CESMII Offers Funding for a Wide Range of Projects

Through funds awarded by the U.S. Department of Energy (DoE), CESMII manages projects in collaboration with our member organizations: manufacturers, system integrators, machine builders, software developers, academia and labs. The objective of these projects is to develop emerging technologies, drive research and innovation - delivering on our mission to democratize Smart Manufacturing.

ENABLING R&D PROJECTS

Closing specific technology gaps and solving some of the greatest challenges facing industry.

Smart Manufacturing for Chemical Processing: Energy Efficient Operation of Air Separation Unit

Energy Efficient Material Processing Through Automated Process Monitoring and Controls

Smart Thermal Processing

Smart Manufacturing of Cement

Production of Zero Defect (ZD) Slabs in Steel Continuous Casting

Energy Management Systems for Subtractive and Additive Precision Manufacturing

Inferential Modeling for Driving Out Energy Waste

Smart Connected Workers in Advanced Manufacturing

Data Modeling for Smart Aerospace Additive Manufacturing

SM of Pulp & Paper: Advanced ML Enabled Multi-Objective Control for Energy Efficient Operation of Brownstock Washing

Self-Powered Sensing and Data Science for Smart Manufacturing

Bayesian Dropout Approximation of Process Outcomes

Using Smart Manufacturing To Enable Energy-Efficient Manufacturing of Pharmaceutical Products

Improved Vacuum Arc Remelting (VAR) Processing

Hybrid Modeling for Energy Efficient CNC Grinding

SCAN ME

LEARN MORE

ECOSYSTEM & WORKFORCE DEVELOPMENT (EWD) PROJECTS

Building tools that showcase and drive the adoption of SM through educational content & delivery.

Factory 4.0
Educational Toolkit

Smart Manufacturing Workforce
Development Model

Scalable Curricula for Smart
Manufacturing Shop Floor

SM for SMM's in a Predominantly
Hispanic Workforce Region

Work Cell Simulator and Scenarios for
Teaching Smart Manufacturing Through
Operations Applications
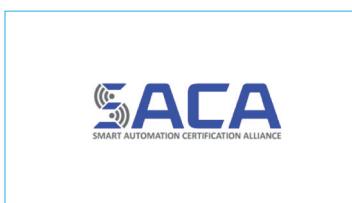
Modular Smart Manufacturing
Certifications

Scalable Smart Manufacturing Workforce
Development Community Model with
VR/Digital Twin Technologies

Smart Manufacturing Skills
Ladder for Undergraduates and
Incumbent Workers

SM PLATFORM CAPABILITY PROJECTS

Developing core capabilities and tools to advance the Smart Manufacturing Innovation Platform.

Packaged SMIP Smart Connector for
Ectron Computers

Smart Manufacturing Platform –
Smart App Infrastructure

Platform Azure
IoT Bridge

SM APPLICATION PROJECTS

Demonstrating capabilities of the Innovation Platform through real-world use cases.

Onboarding SMMs to Smart
Manufacturing Through CESMII

Edge Computing for MTConnect
Machine and Process Monitoring
for AI-Based PHM

Building Machine Profiles for the
SM Platform™

SM INNOVATION PROJECTS

Solving specific manufacturing problems while developing information models & SM apps.

Predictive Diagnostics of Tube Mill and Roll-Forming Equipment

SM Profiles for CNC Machining

Efficient ELISA Kit Manufacturing with Precision Productivity

Operational Efficiencies & Traceability Improvement Initiative

From Manual Operations to the Cloud: Using Smart Manufacturing Technologies to Enable Small Manufacturers

Optimize Continuous Cooling Tunnels for Industrial Food Processing

Reduction of Energy Consumption in Brewing Hop Drying Using Smart Manufacturing

Automate Supply Chain Optimization

Smart Warehouse with Augmented Reality

Apogean Legacy Machine Connectivity

Smart Downstream Processing of Monoclonal Antibodies (mAbs)

Improving Small & Medium Manufacturer Productivity with IoT Driven Smart Manufacturing

Development of A Suite of 3 Market Place Applications for Small & Medium Manufacturers

Machine and Process Health Monitoring

Auto Generation of SM Profiles Using the OPC UA -MTConnect Companion Specification

Robotic Work Cell Integration for Apparel Manufacturing

INTERESTED IN STARTING YOUR OWN PROJECT?

Projects are typically funded through RFP (Request for Proposals) announcements. Contact **roadmapprojects.info@cesmii.org** for more information. For a full list of all CESMII funded projects, please scan the QR code to visit our website.

LEARN MORE

DELIVERING VALUE THROUGH OUR PROJECTS

Roadmap → Deliverables → Funded Initiatives

Outcomes → Project Participants → Industry

Outcomes → CESMII Platform, Profiles, Marketplace | Knowledge Base, Education, Training → CESMII Members

CESMII
THE SMART MANUFACTURING INSTITUTE