



## Norman Noble, Inc. Announces Additive Manufacturing Capabilities

*New 3D Printing of metal alloys capability enables manufacturing of next-gen medical devices and implants with internal features and custom surface structures*

HIGHLAND HEIGHTS, OHIO – April 10, 2018 – Norman Noble, Inc., the world’s leading contract manufacturer of next-generation medical implants, now has additive manufacturing capabilities, a manufacturing solution for new product designs that could otherwise not be produced using standard methods. Additive manufactured, 3D printed parts can be made from metallic based alloys including: Titanium, Stainless and Cobalt Chrome. The ability to produce additive-manufactured parts from Magnesium and Nitinol also is currently under development.

Norman Noble will use the 3D printing technology for a variety of customer needs including shape-setting fixtures for nitinol-based rapid prototypes, prototype-to-production manufacturing for next-gen medical implant designs and the manufacture of aerospace and commercial parts.

To support its Additive 3D printing capabilities, Norman Noble has also purchased a state-of-the-art Computerized Tomography Inspection System that provides complete dimensional analysis of all internal and external part features. In addition, this technology enables the dimensional inspection of very complex geometries that conventional systems are unable to perform.

As engineers conceive new products or designs they can be uncertain of the manufacturing capability, but Norman Noble can produce the conceptual product on our 3D printer, X-ray it on our CT scanner and email our customer a virtual part within minutes after it is printed including full metrology data. Thus the manufacturing capability is designed into the product upfront and the design for manufacturability cycle becomes shortened dramatically. This is a service that no other contract manufacturer can provide.

“Given our long history of developing internal laser cutting and laser welding systems, I strongly believe we have the laser experience and expertise that can be leveraged and applied to the metallic laser sintering printing process,” said Chris Noble, vice president and chief operating officer at Norman Noble. “We plan to take the current 3D printing capabilities to another level - including finer finishes, finer feature detail, and new materials not currently commercially available. Combined with our new CT scanner that instantly provides complete external and internal metrology data of our 3D printed products to our customers, we are going to work hard to provide a service that will surpass our competition.”

### **About Norman Noble**

Established more than 70 years ago, Norman Noble, Inc. remains a family-owned and -operated company offering the most advanced processes for ultra-precision micromachining of medical implants and aerospace parts. The company is known for its exceptional ability to produce nitinol based implants, and achieve sub-miniature precision beyond the reach of most manufacturers. Norman Noble is a supplier to most of the largest OEM's and well-known names in the medical device industry.

Norman Noble manufactures medical devices and implants to customer specifications in compliance with FDA regulations and ISO 13485. State-of-the-art processes include athermal laser machining, laser welding, Swiss turning and milling, conventional and wire EDM, high-speed 7-axis contour milling, electropolishing, nitinol shape setting and clean room assembly and packaging. Rapid development prototyping services are available in separate and fully dedicated process development centers. FDA Registration #1531050. Virtual tour and more information: [www.nnoble.com](http://www.nnoble.com).

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