Establishment of
ICS & Cybersecurity Lab and
ICS/SCADA Training Program

Channel Islands
CALIFORNIA STATE UNIVERSITY

Presenters: Dr. Vida Vakilian & Dr. Reza Abdolee

Agenda

We are going to talk about

- Our new multidisciplinary ICS and Cybersecurity Lab
  - Why did we establish this lab?
  - What lab equipment and tools were built or provided?
  - How does this lab help Mechatronics and Computer Science programs?

- Our new ICS/SCADA training program
  - Why was this new program created and how it can help local businesses and the industry?
  - What are the main courses in this program?
  - How do we offer this program?

Mechatronics Program Laboratories at CI

Our mechatronics program had several main research labs:

- ◉ Embedded Systems lab
- ◉ Robotics lab
- ◉ Mechatronics lab
- ◉ Digital Design

Importance of Industrial Control Systems

Industrial Control Systems

- ICS is a vital part of any critical infrastructure and related industries

- ICS improves productivity and makes factories smarter and more efficient.

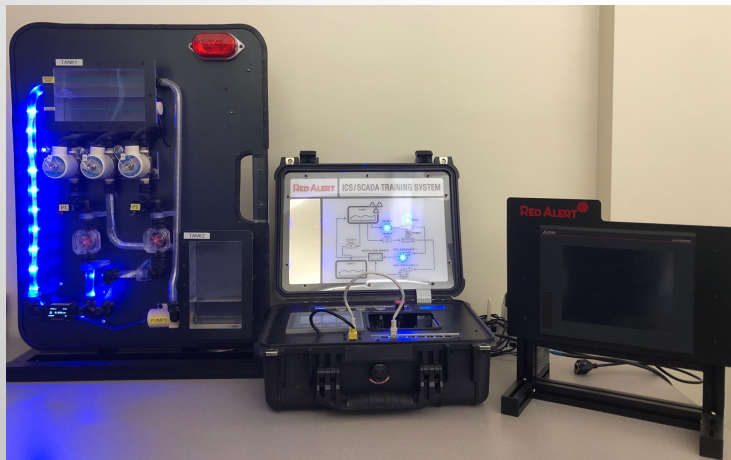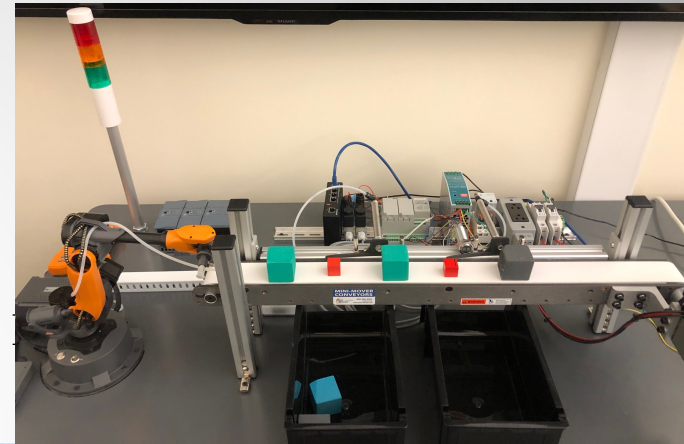- The industry expects Mechatronics students to be able to design and operates ICS

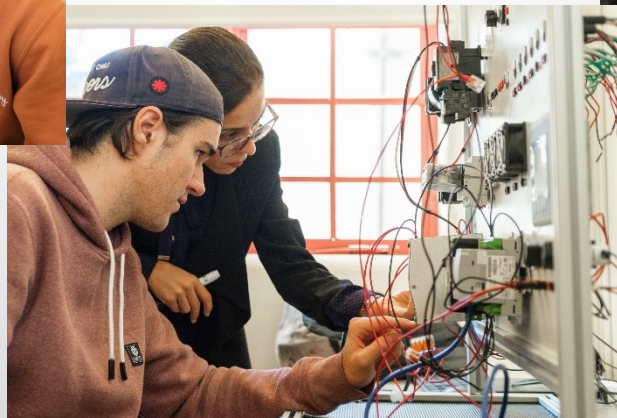These are the main reasons we established this lab to train our Mechatronics students.

