

FIB INDUSTRIES

DRIVEN BY EXCELLENCE

Case study: FIB Industries and PROENERGY advance aeroderivative solution mitigates supply chain challenges

CHARTING SUCCESS TOGETHER

THE CHALLENGE

PROENERGY—a global services, manufacturing, and EPC company—sought to mitigate supply chain constraints for aeroderivative turbines. These turbines face intense operational demands, requiring regular upkeep and top-quality parts to reduce downtime. They sought a proactive, reliable partner to help develop and produce critical components for the LM6000 and PE6000 turbines.

The challenge included manufacturing **Turbine Rear Frames** and struts from Inconel 718—a superalloy known for its resilience in extreme environments like aerospace and power plants. Previous attempts to secure these struts were unfruitful; high costs and limited production runs made traditional casting methods impractical, while other options fell short in quality.

ABOUT THIS CASE STUDY

Navigating the complexities of the modern energy sector requires innovative solutions and a proactive approach. This case study showcases FIB Industries and PROENERGY's partnership, highlighting how their innovative engineering and strategic collaborations address the energy sector's complexities and boost operational efficiencies.

SOLUTION: CO-DEVELOPING TURBINE TECHNOLOGY

PROENERGY selected FIB Industries as a partner to attain high standards for quality and reliability as a result of previous work on inlet and exhaust systems made of stainless steel (SS 304 and SS321) for turbine manufacturers.

INNOVATIVE BREAKTHROUGH: 3D PRINTING OF STRUTS

Faced with the complex challenge of manufacturing Turbine Rear Frames from Inconel 718, the team at FIB Industries demonstrated their mastery in special welding and manufacturing of challenging materials. Recognizing the limitations of traditional casting due to high costs and complexities for small production runs, FIB Industries decisively shifted to a more innovative method: manufacturing the Turbine Rear Frame out of plate and forged parts and 3D printing the turbine struts.

This strategic move redefined manufacturing efficiency and emphasized FIB's role as the central hub and main contractor in orchestrating a network of co-creating partnerships.

PROENERGY



Energy sector



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They led the charge, assembling a skilled consortium that included M&H CNC Technik in Austria for their advanced 3D printing capabilities, King Metaal for precise metalworking, and Gloeitechniek Veendam for specialized post-weld heat treatments. Each partner played a crucial role, coordinated by FIB to ensure that every component was processed to the highest standards.

This collaborative effort underscored FIB Industries' ability to lead complex co-development projects with innovation at its core. By managing and integrating the contributions of each partner, FIB not only navigated the manufacturing challenges but also reinforced its partnership with PROENERGY, optimizing specifications and streamlining production processes to deliver superior, long-lasting turbine components. This project is a testament to FIB Industries' proactive approach and commitment to excellence, setting new benchmarks in the energy sector and enhancing turbine performance and reliability.



OUTCOME AND BENEFITS



The move to 3D-printed components was a game-changer, swiftly resolving quality issues while slashing lead times and production costs. This enhanced PROENERGY efforts to increase the availability of quality parts for LM6000 and PE6000 turbines. This project not only confirmed FIB Industries as PROENERGY's preferred supplier but also laid the groundwork for a durable strategic partnership.

This collaboration between FIB Industries and PROENERGY showcases the power of innovative thinking and teamwork in tackling complex challenges within the energy sector. It highlights FIB Industries' role as a leader in delivering cutting-edge solutions that greatly improve client operations and set new benchmarks for quality and efficiency in the industry.



Rob Andrews
CTO PROENERGY

"What sets this partnership apart is the trust, openness, and shared belief in pushing boundaries. FIB Industries brought the mindset that 'we can make it happen,' even when we didn't have all the answers upfront. Their commitment to transparency and collaboration allows us to move quickly, think creatively, and overcome challenges together. This trust and shared vision have been key to our success."

MORE ABOUT PROENERGY



Based in Sedalia, Missouri, PROENERGY is a global peaking-power solutions provider with operational experience on every continent. The company offers vertically integrated aeroderivative power services, including engineering, construction, operations, repair, maintenance, research, and true, turnkey power generation facilities that include the complete balance of plant.

For more on PROENERGY, visit www.proenergyservices.com.

ABOUT FIB INDUSTRIES

Founded in 1946, FIB Industries has evolved into a key player in the process and pressure equipment market, crafting custom stainless steel solutions from our strategically located facility in Leeuwarden, the Netherlands.