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New ASME Report Shows Community Colleges Are Critical to Closing the U.S. Engineering Workforce Gap

ECMC Foundation-funded initiative positions ASME to scale engineering pathways to 80+ colleges and 3,000 students by FY28

NEW YORK (March 30, 2026) — A new white paper from the American Society of Mechanical Engineers (ASME) highlights how community colleges can play a decisive role in addressing the nation’s growing engineering workforce shortage while expanding access to high-demand careers. The report, [*Bridging the Gap: Accelerating Engineering Pathways through Community College Engagement and Work-Based Learning*](#), documents outcomes from ASME’s Accelerating Engineering Pathways (AEP) initiative, funded by ECMC Foundation and implemented through ASME’s [Community College Engineering Pathways](#) (CCEP) program with support from the [ASME Foundation](#).

As U.S. demand for engineering talent continues to rise, outpacing supply by an estimated one in three unfilled roles each year, according to analysis by the Boston Consulting Group, ASME’s findings point to [community colleges as a scalable, equity-centered solution](#). By aligning education with workforce needs, ASME’s AEP demonstrates how two-year institutions can strengthen the engineering pipeline while supporting students historically underrepresented in STEM.

“Community colleges are essential to the future of the engineering workforce,” said Kathleen Kosmoski, ASME’s director of workforce development. “This research shows that when students are connected to industry-aligned learning and real work experiences, they persist, succeed, and enter the workforce with confidence.”

Documented Impact with a Clear Path to Scale

Over its two-year implementation period, AEP engaged nearly 400 students and faculty across 15 community colleges nationwide, more than 60% of which were Minority-Serving Institutions. Partner colleges experienced a 37% increase in engineering-related enrollment, with women comprising more than half of participating students, far exceeding national engineering averages.

The white paper also outlines ASME’s roadmap for growth. Building on AEP’s success and expanding system-level partnerships, ASME aims to engage more than 80 community colleges and over 3,000 students nationwide by FY28, positioning CCEP as a national model for workforce-aligned engineering education.

EMPOWER: Connecting Education to Industry

Central to this effort is the ASME EMPOWER work-based learning model, designed to address persistent barriers such as limited employer networks, inconsistent internship structures, and geographic constraints. EMPOWER integrates project-based work, mentorship, and structured career readiness support to deliver high-quality experiential learning at scale.

For employers, ASME EMPOWER workforce engagement efforts provide early access to skilled talent while reducing the administrative burden of traditional internship programs.

“EMPOWER students demonstrate exceptional motivation and practical life experience, enabling them to apply logical engineering judgment earlier in their education and contribute meaningfully from day one,” says Cameron C. Martin, executive of OMS product management and growth at Westinghouse Electric Company. “Programs like EMPOWER strengthen the engineering pipeline by developing talent that is both technically capable and workforce-ready.”

EMPOWER placements increased by more than 150% in the program’s second year, with students reporting gains in technical skills, professional confidence, and clarity around career pathways.

Student and Faculty Voices Underscore Value

For students, the program offered more than technical training: it fostered belonging and momentum. JT, a participant who later started a CAD Club at Prince George’s Community College in Largo, Md., said, “EMPOWER didn’t just teach me skills. It gave me the confidence to create something that empowers others.”

Faculty partners also reported increased capacity to connect coursework with real-world engineering practice. Alicia Jackson-Warren, program director of career development and internships at Prince George’s Community College, noted that access to ASME professional resources and employer-aligned tools strengthened instruction and student engagement.

Advancing Engineering Together

The initiative reflects collaboration across the engineering community. In addition to ECMC Foundation-supported initiative, ASME is implementing the white paper’s recommended next steps, including expanded asynchronous learning resources, strengthened employer-faculty networks, and improved long-term outcome tracking.

“The engineering workforce challenge requires collective action,” Kosmoski said. “By working with community colleges, employers, and partner societies, ASME is helping lead a national effort to build a more inclusive, industry-ready engineering workforce.”

Looking ahead, ASME is working in coordination with partner professional societies including the American Society of Civil Engineers (ASCE) and the American Institute of Chemical Engineers (AIChE) to advance shared goals around workforce readiness, equity, and educational mobility.

“[ASCE’s 2025 Report Card for America’s Infrastructure](#) details significant needs that must be addressed to improve our aging infrastructure networks, and we cannot address these needs without strengthening our engineering workforce,” said Marsha Anderson Bomar, Ph.D., ASCE president. “ASCE’s educational

and college engagement programs include a focus on community colleges, as they offer a unique opportunity to quickly train ambitious students and connect them with employers. Engineering is a rewarding field that leaves a lasting impact on the communities in which we live, and without the community college pathway, we will continue to fall short of the necessary number of skilled engineers to complete all of the critical projects available throughout the country.”

The full ASME Accelerating Engineering Pathways white paper is available [here](#).

About ASME

ASME helps the global engineering community develop solutions to real-world challenges. Founded in 1880 as the American Society of Mechanical Engineers, ASME is a not-for-profit professional organization that enables collaboration, knowledge sharing, and skill development across all engineering disciplines, while promoting the vital role of the engineer in society. ASME codes and standards, publications, conferences, continuing education, and professional development programs provide a foundation for advancing technical knowledge and a safer world. In 2020, ASME formed the International Society of Interdisciplinary Engineers (ISIE) II & III LLC, a new for-profit subsidiary to house business ventures that will bring new and innovative products, services, and technologies to the engineering community. For more information, visit www.asme.org.

About the ASME Foundation

The ASME Foundation is the philanthropic arm of the American Society of Mechanical Engineers, supporting an array of programs in three core pillars: engineering education, career engagement, and global development. With the goal of empowering tomorrow's technical workforce, the ASME Foundation advances equitable access both to professional opportunities and to engineering innovations that improve quality of life. For more information, visit www.asmefoundation.org.

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