



## MAG's cryogenic machining process recognized as "game-changing technology" with Frost & Sullivan Manufacturing Leadership 100 award

Multi-patented breakthrough machining process places MAG among 100 world-class companies and individual leaders shaping the future of global manufacturing.

Erlanger, KY, February 27, 2013 – Frost & Sullivan's [Manufacturing Leadership Council](#) has named MAG IAS, LLC to its 2013 Manufacturing Leadership 100 list to receive an award in the "Game-Changing Technologies" category for the company's cryogenic machining process. The global awards competition is judged by an expert panel of industry executives and government leaders, and recognizes 100 companies and individuals from around the world who have distinguished themselves by pursuing breakthrough innovation.

"We have always believed cryogenic machining would be a transformative technology for our industry, and this award validates our investment and the hard work of dozens of engineers to bring a viable, cost-effective process to the commercial market," said MAG President Bill Horwarth. "In accepting this award, we must also acknowledge the work and guidance of our partners in the development process: the U.S. Navy, Creare, NavAir and Lockheed Martin."

MAG introduced the cryogenic machining technology at IMTS 2010, and made it commercially available at IMTS 2012. The unique, multi-patented cryogenic machining process enables higher cutting speeds for increased material removal and longer tool life by transmitting liquid nitrogen at 1321°F through a tool body, direct to the cutting edge. Ideal applications involve aggressive cutting in difficult-to-machine materials, such as titanium, composites, nickel-based alloys, and nodular or compacted graphite iron (CGI). The process has already been approved by the U.S. government for roughing titanium components for the F-35 Lightning II stealth fighter, and is now available exclusively on new MAG machines or as a retrofit on MAG's legacy-brand machines.

"Cryogenic machining's productivity increases are immediately recognized as a good return on investment," Horwarth added. "In addition, customers also see a significant ROI from the reduction of post-machining finishing operations, as well as the elimination of water-soluble coolants and reduction in machine maintenance. Cryogenic technology makes new installations less expensive and provides an improved working environment benefitting worker health and safety."

According to the ML100 category description for the Game-Changing Technologies Award: "winners in this category will have improved their competitiveness and efficiency by becoming aggressive early adapters of emerging technologies ... projects may also demonstrate the successful application of new tools and basic materials in the production process...and will also serve as examples of how these game-changing technologies will evolve and contribute in the future."

MAG and award recipients from seven other countries will be honored at the Manufacturing Leadership Summit, May 15, 2013 in Palm Beach, FL. For additional information on cryogenic machining, visit [mag-ias.com](http://mag-ias.com) or email [info-us@mag-ias.com](mailto:info-us@mag-ias.com).

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### About MAG

MAG is a leading machine tool and systems company serving the durable goods industry worldwide with complete manufacturing solutions for metal cutting and composites applications. With a strong foundation based upon renowned brands such as Boehringer, Cincinnati, Cross & Trecker, Ex-Cell-O, Fadal, Forest Liné, Giddings & Lewis, Hessapp, Honsberg, Hüller Hille, Lamb, Modul and Witzig & Frank, MAG is recognized as the preeminent provider of tailored production solutions based on state-of-the-art technology. Key industrial markets served include aerospace, automotive and truck, heavy equipment, oil and gas, rail, solar energy, wind turbine production and general machining.

With manufacturing and support operations strategically located worldwide, MAG offers comprehensive lines of equipment and technologies including turning, milling, hobbing, grinding, honing, systems integration, composites processing, cryogenic machining, maintenance, automation and software, tooling and fluids, and core components.

For more information about MAG, please visit: [www.mag-ias.com](http://www.mag-ias.com)