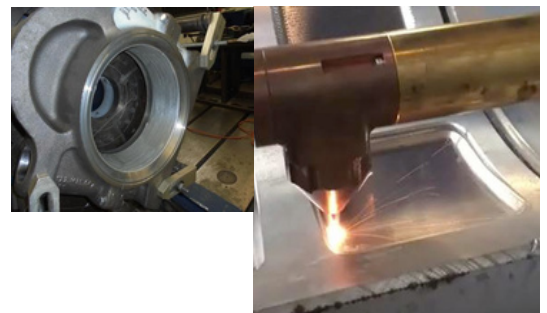


Steam Turbine Disc Blade Restoration

A high-strength forged steel turbine blade section cracked at the T-slot root due to stress concentration. The damaged area was fully removed and inspected using NDT and metallographic analysis. Using a rigorously qualified welding procedure with controlled heat input, the section was rebuilt to original geometry—achieving full metallurgical bonding and mechanical integrity equivalent to the forged base material.

Laser Cladding of White Metals

In collaboration with universities, Stellba pioneered white metal laser welding for radial and axial bearings. Our process ensures a true metallurgical bond with the base material, maximizing performance under extreme conditions while optimizing material use and reducing waste, delivering significant economic and ecological benefits.



Stellba

Thank
you!



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