ICS & Cybersecurity Laboratory at CI

ICSC Lab Equipment:

- ◉ Smart City
  - ○ Airport runs on Siemens PLC
  - ○ The transportation subsystem runs on Mitsubishi PLC
  - ○ Lighting on LS PLC
- ◉ Robotic Arm
- ◉ General ICS Control Panel runs on Allen Broadly
- ◉ New PLC testbeds under development
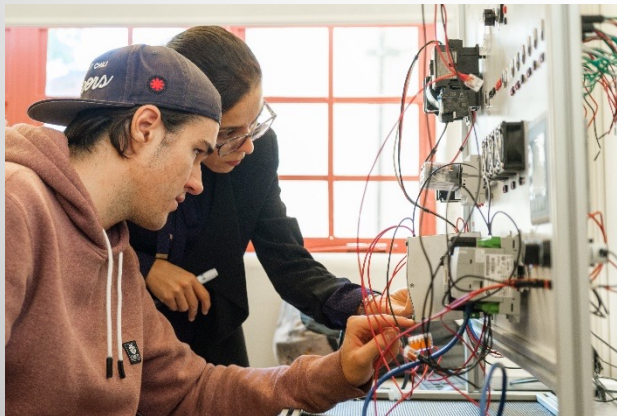- ◉ Nuclear Power Plant Fuel Cooling System
- ◉ Manufacturing production line

ICS/SCADA Training Program

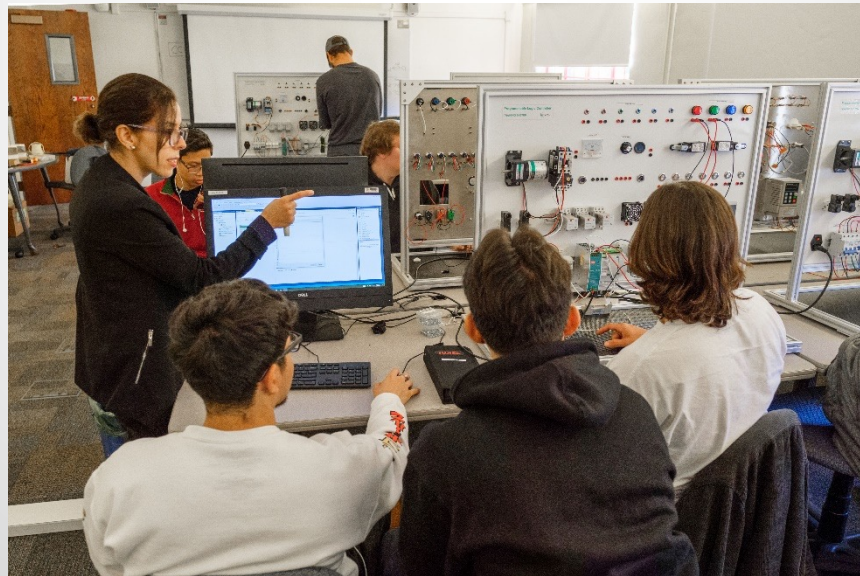# ICS/SCADA Program through Extended University

Reason to create this program:

- There are a lot of manufacturing and critical infrastructure in the region that needs staff training

- No ICS/SCADA hands-on training programs in the region

- This program is designed to help the local industry to train their staff

- This program is also designed to prepare fresh graduate students who have not got a chance to receive this kind of training

ICS/SCADA Training Program

We are offering three technical and valuable training courses as part of this program at CI

- ◉ **PLC Basics and Fundamentals**
- ◉ **Industrial Automation using PLC and HMI**
- ◉ **SCADA Fundamentals and Programming**

Thank you for your time!