



CASE STUDY

Prototek and AMT A Collaboration that Boosts Efficiency

Overview:

Prototek is a company that specializes in 3D printing and additive manufacturing services. The company has enjoyed a long and productive partnership with Additive Manufacturing Technologies (AMT), starting even before the beta release of AMT's innovative machines. This close collaboration has allowed Prototek to benefit from AMT's cutting-edge technology and pass the advantages on to their customers.

Results:

After implementing the new SF100 machines from AMT, Prototek noticed a dramatic increase in production speed, capacity, and efficiency when compared to the older PostPro3D machines.

Key Improvements:

- 1. Reduced Initialization Time:** The SF100 reduces the time needed to set up between runs to a mere 5 minutes, compared to the 30-60 minutes required by the PostPro3D. This accelerated initialization allows Prototek to perform more runs per day and keep up with customer demand.
- 2. Increased Capacity:** The SF100 can process an average of 3-4 racks per run and can accommodate up to 6 racks. In contrast, the PostPro3D only handles two racks per run. The expanded capacity enables Prototek to handle larger orders more efficiently.
- 3. Space Efficiency:** Two SF100 machines can fit in the same physical space as a single PostPro3D machine, effectively doubling the processing volume without increasing the footprint. This efficient use of space is crucial for facilities with limited room for expansion.
- 4. Lower Power Consumption:** The SF100 doesn't require a chiller, cutting power consumption significantly. In fact, an SF100 consumes nearly 80% less power than a PostPro3D. Even running two SF100s uses nearly 60% less power than one PostPro3D per hour. This highlights the SF100's remarkable efficiency and cost savings, even with two systems in operation.
- 5. Easier Cleaning:** The SF100's new design simplifies the cleaning process, which improves operational efficiency and reduces downtime.

Impact:

The implementation of AMT's SF100 machines has significantly enhanced Prototek's operational efficiency, leading to higher customer satisfaction and business growth. By upgrading from a single PostPro3D machine to two SF100 machines, Prototek achieved:

- 4X throughput per batch on average.
- 2X processing volume in the same footprint.
- 2X power saved per batch.
- 12X faster machine turnaround.
- 33% shorter lead times for customers.

Larger orders have seen the most significant benefits from the 4x throughput and 12x faster machine turnaround offered by the SF100. As an example, Drew Overley, SLS Supervisor at Prototek, recalls a recent order that would have taken 10 runs on the PostPro3D machine.

"With the SF100, we were able to complete it in roughly 7 runs. Plus, we were able to do an additional run in the SF100 per day. That means the order could be ready by the end of the day instead of midday tomorrow. The speed and efficiency of the SF100 have been a game-changer for us," Overley said.

Conclusion:

The collaboration between Prototek and AMT demonstrates the benefits of embracing cutting-edge technology in the 3D printing industry. By investing in the latest machines and optimizing operational efficiency, Prototek has positioned itself as a leader in the additive manufacturing sector, ready to meet the evolving needs of its customers.





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