

3D PRINTING

FOR PRODUCTION MANUFACTURING

FORECAST 3



It's time to think differently about manufacturing.

Taking an idea from prototype to production is no longer bound by the constraints of traditional manufacturing methods. In the era of Industry 4.0, companies are mitigating risk, cutting costs, and speeding time to market with 3D printing – a process that is predicted to revolutionize the world of production.

Since its creation in 1983, 3D printing has evolved from a one-dimensional service used for rapid prototyping to a \$7.3 billion dollar industry with a footprint in a wide span of industries. Its evolution now helps power the world of manufacturing, increasing innovation and promoting efficiency and sustainability across the globe.





Benefits

SPEED: One of the main benefits of **additive manufacturing** is the speed of which parts can be produced compared to traditional manufacturing methods. With Forecast 3D's **3D Manufacturing Center** (powered by 24 **HP Multi Jet Fusion** 3D printers), customers can get tens of thousands of parts in days, whereas traditional manufacturing methods like injection molding, often done overseas, typically take a month or more to complete.

DESIGN FLEXIBILITY: **3D printing** allows for the creation of extremely intricate designs and complex geometries that would often be complicated or even impossible to produce with traditional manufacturing methods. With additive manufacturing, customers can reiterate their designs and have updated parts quickly. With injection molding, tooling changes are required for every little design tweak, often resulting in several more weeks of waiting. The design flexibility of 3D printing is also highly valuable for unstable designs.

MANUFACTURED LOCALLY: With Forecast 3D's 3D MFG Center, parts are made in the USA. Localized manufacturing can save time, money, and confidence in the protection of IP.

COST: Depending on the design and quantities needed, using additive for production can be less expensive. This is especially true as products are ramping up and quantities are lower. Utilizing 3D printing in your manufacturing process can also free up cash used for high tooling and warehouse costs.

Reducing Production Costs with 3D Printing

DESIGN: The ability to reduce part count by combining assemblies and light-weighting parts are two of the most obvious benefits of additive manufacturing. Both of these design considerations can not only reduce the cost of production, but can also lead to fuel savings and higher performance.

PARTS ON DEMAND: The ability to have little to no stock and produce parts on demand can drastically reduce the cost of parts over time.



3D printing is no longer just for prototyping.

It has evolved, and is continuing to evolve, from a prototyping technology to a production technology.

New additive manufacturing processes like HP's [Multi Jet Fusion](#) (MJF) technology are now enabling high volume production that meet the mechanical, speed, and cost requirements set by OEMs. The latest advances in speed, accuracy, and performance empower 3D printing to compete against traditional manufacturing methods, and often times replace injection molding.

Prototype vs Production

Prototype, Series Production, & Mass Production can all be achieved with Forecast 3D's [MJF 3D Printing](#) technology:

PROTOTYPE is the crucial beginning phase of product development. In this step, anywhere from 1 to 100 parts are required, dependent upon the extent of testing and validation.

SERIES PRODUCTION, also referred to as batch production, begins when prototypes have been validated, marketing is complete, beta sites have been identified, and product sales have begun. This is generally from 100 to 2,000 quantity runs.

MASS PRODUCTION is when a product is entering its maturity, with quantities in the thousands and tens of thousands.



FORECAST 3D



World-Class Additive Experience

FORECAST 3D provides a unique depth of custom manufacturing and **3D printing services** to a wide variety of industries including Aerospace, Defense, Healthcare, Automotive, Consumer Goods, Design, and more. Since 1994, we have been empowering companies to bring their ideas to life - faster - with the best in Additive Manufacturing technologies.

To find out more, visit www.forecast3d.com