



SQP Engineering

INDUSTRY
APPLICATION
LOCATION
PRINTERS
MATERIALS

Manufacturing Solutions
Wireline counter cover for mining equipment systems
Perth, Australia
FX20, Metal X
Onyx, 17-4PH Stainless Steel

THE CUSTOMER

SQP Engineering is a family-owned and operated business that provides industrial manufacturing solutions to over 100 customers.

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The bulk of SQP's business has historically been supplying precision-machined products for mining equipment. However, Industry 4.0 technologies (such as robotics and additive manufacturing) and ISO 9001 certification have allowed SQP to expand into customers in the oil, maritime, and defense industries.

David Miller, owner of SQP, understands that training local talent is critical to the industry's future success and takes pride in employing three apprentices, two of which are his sons.

THE CHALLENGE

SQP's core specialty is machining. However, SQP frequently fields requests for specialized parts that are either too expensive or outright impossible to machine. These requests represented lost business opportunities for the shop, so SQP sought a solution.

SQP's team needed to produce a specialized production part for their customer: a wireline counter cover for mining equipment systems. However, the team was unable to produce the required result in the needed time frame using their existing equipment.

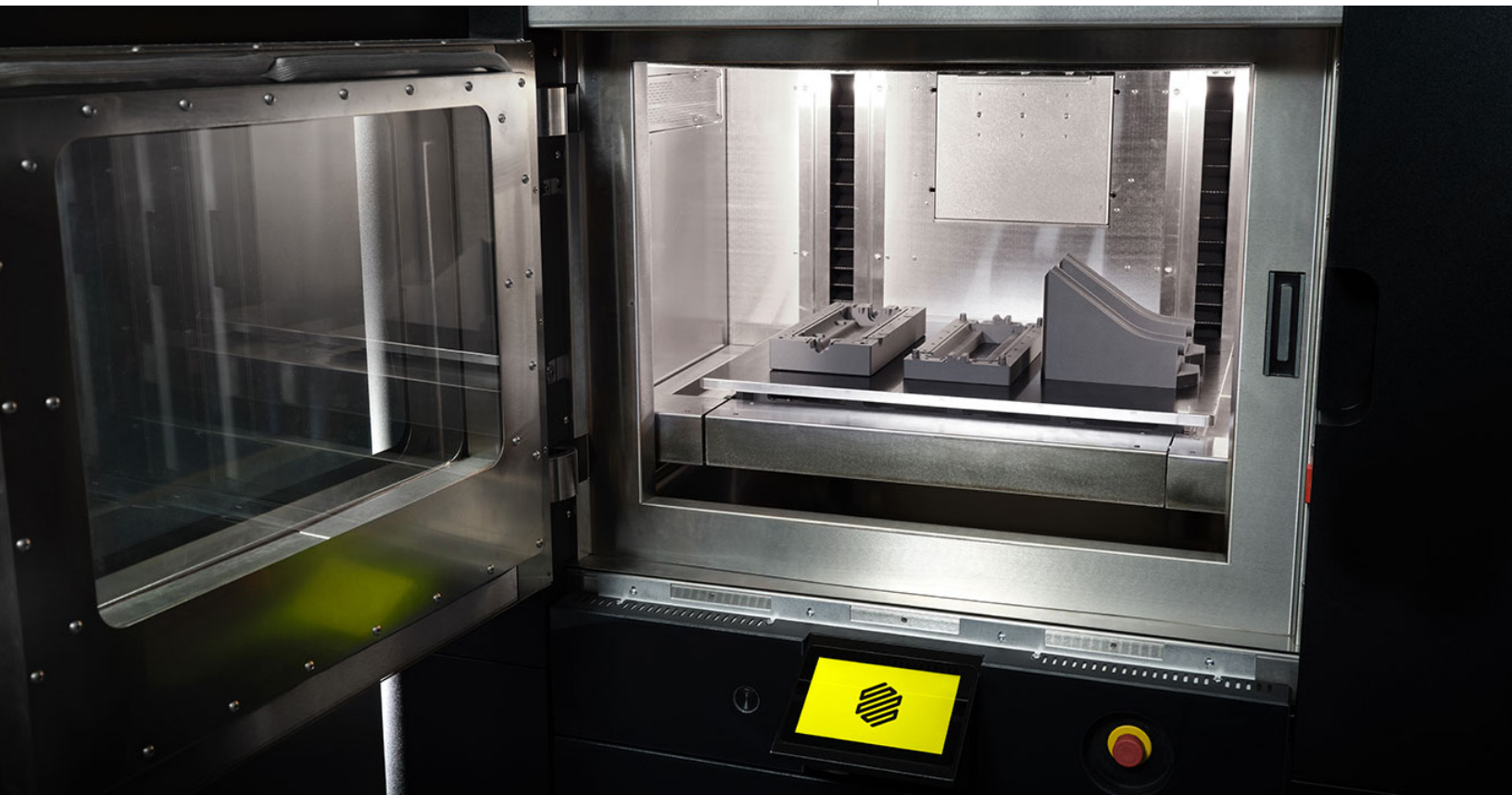
The team discovered that machining the part was not cost-effective, and would not produce an accurate part fit for the purpose. Furthermore, the existing polymer 3D printer was not powerful enough to allow SQP to meet acceptable lead times: each cycle took nine hours.

