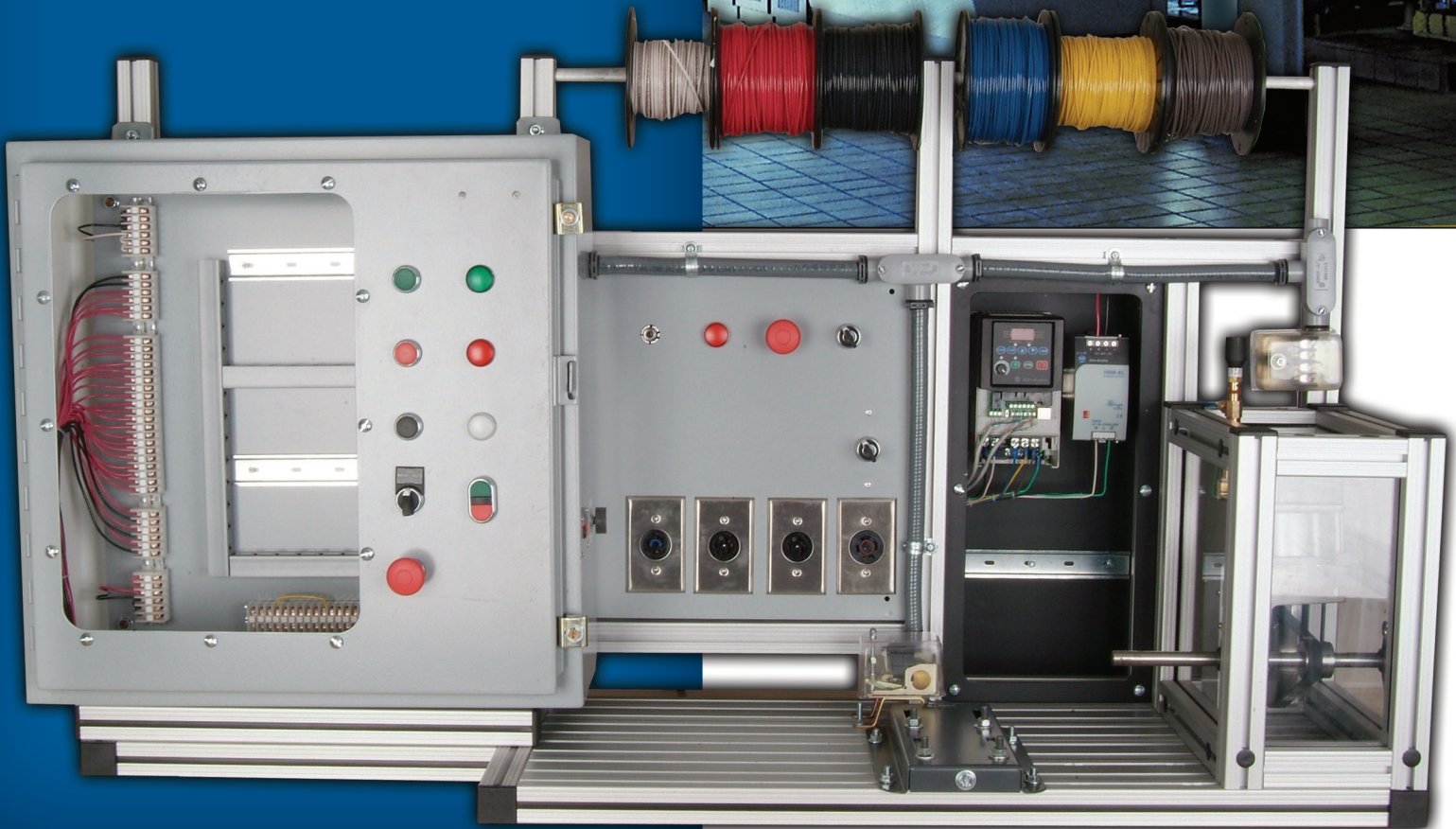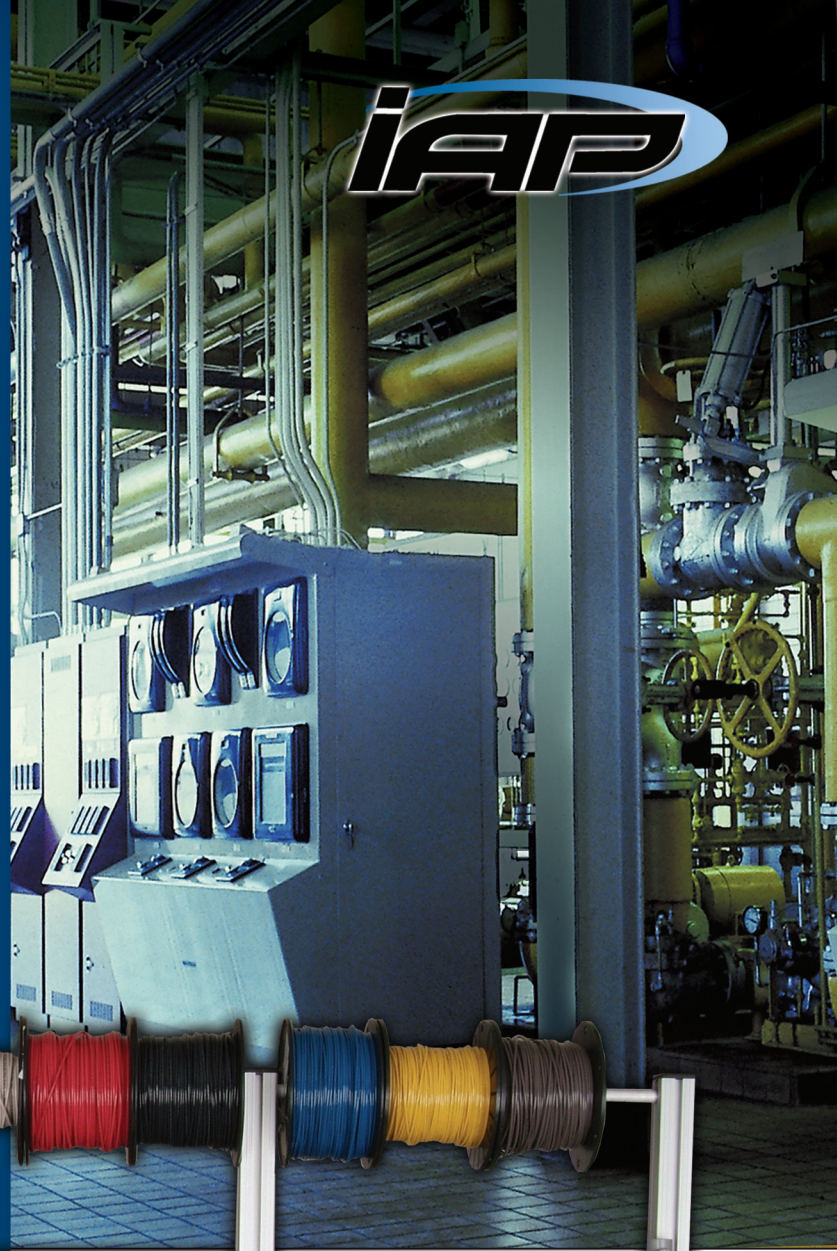# advanced manufacturing and pre-engineering program

