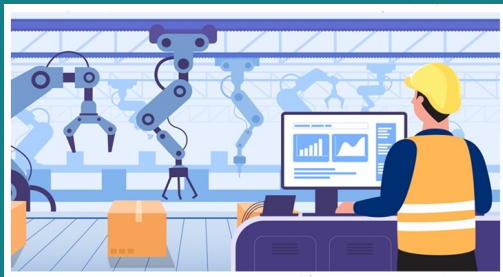


# Choosing The Right Stream



## Industrial Automation

Original stream

Focused around industrial processes and networks

Mining, Processing, Manufacturing

## Smart Systems

New stream

Focused around commercial technologies and networks

Product Development, Artificial Intelligence

## Specific courses

### Advanced Control Theory 2 (4A)

- Combines most of the previous course curriculum together
- Simulating non-linear dynamic systems
- Simulating chemical reactor systems
- Advanced PID tuning

### Industrial Networks and Controllers (4A)

- Building automation systems through networking PLC's
- Variety of industrial communication standards

### Industrial System Components and Integration (4B)

- OPC and HMI's
- Advanced sensors and actuators
- Manufacturing Technologies
- Plastics, steels, ceramics in manufacturing

### Manufacturing Systems (4B)

- Design Process
- Material Selection
- Safety Management

## Specific courses

### Embedded Systems (4A)

- Learn how to program on the Renesas Synergy platform
- Microcontroller hardware and software abstraction layers
- Communications protocols (IIC, CAN, SPI, UART)

### IoT Devices and Networks (4A)

- Learn about the rising communication standards within the IoT industry
- MQTT & Raspberry Pi projects
- ISO model and packet analysis

### Artificial Intelligence and Machine Learning (4B)

- Classification based neural networks
- Clustering, regression, optimization, reinforcement learning

### Smart Cities and Communities (4B)

- Implementing IoT networks and devices in the context of city infrastructure
- City wide system monitoring

## Jobs

PLC Specialist  
 Controls Engineer  
 Systems Engineer  
 Automation Engineer

## Jobs

Software Engineer  
 Embedded Systems Developer  
 Machine Learning Developer  
 Automation Engineer

## Job Competition

Low

## Job Competition

High

## TL;DR

Industrial focus  
 More refined curriculum  
 Focused job opportunities

## TL;DR

Commercial focus  
 Explores modern topics  
 Wide scope of job opportunities

If you have further questions, please reach out to the BTA!