The older technology also produced a suboptimal finish.

“While it was possible to print the parts with our old 3D printer, the FX20 is really what made printing viable for production, due to its speed and surface finish.”

— DAVID MILLER

OWNER, SQP ENGINEERING



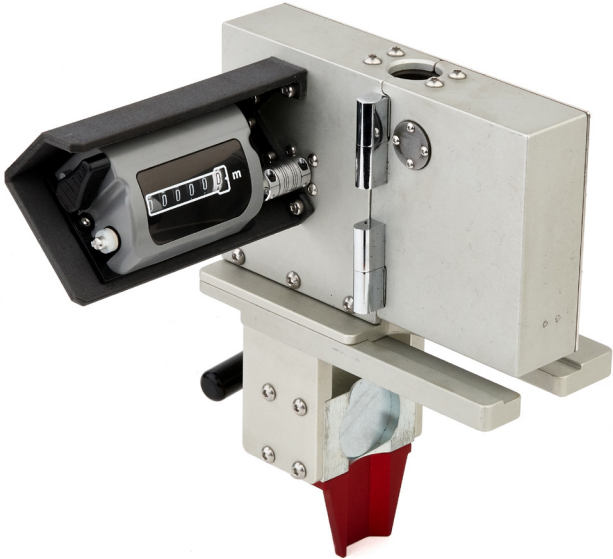
THE SOLUTION

After struggling to produce this key piece of equipment for customers, SQP determined that a larger and faster composite 3D printer could quickly and efficiently produce these specialized parts. This would not only unlock production for components that can't be machined — it would also decrease the load on the team's CNC machines, allowing them to instead manufacture other valuable production parts. SQP owner David Miller determined that the FX20 is the best fit to accommodate his shop's needs.

The wireline counter cover, which took nine hours to print, now takes just 2.5 hours. To date, they've printed 100.

“Printed parts from the FX20 look 10 times better than the ones we printed before. Customers are completely blown away when they see the surface finish. Once I showed our customer the new and improved part he was blown away as well. His products now look a hell of a lot better.” — David Miller, Owner, SQP Engineering

SQP also brought the Markforged Metal X system in-house to round out additive capabilities. With the FX20 and Metal X in tandem, SQP can be the one-stop shop its customers need. They can now manufacture a wide range of production-grade parts that no one can machine — while delivering with better pricing and turnaround times.



Print Time Comparison-
Wireline Counter Cover

Previous 3D Printer	9 hours
Markforged FX20	2.5 hours



“The FX20 was a no-brainer for me. The platform, the build size, the enhanced additive manufacturing technologies — it gives me an edge above a lot of the competition.”

— DAVID MILLER

OWNER, SQP ENGINEERING

THE FUTURE

For SQP, the FX20 and Metal X system will continue to enable better solutions for customers. The ability to quickly print a wide array of production-quality parts will allow SQP's customers to easily get challenging parts that otherwise cannot be easily procured — and give the option to get machineable parts cheaper and faster without compromising quality.

David, with a long list of potential applications, is excited about the new doors the FX20 and Metal X system will open for his business. "We're planning on using the FX20 to expand into medical, aviation, and agriculture. It's allowing us to expand the horizon a little bit and manufacture more of what Western Australia needs."

Taking pride in being an early adopter of industry 4.0 and having a technologically advanced machine shop, SQP embraces the cutting edge. David believes that now and, in the future, it's necessary to embrace additive manufacturing to stay competitive.

"My two boys work for me, they're in their first and second years of apprenticeship. I want to continue being more technically advanced than the competition. This technology is evolving as we speak. If I don't get involved with it, and if I don't get my boys involved with it, I'll be letting them and SQP Engineering down at the same time." — David Miller, Owner, SQP Engineering

"If you're going to be competitive, you need to have a solution for all aspects of manufacturing. Not just what we've been doing yesterday. We need to evolve and embrace the manufacturing technologies of tomorrow as well."

— DAVID MILLER

OWNER, SQP ENGINEERING