a STEM Affiliated Program

Preparing for Technical Careers in High-Growth Industries

DEPCO's Industrial Automation and Pre-Engineering (IAP) program is a skill-based, hands-on, interactive learning system that promotes STEM learning. This program uses equipment and software that is standard in today's industries. IAP provides students with not only the basics, but also the advanced knowledge and troubleshooting skills needed to have the competitive edge in today's job market. This innovative program is designed as an advanced industrial automation and pre-engineering program ideal for secondary and post secondary schools.

Using the Mechatronics principle, the IAP courseware was developed and designed to address national and international skill sets. The IAP program is comprised of Industrial Training Centers (ITC). The lessons in each ITC are in a clear, defined format, which guides the student through challenging applications and projects. Science, technology, engineering, and math (STEM) are integrated into each instructional unit.

Mechatronics Principle

Instruction

Each ITC includes multi-level courseware designed to develop industrial skills and automation integration. Each level includes instructional lessons using the DEPCO Studio Media Player™ delivery system and full-color Industrial Training Manuals.

Level 1. Fundamentals

IAP level 1 introduces students to individual industrial automation and pre-engineering components, principles, and safety. Level 1 builds an important knowledge-base for future applications.

Level 2. Applications and Troubleshooting

Using the knowledge gained in level 1, students proceed to the second level, incorporating advanced equipment and software into practical applications. Students demonstrate industrial troubleshooting skills and complete hands-on projects.

Skills

IAP focuses on the development of academic knowledge, employability skills, and technical skills. As students progress through the courseware, the classroom instructor uses authentic assessment to subjectively evaluate the students' skill and proficiency.
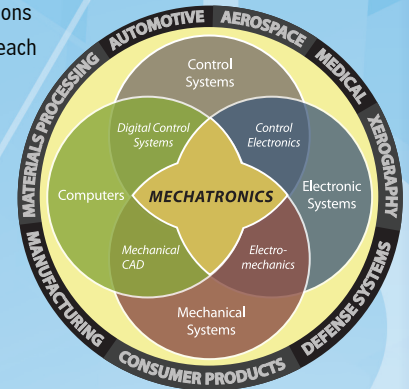
Featured Industrial Suppliers:

