



March 30, 2018

**FORCAM SUPPORTS RESEARCH PROJECT
WITH LOCKHEED MARTIN AT DMDII**

FORCAM is leading a research project at the Digital Manufacturing and Design Innovation Institute (DMDII) in Chicago to learn how analysis of machine health information can lead to dynamically scheduled maintenance in the plant floor.

The project at DMDII is being conducted along with Predictrics, Lockheed Martin and Boston-based Northeastern University to look at how to combine real time overall equipment effectiveness (OEE) data with machine health data to improve the understanding of actual equipment health. Partner Advantech Corporation provides IoT intelligent hardware such as industrial PCs to enhance project success and visualization of metrics across the shop floor of Lockheed Martin's operations.

"Current dynamic scheduling software systems effectively assume that the machines are 100% healthy and that similar machines do not degrade at different rates," said Mohamed Abuali, Managing Director of FORCAM Americas. "The value of the proposed technology is changing today's factory operations from a reactive environment centered around preventive maintenance to an agile, just-in-time maintenance environment."

FORCAM team members and other researchers are looking at how this data analysis can significantly improve the availability metric of OEE, as well as reduce mean-time-to-repair (MTTR) and mean-time-between-failures (MTBF). Successful improvement in these metrics also could reduce spare inventory levels and cost impacts of machine downtime for an organization.

The Digital Manufacturing and Design Innovation Institute is where innovative manufacturers go to forge their futures. In partnership with UI LABS and the Department of Defense, DMDII equips U.S. factories with the digital tools and expertise they need to begin building every part better than the last. As a result, its more than 300 partners increase their productivity and win more business.

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Company Profile

FORCAM is the global Industrial IoT technology solution for manufacturing companies, providing a unified approach for sustained manufacturing excellence across all operations.

FORCAM's awarded technology suite FORCAM FORCE™ monitors the performance of over 80,000 machines globally and is deployed by best-in-class companies active in Automotive, Aerospace and Defense, Oil and Gas, and Medical Device discrete manufacturing industries. Customers achieve productivity increases far over 20% in less than 12 months.

FORCAM delivers the leading IIoT solution for Manufacturing 4.0. With FORCAM, companies make Manufacturing 4.0 quick and easy: The internationally awarded IIoT solution, FORCAM FORCE™, delivers the performance of a traditional MES along with the added value of a futuristic IIoT solution, which ensures a smooth transition to a productive smart factory environment.



Smart Factory Made Easy. Ready-configured solutions.

The technology of FORCAM FORCE™ offers access to pre-configured best-practice solutions that allow for a fast and successful start into Manufacturing 4.0. One of the solutions, the SMART FACTORY STARTER KIT, enables companies to start their Smart Factory with a select number of machines and start collecting real time data within hours - the starting signal for smart production.

Significant Productivity Improvements

For the first three months, FORCAM guarantees customers productivity gains of at least 5 percent. In the long run, shop floor management supported by FORCAM technology can increase productivity by more than 30 percent. In addition, profitability increases significantly: CFOs confirm a Return-On-Investment (ROI) with FORCAM in less than twelve months.

Shop Floor Management on a Single Platform

The FORCAM FORCE™ BRIDGE is so sophisticated that it collects data from machines of different manufacturers and year of manufacture - and makes it available to third-party systems via OpenAPI. Enterprise Planning (ERP / SAP), PLM, CAQ, Tool Management, Predictive Maintenance or Artificial Intelligence (AI) now become an integral part of a holistic solution to improve Operational Excellence.

From Manager to Machine Operator. Comparing Data in Real Time.

Big Data Becomes Smart Data: The FORCAM FORCE™ BRIDGE prepares machine data user-friendly in current and historical reports and displays succinct information and metrics in dashboards and online visualizations.

FORCAM stands for rapid Return-On-Investment (ROI), an increase of Return-On-Capital-Employed (ROCE), and a competitive surge in overall cost savings and reduction of waste. We Deliver Results in Productivity.

Phone: (844) 236-7226 | www.forcam.com

Sandy Abraham
Head of Global Marketing and Brand Management
We Deliver Results in Productivity
FORCAM, Inc.
4030 Smith Road | Cincinnati, Ohio 45209 | USA
Office: [+1 \(844\) 236-7226](tel:+18442367226)
Mobile: [+1 \(347\) 543-2100](tel:+13475432100)
Email: Sandy.Abraham@forcam.com