

Turning Industry 4.0 ambition into funded, approved projects

A TESTIMONIAL FROM CLEVELAND WHEEL & BRAKE



FOUNDED
1936 • Avon, OH

INDUSTRY
Aircraft wheel & brake
assemblies

ENGAGEMENT
CESMII SM Roadmap

Cleveland Wheel & Brake Systems is a leading manufacturer of aircraft wheel and brake assemblies serving the aviation markets. Founded in 1936, the company designs and manufactures mission-critical braking products used on general aviation aircraft and military helicopters. The team also provides technical support, repair and overhaul services, and spare parts through its global distribution network, with all wheel and brake assemblies manufactured at its facility in Avon, Ohio.

As a manufacturer of safety-critical aerospace components, Cleveland Wheel & Brake Systems quickly recognized the value of Smart Manufacturing and Industry 4.0 initiatives. With the goal of modernizing its production processes while continuing to meet customers' expectations for quality and reliability, the internal project team set out on its Smart Manufacturing journey.

The goal: A comprehensive strategy for modernizing manufacturing

Initially, Industry 4.0 and digitization seemed daunting, with technologies ranging from real-time production monitoring to AI and blockchain. After reaching out to the Manufacturing Works network, Cleveland Wheel & Brake Systems was introduced to the CESMII Smart Manufacturing Roadmap tools and CESMII Roadmap Professionals.

The project kicked off with the Business Practices Assessment survey, sent to roughly half of the organization, which generated insights leading to deep dives and workshops to identify and quantify SM initiatives. The team leveraged guidance from their designated CESMII Roadmap Professional to gain the clarity and focus needed to move forward.

The SM Roadmap provided a structured process that was crucial in aligning initiatives with tangible business outcomes. It enabled the team to communicate the bottom-line impact of Smart Manufacturing projects to senior leadership.

Results

>\$500K

In new Industry 4.0 initiatives approved

+10 pts

OEE gain in the Machining Department

<1%

COPQ as a percentage of sales

Since kicking off its work with CESMII, the SM Roadmap has become a key element of the company's business strategy. The ability to turn high-level ideas into actionable, quantifiable initiatives is changing the way operations teams communicate with leadership.

Since implementing the SM Roadmap, the team has also achieved significant milestones. Stockroom operations have been enhanced with barcodes and scanners, the machine

shop has integrated real-time production monitoring, and a dedicated team has been tasked to reduce the cost of poor quality.

This clarity helped transform the company's strategy into actionable projects, secure capital expenditure approvals, and drive real change within the organization. The SM Roadmap has been instrumental in Cleveland Wheel & Brake Systems' transformation, providing the framework and vision needed to turn Smart Manufacturing vision into action.

"The SM Roadmap is a tool we highly recommend for any organization ready to embark on their Industry 4.0 journey."

ROMAN BOYCHUK, MANAGER, MANUFACTURING ENGINEERING & OPERATIONS EXCELLENCE,
CLEVELAND WHEEL & BRAKE SYSTEMS

SM ROADMAP INITIATIVES

Real-time production monitoring

Machining Center of Excellence

Digital work instructions

Barcode & scanner stockroom

Cost of poor quality reduction

Business Practices Assessment



**See what's possible
for your organization.**

A CESMII Smart Manufacturing Roadmap aligns your people,
processes and technology to accelerate results and minimize risk.

Get Started Today!

ABOUT CESMII

CESMII – the Smart Manufacturing Institute – has a total current investment commitment of \$201M from Department of Energy funding and public/private partnership contributions, with a mandate to create a more competitive manufacturing environment in the US through advanced sensing, analytics, modeling, control, and platforms. CESMII is one of 17 Manufacturing USA institutes on this mission to increase manufacturing productivity, global competitiveness, and reinvestment by increasing energy productivity, improving economic performance and raising workforce capacity. For more information about CESMII, its history and Smart Manufacturing, visit cesmii.org.