Mastercam.   **Starrett®**

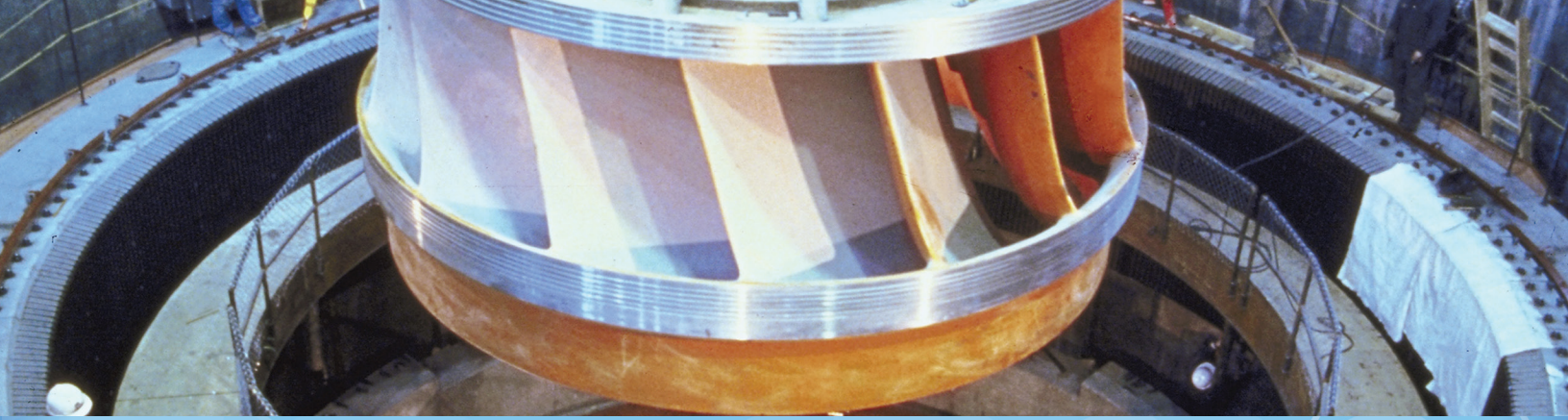**AB** *Allen-Bradley*   **BALDOR**

COOPER Bussmann   **S SOLID**WORKS

DEPCO
ENTERPRISES LLC

www.depcollc.com | 800.767.1062
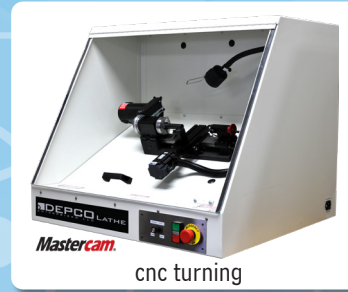
cad/cam

cnc machining

cnc turning

engineering design
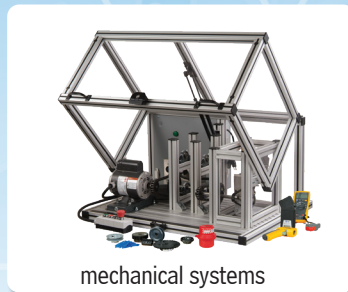
industrial hydraulics

industrial motor controls

industrial plc

industrial pneumatics

industrial sensors

mechanical systems

NAO - humanoid robotics

tolerance and quality control

GearsEdS Products

Totally Trebuchet - STEM Curriculum

Using the Totally Trebuchet curriculum, students not only learn how to construct a trebuchet, but also learn how mass, weight, and density affect the operation of a trebuchet. In this curriculum, students design, build, and test a trebuchet using the SOLIDWORKS® software.

Robotics Engineering

In the Robotics Engineering curriculum, students learn to construct a robot, build a drive train and cam, and they learn to properly install and connect pneumatic components using the Gears IDS kit. Students also learn to read, interpret, and construct CAD drawings using the SOLIDWORKS® software.

Brain & Sensors Package

Allow students to explore the exciting world of robotics and programming by using DEPCO's "Brain and Sensors" package. Package includes Gears EdS compatible Raspberry Pi, motor controller, and distance/proximity sensors.
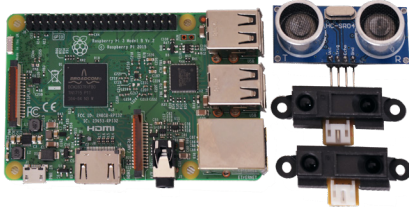
Raspberry Pi, distance sensor, and proximity sensors are shown.
Motor controller, sensor display, mounting kit, and cables not shown.

Gears Kits

- Invention & Design System (IDS)
- Heavy Metal Chassis (HMC)
- Heavy Metal Chassis (HMC) Lite
- Heavy Metal Articulating Chassis (HMAC)
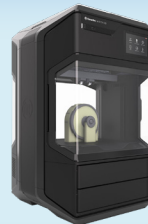- Surface Mobility Platform (SMP)
- Gears Upgrade Kits

Additional Products

| Furniture | SOLIDWORKS® 3D CAD software | Makerbot 3D printing | Dobot Magician |

DEPCO
ENTERPRISES LLC

800.767.1062 | sales@depcollc.com | www.depcollc.com