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FOR IMMEDIATE RELEASE – April 30, 2026

Electronics Manufacturing & Assembly Collaborative (EMAC) Returns with Bright Electronics Manufacturing Challenge 2026

Streamlined Three-Round Competition Challenges Student Teams to Design, Fabricate, and Compete with Custom PCBs at SMTA International

MINNEAPOLIS, Minn. -- The Electronics Manufacturing & Assembly Collaborative (EMAC) has announced the return of the Bright Electronics Manufacturing Challenge 2026, an immersive, hands-on student competition that puts real electronics manufacturing experience into the hands of the next generation of engineers. Registration opens now, with Round 1 beginning July 1, 2026, and the competition culminating at the SMTA International Conference and Exposition on October 27–28, 2026, at the Donald E. Stephens Convention Center in Rosemont, Illinois.

A Competition That Bridges Education and Industry

Building on the success of the 2025 challenge, EMAC has refined the competition into three high-impact rounds that take student teams from concept to competition. The Bright Electronics Manufacturing Challenge is a multidisciplinary, team-based experience designed to simulate a real-world engineering product development cycle. Teams of 2–5 students—spanning PCB design, embedded programming, mechanical integration, and project coordination—will design a custom printed circuit board to serve as the control center for a competition robot.

“The Bright Electronics Manufacturing Challenge puts students in the seat of a real electronics engineer, not just a student completing an assignment,” said Tara Dunn, SMTA Director of Training & Education and Project Lead for EMAC. “From PCB layout through hands-on assembly to a live robot competition, every round mirrors the pressures and rewards of the industry. We’re excited to see what this year’s teams will bring to the floor at SMTAI.”

Three Rounds of Real-World Engineering

Round 1: PCB Design Challenge (July 1–31, 2026 – Remote) Open to all eligible student teams, Round 1 challenges participants to design a PCB that will serve as the brain of their robot. Teams work within a defined layer stackup and board size while having the opportunity to add a custom feature of their own design—judged separately as a bonus. Deliverables include schematic files, fabrication outputs, DRC reports, and a design summary document. The top-performing team earns a **\$1,000 cash prize**, and all participants receive a one-year Altium Designer license and access to official Altium training curriculum.

Round 2: Assembly Excellence (October 27, 2026 – Rosemont, IL) Finalist teams advance to SMTA International for hands-on PCB assembly. Working in a timed environment with provided components, tools, and fabricated PCBs, teams are judged on soldering quality and workmanship. A **\$500 cash prize** is awarded for assembly excellence. Teams are responsible for procuring any additional components needed for their custom-added feature.

Round 3: The Final Challenge (October 28, 2026 – Rosemont, IL) The climactic finale brings student-designed robots to life on a custom arena floor. Teams demonstrate the integrated performance of their electronics, firmware, and mechanical systems under real competition pressure. The winning team earns a **\$2,000 grand prize** and recognition in front of the global SMTAI audience.

Eligibility and Registration

The competition is open to any active student enrolled in a technical school, undergraduate, or graduate program who will still be enrolled in Fall 2026. Teams of 2–5 members are required, along with a faculty advisor. The team registration fee is \$25. The registration deadline is **June 22, 2026**.

Sponsorships and volunteer opportunities are currently available. For more information about the Bright Electronics Manufacturing Challenge 2026 and to register, visit www.electronicworkforce.com/2026brightchallenge or contact Tara Dunn at tara@smta.org. For details about SMTA International Conference and Exposition, visit www.smtai.org.

About EMAC

The Electronics Manufacturing & Assembly Collaborative connects partners in education, industry, and economic development to build a skilled workforce that meets the evolving demands of the electronics manufacturing industry. Through innovative programs like the Bright Electronics Manufacturing Challenge, EMAC bridges the gap between academic learning and industry application. SMTA proudly supports EMAC's efforts to educate and inspire the next generation of electronics manufacturing professionals.

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