

New possibilities in manufacturing: priomold demonstrates targeted use of plastic injection molding and 3d printing

Interaction of the two manufacturing processes leads to effective solutions in the production of plastic parts

When it comes to manufacturing plastic parts, plastic injection molding and 3D printing are often in competition with each other. priomold now shows that the two manufacturing processes can also lead to effective solutions when used together.

Both processes with advantages and disadvantages

Plastic injection molding or 3D printing? Manufacturing companies are faced with this question frequently. Both processes have their individual advantages and disadvantages. Therefore, it is often certain criteria that speak for or against one method.

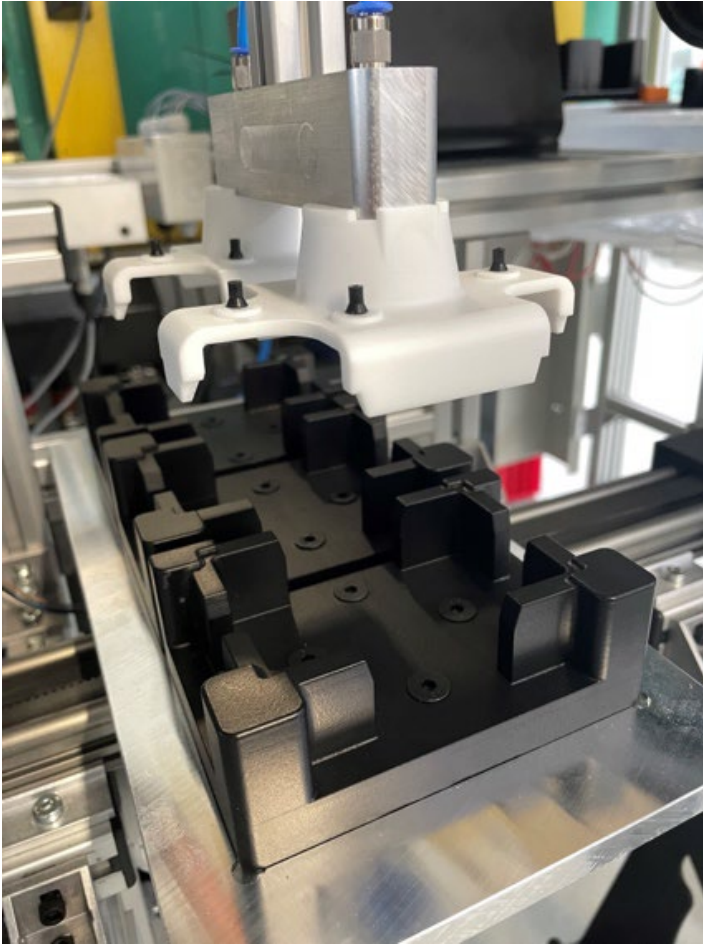
Injection molding, for example, is particularly suitable for high volumes, often starting at 500 parts. In some cases, plastic injection molding is already worthwhile for smaller quantities. It also offers users a very high surface finish and an almost endless choice of plastics. 3D printing, on the other hand, is ideal for complex prototypes, customizations and individual plastic parts. And even if you need a part that can withstand mechanical stress within three days, 3D printing is usually the better choice.

Automation through combination

priomold now combines the two manufacturing processes into one effective application. For a self-developed automation solution, the handling system of the injection molding machine removes the still warm injection molded parts from the injection mold and places them in a part fixture. For parallelization and cycle time optimization, a linear robot takes the components out of the holder and transfers them to an inspection station. Here, the quality of the parts is visually inspected before they are automatically packed into trays by a jointed-arm robot.

Parts pick-up, trays and gripper were developed in-house at priomold. The fixture and gripper were 3D-printed from PA12 SLS in in-house additive manufacturing. To ensure that the grippers work precisely and do not damage the injection molded parts, both grippers and part receptacles were chemically smoothed afterwards. The trays, which are made specifically for certain parts, are required in large quantities of 2,000 pieces and are therefore injection molded. These trays are used by the end customer in automation to enable further processing of the components. priomold has cleverly exploited the advantages of both processes and used them specifically for the respective area of application.

„Automation has allowed us to reduce cycle time by 50%, perform manufacturing and part inspection without human intervention, and run the operation automatically in three shifts. This increases the efficiency of this process chain enormously. A win not only for us, but especially for our customer!“ explains CTO and company founder Moritz Zumdick.



Source: priomold GmbH

About priomold GmbH

The fairly young company, founded by [Thomas Schönbacher](#) and [Moritz Zumdick](#) in 2015, specializes in the rapid delivery of plastic injection molded parts, offers mold construction (over 500 new molds per year) for prototypes and small series, as well as engineering support in the field of plastics. In the meantime, the company has grown to over 60 employees and is continuing to expand. What essentially sets priomold apart is its short delivery times for molds, injection molded parts and additively manufactured components. The fastest project was completed in two working days; on average, a new mold is ready within two to three weeks. Multiple awards as Growth Champion and TOP100 for Innovation 2022 are the confirmation of priomold's development.

www.priomold.com