

# DYNAMAX AEROSPACE SUPPLIER

+20% OEE IN 3 MONTHS



DESIGN • MANUFACTURING • PERFORMANCE

## AT A GLANCE

Name: Dynamax, Inc.

Industry: Aerospace Supplier

Location: Wheeling, IL

## Benefits

- 20% productivity improvements in 3 months
- Direct labor efficiency increase
- On time delivery
- Increased machine utilization
- Cost reduction
- Shop Floor transparency

***“The impact of FORCAM’s Industrial IOT technology is measured with the vision to uncover even greater results for our business.”***

Ryan Lanham, Manager IT  
Dynamax, Inc.

## The Industry Challenge

With rapid growth of aviation around the world coupled with a focus on production efficiency for both commercial and military projects, the sky is the limit for the global aerospace industry. Aerospace suppliers like Dynamax and other manufacturers in the supply chain understand that staying ahead of the competition and meeting the growing need for finished products requires leaner production through technological investment. Dynamax, an aggressively growing aerospace supplier, rises to the challenge of smarter production and proactively drives greater capacity, speed to market, and overall competitiveness.

## About Dynamax

Dynamax is an engineering and manufacturing leader in the aerospace and defense industries with an unwavering commitment to get the job done right and deliver on time. Dynamax’ turn-key solutions provide customers with simplified logistics, reduced costs and superior quality components and sub-assemblies - from engineering support and prototypes, to custom-kitted, dock-to-stock solutions. Dynamax a certified or preferred supplier to major A&D companies, certifications include: ISO 9001:2015, AS9100 Rev D, and an ITAR registration. Products, Aerospace and Defense Applications include:

- Airframe Components and Assemblies
- Automated Production Cells
- Space Systems
- Weaponry Components
- Missile Structural Components.

## IIOT - Project Goals

At Dynamax in Wheeling, Illinois Continuous Improvement efforts are a crucial factor in daily operations. As a Low-Volume/High-Mix product environment Dynamax’ production is co-located with engineering for the purpose to maintain quality and increase performance. Working together, the team determined that the performance of machines needed to be measured in real time to quickly recognize and correct errors, reduce waste and continuously optimize productivity.

Dynamax carefully reviewed solutions available on the market and within their IT-ecosystem and decided to implement the FORCAM Industrial IOT platform. The goal was to measure machine utilization, performance, and output as a means to complement their Epicor ERP system.

### Key challenges:

- **Collection of OEE / KPIs**
- **Full Production Transparency**
- **Identification of bottlenecks**
- **Epicor ERP integration**
- **Machine utilization**
- **Reduction in machine downtime**

## The Solution

Today’s modern manufacturers are efficient and effective. As the demands on manufacturing change to single-lot orders and new business models emerge, more efficiencies are required to make good on the promises. Industrial IoT’s primary selling point is more connectivity, interoperability, and better analytics of data. Data analytics gets the entire manufacturing plant—from the corner office to the front line—up to speed in a hurry.



**“Dynamax drives manufacturing productivity with FORCAM. We have achieved**

# >20%

**in OEE productivity improvements in three months.”**

Ryan Lanham, Manager IT at Dynamax

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Data reaches workers with the speed they need to make, not just fast decisions, but the right decisions quickly. It begins with data, delivered to the people who have the skill to make better choices about how to turn that data into action and bottom line results.

#### Ready-Configured Solutions

FORCAM delivers Industrial IoT for manufacturing by providing a unified approach for sustained manufacturing excellence across all operations on a single platform. The ready-configured IIoT solution, FORCAM FORCE™, delivers the performance of a traditional MES combined with the added value of hi-tech IIoT. Implement fast and drive results.

#### Shop Floor Connectivity & Interoperability

The heart of the engine, FORCAM FORCE™ Bridge, is so flexible that it collects data from machines of different manufacturers and year of manufacture - and makes it available to third-party systems via OpenAPI. Any ERP, PLM, CAQ, Tool Management, Predictive Maintenance or Artificial Intelligence (AI) now become an integral part of the holistic Industrial IoT solution.

#### Significant Productivity Improvements

The Smart Factory Starter Kit guarantees productivity gains of at least 5 percent in 3 months. In the long run, shop floor management supported by FORCAM technology can increase productivity by more than 30 percent. CFOs confirm swift Return-On-Investment (ROI) with FORCAM in less than twelve months. Ramp up profitability.

#### Comparing Data in Real Time

Big Data Becomes Smart Data: The FORCAM FORCE™ Bridge prepares machine data user-friendly reports and displays succinct information and metrics in dashboards and online visualizations. Benchmark current with historic data at your regional plant or extend shop floor management across plants and supply chains in real time.

## Phase-1: 6-Machine Pilot

Dynamax started its pilot by phased approach by implementing the FORCAM FORCE™ IIoT platform on 6 heterogeneous machines: 1x DMG, 1x THS 120 Tilt, 1x Active 5, 3x Makino T1 with Heidenhain and Fanuc Controls using MTConnect®. Phase-1 included setting up real time machine data collection, web visualization and alerting. This first implementation phase helped Dynamax' shop floor to become familiar with the user interface and data showcasing the unique MES functionality of the IIoT platform. The template that was created in this process can be easily utilized for the planned 200-machine rollout. Machine connection therefore, does not take months or years.

## Phase-2: Connecting ERP

In Phase 2, Ryan Lanham, Manager IT connected to Dynamax' Epicor-ERP system to stream order data directly from the top floor to the shop floor. FORCAM's OpenAPI infrastructure allowed for total connectivity of the manufacturing business ecosystem. The shop floor can now efficiently work on orders with real-time information on progress and performance.

## Phase-3: DNC

In Phase 3, Dynamax' Smart Factory is complemented by FORCAM's Document Control - DNC-module, in order to amplify regulatory compliance for the Aerospace supplier.

## Status of Results

**Dynamax has achieved +20% OEE improvements in only three months.**

Speed, agility, and relentless innovation transform fundamentally how manufacturing businesses operate. Never imagined transparency, data insights on production, new metrics, and manufacturing processes bring substantial benefits to Aerospace suppliers like Dynamax. The unavoidable truth is that organisations can never stop transforming if they want to stay competitive and continue business tomorrow.