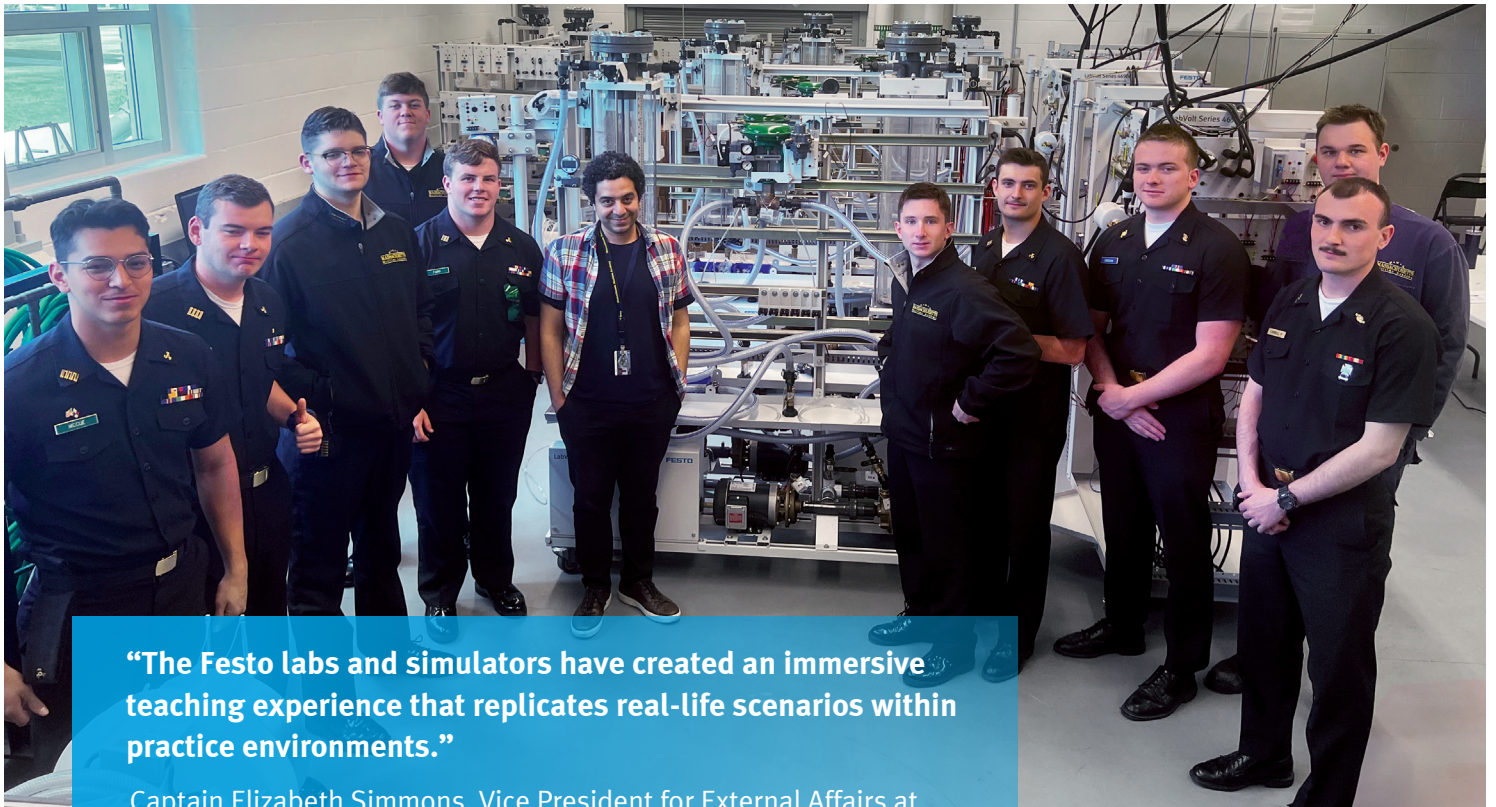


Instrumentation and Operational Controls for Facilities Management and the Life Sciences Industry

Massachusetts Maritime Academy (MMA)

FESTO



“The Festo labs and simulators have created an immersive teaching experience that replicates real-life scenarios within practice environments.”

Captain Elizabeth Simmons, Vice President for External Affairs at Massachusetts Maritime Academy.

