



GE, Synova and Makino Partner to Develop Advanced Manufacturing Machinery for More Efficient Gas Turbine Production

Three Forces Collaborate to Efficiently Produce GE Gas Turbine Parts Using Laser Microjet® Technology

TOKYO—October 29, 2014—GE (NYSE: GE) announces an innovative manufacturing machine designed to produce gas turbine parts using [Laser MicroJet® technology](#), a pioneering laser-cutting method. The development of this machine highlights GE's partnership with Synova, a leading Swiss provider of innovative laser-cutting systems, using high-precision machining technology from Makino Milling Machine, a world-class Japanese manufacturer of advanced machine tools.

The new machine will significantly reduce the time required to produce cooling holes in turbomachinery components. Moreover, this machine will enable further development of GE's cooling technologies to improve gas turbine performance and extend parts life for customers. This manufacturing technology is being utilized for GE's latest advanced gas turbines as well as the company's aircraft engine production process.

Some turbomachinery components, such as those in the hot gas path, are exposed to temperatures of more than 1,300°C (2,400°F), requiring the use of special materials such as thermal barrier coatings. The new machine provides [precise through-hole drilling](#) in these materials, which plays a critical role in providing cool airflow to components.

Laser MicroJet® technology combines the advantages of water and laser cutting into one operation. The laser beam is entirely contained within the water jet as a parallel beam, similar in principle to the optical fiber. This facilitates accurate cutting of porous or layered materials with minimal thermal and structural distortion. Combining Makino's high-precision machine technology and GE's fine-hole drilling software, this new technology provides efficient hole drilling.

In June of this year, GE broke ground on its first-ever [Power & Water Advanced Manufacturing Facility](#) in Greenville, South Carolina, U.S.A. The facility will serve as an incubator for innovative advanced manufacturing process development and rapid prototyping. It will allow GE to bring breakthrough technologies to market even faster, driving technical innovation and ultimately greater productivity at a lower cost and greater reliability for customers.

About Synova

SYNOVA S.A., headquartered in Lausanne, Switzerland, manufactures leading-edge laser cutting equipment based on its patented liquid jet guided laser technology. Customers benefit from higher yields, higher quality and enhanced capabilities. For more information, contact them at info@synova.ch or visit www.synova.ch.

About Makino Milling Machine

Makino Milling Machine Co., Ltd., founded in 1937, headquartered in Tokyo, Japan, manufactures and distributes worldwide high performance machining centers, electrical discharge machines and CAD/CAM systems. Makino is committed to providing industry-leading technologies and innovative process solutions for the die/mold, automotive, medical and aerospace industries. Makino started collaboration with SYNOVA in 2012 manufacturing the machine-body and interface with SYNOVA's laser-cutting equipment. For more information, visit <http://www.makino.co.jp/en/index.html>.

About GE

GE (NYSE: GE) works on things that matter. The best people and the best technologies taking on the toughest challenges. Finding solutions in energy, health and home, transportation and finance. Building, powering, moving and curing the world. Not just imagining. Doing. GE works. For more information, visit the company's website at www.ge.com.

About GE Power & Water

GE Power & Water provides customers with a broad array of power generation, energy delivery and water process technologies to solve their challenges locally. Power & Water works in all areas of the energy industry including renewable resources such as wind and solar; biogas and alternative fuels; and coal, oil, natural gas and nuclear energy. The business also develops advanced technologies to help solve the world's most complex challenges related to water availability and quality. Power & Water's six business units include Distributed Power, Nuclear Energy, Power Generation Products, Power Generation Services, Renewable Energy and Water & Process Technologies. Headquartered in Schenectady, N.Y., Power & Water is GE's largest industrial business.

Follow GE Power & Water and GE Power Generation on Twitter [@GE_PowerWater](https://twitter.com/GE_PowerWater) and [@ge_powergen](https://twitter.com/ge_powergen), and on [LinkedIn](https://www.linkedin.com/company/ge-power-water).

###

For more information, contact:

Sumito Koike
GE Japan
+81 3 5544-3847
sumito.koike@ge.com

Kevin Norris
GE Power & Water
+1 678 844 4568
kevin.norris@ge.com

Aksinja Berger-Paddock
Synova S. A.
+41-21-6943500
berger-paddock@synova.ch