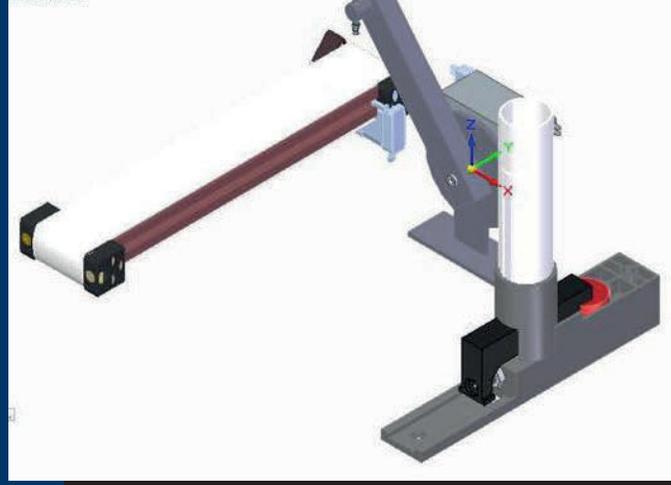


Virtual Commissioning Capstone Project wins first prize in the Electromechanical Category



Partner Organization

Siemens
Inoprod

Capstone Coordinator

Andy Alubady

Capstone Group Members

Harsh Sandip Parekh
Sakshi Jangra
Ranjana Saini



Mechanical and Electrical Engineering Technology - Business Case

Founded in 1967, Sheridan is one of Ontario's leading post secondary institutions, attracting students from across Canada and around the world.

To complete their 3-year program, Sheridan students must successfully complete a Capstone project to validate their degree. For this Capstone project, a team of three students worked together to build a digital twin of a machine, and virtually commission it to validate the automation code, machine sequence and functionality in simulation.

Siemens [Tecnomatix Process Simulate](#), [TIA Portal](#), [PLCSim Advanced](#) and [SolidEdge](#) software were used to build and validate the digital twin. The hardware was assembled from Festo and SMC products.

Capstone Project Objectives

To demonstrate the value of a digital twin to [virtually commission](#) a Pick-and-Place Distribution system while using a Hardware-in-the-loop and Software-in-the-loop approach.

"We have worked on several projects that involve virtual commissioning and digital twins. Siemens and Inoprod are outstanding Capstone partners; they listen first, then provide their recommendations. They both have excellent products, amazing customer service and outstanding technical support."

Andy Alubaidy

Professor, School of Mechanical and
Electrical Engineering Technology
Sheridan College

Siemens & Inoprod Support

- Free trial of Siemens Tecnomatix Process Simulate Software
- Basic training to Capstone group on Siemens Process Simulate, Kinematic and creation of operation, and Line simulation mode
- Post training technical assistance including post-project support to student team.

A Successful Project

The Sheridan Capstone project team won first prize, in the Electromechanical category, on their project.

The creation of a 3D rendering allowed the Capstone project team to visualize the equipment installation and support their design choices.

An assessment of the machine was performed successfully by verifying the automation logic code, machine functionality and integration testing by using the digital twin.



fast.sheridancollege.ca

Sheridan | Faculty of Applied Science
and Technology