The Challenge

MMA's undergraduate engineering curriculum needed an update. It provided traditional classroom training in fundamental instrumentation and operational controls, however, the Academy's engineering advisory board – in recognition of emerging advancements in instrumentation and control technologies – recognized the need for modern, state-of-the-art instrumentation and control laboratory spaces and curriculum.

The Customer

Massachusetts Maritime Academy is a top-ranked university in Buzzards Bay, MA. The Academy's undergraduate programs prepare students for careers in the Maritime industry as well as Life Sciences through engineering planning, design, and installation of technical equipment systems required for power generation and management.

These systems assist in the distribution of electrical power with the ability to engage in all facets of energy engineering. The fast-growing Life Sciences industry has a high-demand for graduates with technical problem-solving skills.

The Solution

Given a referral from AET Labs, a local reseller and education consultant, MMA selected Festo Didactic to provide their cadets with more effective hands-on training and equip them with the practical skills needed to work successfully in plant and facility management – particularly those supporting the growing Life Sciences industry in the Boston area.

“In consultation with the Academy’s Engineering Advisory board, which includes industry experts, the Festo equipment was selected as it allows for precise training and practice on pressure, flow, level, and temperature process learning systems, while introducing students to a wide

range of industrial processes that include instruments and control devices such as PLC plus control logics such as PID and On/Off,” explained Dr. Ashraf Omran, Associate Professor of Facilities Engineering at MMA.

The new learning systems feature process and instrumentation workstations that allow instructors to select specific equipment as a function of the training objectives. The energy efficient units allow for several configurations regarding pressure, flow, level, and temperature. The learning systems also include complex control loop strategies that simulate controlling a level in a boiler, advanced controls such as

cascade and feed-forward loops. “The new training systems definitely enhanced our existing Instrumentation and Operational Controls curriculum. Using state-of-the-art equipment like Didactic’s 3531 series is ideal to train students in facilities management and the growing process control industry. Modern technology-driven facilities require personnel experienced in complex operational controls, which these learning systems are specifically designed to provide,” Dr. Omran added.

Grant Funding from Massachusetts Life Sciences Center (MLSC)

With proposal support provided by AET Labs, a grant from MLSC was awarded. This allowed MMA to have their initial investment matched and plans for Phase I were underway. Phase I (Instrumentation, Operation and Controls (IOC) engineering laboratory) included the acquisition and installation of a technologically advanced training platform to better guide students through the study of pump systems, temperature, pressure and flow controls. The upgrades supported three undergraduate engineering program facilities, equipment, and curriculum.

The Value



“At our institution, we are focused on producing career-ready bachelor degree candidates. So we look to practical applications for our students and emphasize a close connection with industry to ensure that we’re producing students who can step in and serve the industry the day they graduate.”

– **Jim McKenna, Dean of Undergraduate Studies**



“Life sciences is a growing industry in Massachusetts. Mass Maritime Academy is making an impact on our local community by training their cadets in their state-of-the-art lab with Festo equipment and collaborating with local industry partners and high schools to help fill in-demand life sciences jobs.”

– **Dave Kempes, Principal and Founder of AET Labs**



“One of the best pieces of feedback is when cadets come back from their co-op or internship and say they were confident in their work because if it was not a Festo product they were working with it was something similar. Having already worked on the equipment in the classroom gave them confidence in the field.”

– **Dr. Ashraf Omran, Associate Professor, Facilities Engineering**



“The experiential learning courses allow cadets to gain hands-on professional training in public service or private organizations in their fields across the United States and abroad.

The coursework is designed to help ambitious individuals develop the skills they need to enter the Life Sciences industry in a high-growth, high-demand occupation as quickly as possible.

We’re also proudly providing adult continuing education and professional workforce development programs as well as supplementing middle and high school career exploration programming. Sequoia (formerly 42 North Solutions), JLL, Janitronics, Suffolk, and Ultragenyx Pharmaceuticals are some of the legacy Massachusetts Life Sciences organizations who consistently hire Academy interns and graduates.”

– **Captain Elizabeth Simmons, Vice President for External Affairs at Massachusetts Maritime Academy.**

Festo Didactic, Inc
12 Christopher Way
Suite 105
Eatontown, NJ 07724

www.festo.com