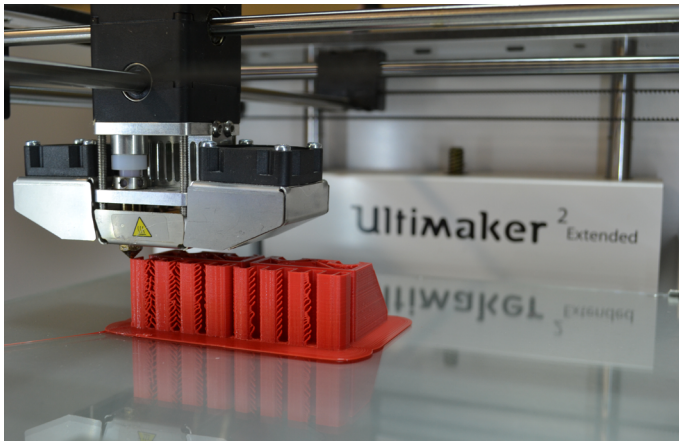


# Cutting costs and time prototyping automated solutions



*"In a matter of minutes to hours, we can have an idea printed and ready for client presentations—much faster than machining or using a third-party source. Lead time to present ideas is dramatically decreased with Ultimaker and provides more control."*

— Brian Hagar,  
Hartfiel Automation Outside Sales Manager

Hartfiel Automation uses Ultimaker to save time and money,  
creating tangible prototypes for customers.



## Company

Hartfiel Automation

## Industry

Pneumatics, Motion Control, Robotics

## Challenge

Hartfiel Automation needed a solution for prototyped products that were easy to test and present to customers, while also cutting back on costs and production time.

## Solution

After adding Ultimaker 2 Extended+ 3D printers to their process, Hartfiel Automation reduced prototyping costs from an average of \$125 to an average of \$4 per component.

## Results

- Tangible prototypes for customer visualization
- Time savings from ease of use during production
- Notable cost savings on Evolving R&D demands
- Reliability for seamless prototyping and design

## Hartfiel Automation - Introduction

Hartfiel Automation is a high-tech provider of pneumatics, motion and mobile controls, and robotic solutions. Creating a wide range of solutions to service industries like agriculture, specialty machine, medical, and mobile equipment, they understand the value that comes from consistent and reliable design iterations. As they continue to diversify their hydraulics, robotics, and automation offerings, the Hartfiel Automation team is quick to adopt innovative technologies like 3D printing.

Once they began iterating prototypes on the Ultimaker 2 Extended+ they saw immediate benefits of a streamlined production process, enhanced efficiency, and hands-on product testing during customer meetings. Hartfiel Automation is now able to prototype pneumatic manifolds, robotic cell pick and place stations, end of arm tooling, and customized hardware for their manufacturers. Machining these products directly without prototyping would cost an average of \$3,500 while also increasing the risk of mistakes and redesigns. With Ultimaker printers in-house, the Hartfiel Automation team is able to save hundreds of dollars and days of production time.

## Challenge

Outsourcing designs to machine their products would cost Hartfiel Automation an average of \$125 per component, and would take one to two weeks to complete with an external supplier. They needed to solve manufacturing pain points and utilize unique return on investment tools through cost-efficient means, generating prototypes for hands-on customer meetings.

## Solution

Incorporating Ultimaker 2 Extended+ 3D printers to their workflow lowered their prototyping costs from an average of \$125 to an average of \$4 per part. In addition to saving money they drastically reduced the time spent creating their component designs from days or weeks to mere hours, and they now have the ability to test and discuss designs with customers.

## Results

Hartfiel Automation Outside Sales Manager Brian Hagar states, "Having a tangible product to touch and place into a system for size inspection helps our customers visualize what the end solution could resemble." The reliability, performance, and fine precision of their Ultimaker 3D printers creates a worry-free work environment for Hartfiel Automation designers and engineers.

## Cost Comparison

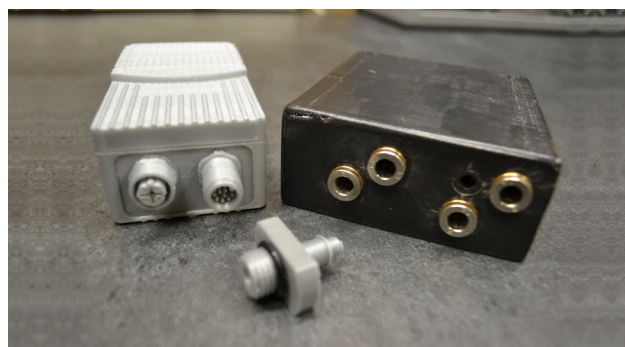
	Ultimaker 3D printer	External vendor
<b>Costs</b>	\$4 per component	\$125 per component
<b>Time</b>	3 – 5 hours per component	1 to 2 weeks per component



*With the ability to iterate designs, Hartfiel Automation can correct minor flaws and easily keep up with evolving R&D demands.*



*Time savings allows for greater flexibility in design and custom alterations, which improves customer hands-on experiences.*



*The reliable performance of their Ultimaker 2 Extended+ printers means consistent and quality prints during production.*

## About Ultimaker

Ultimaker's desktop 3D printers offer a low-cost, effective alternative to industrial manufacturing. User-friendly operation and simple maintenance makes it accessible to all users, and no advanced training is necessary. With Ultimaker 3D printers, software, and materials, experience industrial-grade 3D printing results designed to empower your business.

General inquiries: [info@ultimaker.com](mailto:info@ultimaker.com)

Find a local reseller: <https://ultimaker.com/en/resellers>

**Ultimaker**

