



MatterHackers

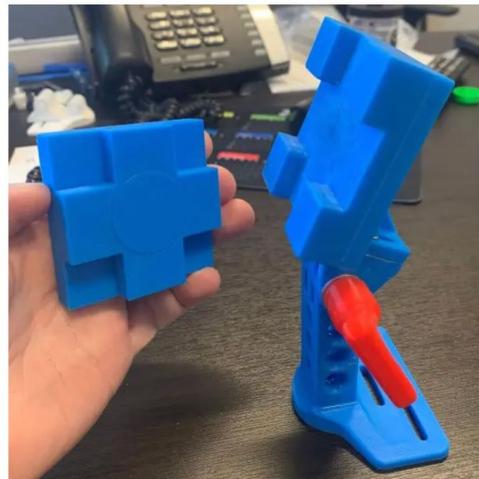


Metro Plastics - Injection Mold Company Looks to 3D Printing to Solve Operational Bottlenecks

With the always-on productivity of the [Ultimaker S5 Pro Bundle](#), Metro Plastics found a solution to their long lead times, while also saving up to 90% on parts.

Scott Adams has been at Metro Plastics for 14 years where he now oversees engineering. After graduating from Purdue University and working for Delphi Electronics for a few years, he reached out to the Manufacturers Association of Plastics Processors (MAPP) to look for a new position. The president of Metro Plastics, a company focused on custom injection molding, sat on the board of MAPP – after connecting, Adams took a position at Metro Plastics and has been there ever since, starting off as a sales engineer, then project manager, and now has taken over as the manager of engineering.

When asked why he stays, Adams communicated how he loves the fact that every day is completely different. “Getting new parts from customers daily is dynamic and exciting,” he said. As an engineer, he gets to problem-solve all the time!



Left: 3D printed end-of-arm tooling solved Metro Plastics' initial problem. Right: Metro Plastics found many more 3D printing applications, like this quality control fixture

Solving the lead time problem

Metro Plastics was struggling to get end-of-arm tooling parts machined in a timely manner from their internal tool shop. If the tool shop wasn't busy, it might only take a week or so – but if they were overloaded, it may take a few months.

Adams knew a better solution was out there and had been hearing about additive manufacturing for a long time. When he started wondering if this might be right for Metro Plastics, he reached out to his friend, Matt Torosian, who is a director for Jabil's Additive Manufacturing Materials division. Matt immediately suggested Ultimaker. With the goal of a quicker turnaround time, and an added bonus of the endless amounts of material choices through Ultimaker's open material platform, it was a no-brainer.

After deciding on Ultimaker, the next question was what printer? For a larger build plate, to maximize air quality in the office area, and to easily swap materials, the decision was clear: Metro Plastics went with the Ultimaker S5 Pro Bundle.



Custom 3D printed tool storage, demonstrating the lean manufacturing 'poka yoke' principle

Implementation

Once the Ultimaker 3D printer arrived, with the team's 3D CAD skills, learning Ultimaker Cura software and the Ultimaker S5 Pro Bundle 3D printer was simple.

Adams was able to set up the printer and start printing parts the same day.

When Metro Plastics purchased their 3D printer, they had no idea the amount of applications that would be possible. Adams initially thought the Ultimaker S5 Pro Bundle would only be used for end-of-arm tooling, but quickly realized there were many different uses for their Ultimaker printer:

- Fixtures: General and assembly fixtures as well as CMM
- Automation: End-of-arm tooling
- Equipment: Casings and brackets
- Prototypes: Internal design and customer prototypes

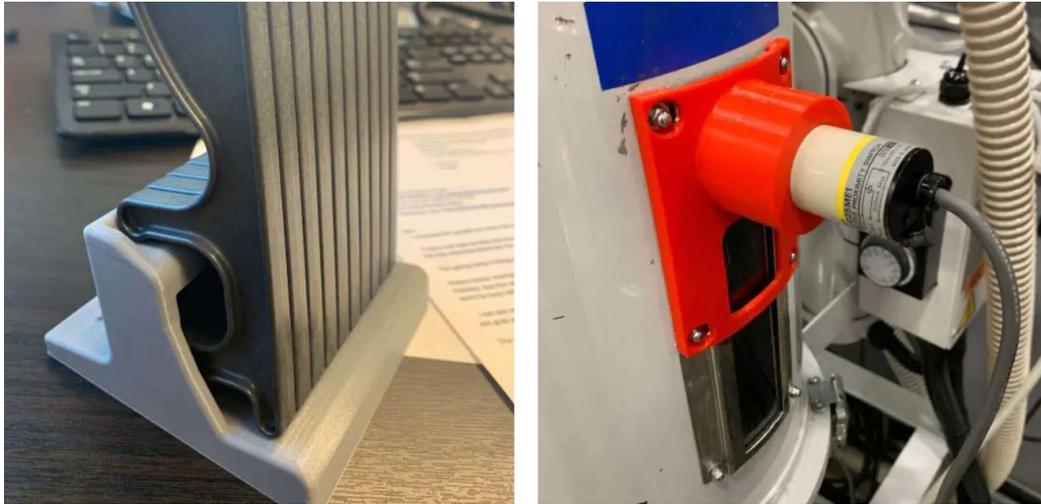
"My original thought was that we'd be printing a fixture once a week," divulged Adams, "but that thing runs every single day! We're constantly thinking about 3D printing instead of outsourcing to the point that our production department now comes to us first to ask if a part is possible before going to our tool shop or an online catalog to purchase."

The results

Now, Adams' department rarely outsources. Before their Ultimaker 3D printer, everything was done by their in-house machine shop, where they employ a handful of toolmakers. "We can't create our injection molds with 3D printing," Adam states, "but besides that, we utilize our Ultimaker printer for almost everything else." Their favorite material to print with is Jabil's PA4035 material, which is carbon-fiber filled nylon, and have yet to break a part as a result of its strength.

To give an example of the cost savings they found, Adams created sensor brackets, which are around \$40 to \$50 for the metal part and take a few days to arrive at the facility. "With the Ultimaker S5 Pro Bundle, we can have the part printed same day at \$5 a part," Adams declares.

With the use of their Ultimaker printer, Metro Plastics has minimized part turnaround time and cost, rapidly getting injection molded parts into their customers' hands. A true engineer at heart, Adams has found a way to solve even more problems – this time not only for his customers, but also his team.



Left: A 3D printed packaging nest to help organize parts. Right: Metro Plastics achieved 85-90% cost reductions for sensor bracket parts by 3D printing them in-house

To learn more about how Ultimaker 3D printers can help your business with manufacturing, production, and tooling, reach out to sales@matterhackers.com or call (949) 613-5838.