



# Information Technologist for Smart Factory – Overall Equipment Efficiency

a training program under the Malaysian Smart Factory Industry 4.0 initiative.

## Overview:

In this course, participants would have an extensive hands-on experience on connecting the controller to a cloud service or local server via a gateway to enable online I/O configuration for the use of calculating OEE and configuring alerts for an automation system.

## Target audience:

Engineers, Technicians, Technical Managers, Production Managers with relevant background.

*Note: Participants should possess basic knowledge of automation technology and would be involved in installing, developing, and maintaining systems and their application programs which connects to cloud services or local servers for digitalization, data analytics, Statistical Process Control, and OEE.*

Upon successful completion of training, participants will be able to:

1. Discuss the feasibility of implementing OEE into an existing production process
2. Identify and define OEE variables from existing production process
3. Perform calculations using the data collected and OEE generic formulas to derive OEE value of a production process
4. Able to setup a generic OEE implementation for an existing production process
5. Create, change, program, and expand controller's program
6. Operate and configure the controller's programmed engineering environment
7. Cloud Service / Local Server Configuration for IO Parameters
8. Cloud Service / Local Server Alert Configuration
9. Cloud Service / Local Server OEE using values from sensors
10. Cloud Service / Local Server SPC using values from sensors

## Cost per program:

RM5,500 per participant

## HRDF INDCERT GRANT\* AVAILABLE FOR

- Contributors: 50% of total course fee/participant
- Max 5 participants per company

\*<https://www.hrdf.com.my/industry-certification-incert/>

Cost fee is inclusive of 6% SST



## Course Outline

### Day 1

System Architecture Overview

- a) PLC and IO Hardware
- b) IOT Gateway
- c) Cloud Service /Local Server

Installation and Troubleshooting

- a) Wiring of PLC and IO
- b) Wiring of IOT Gateway
- c) Troubleshooting procedures

### Day 2

PLC Configuration

- a) Training Units
- b) Devices and Networks
- c) PLC Tags

PLC Configuration (Continued)

- a) Programming Blocks and Editor
- b) Binary and Digital Operations

### Day 3

1. Cloud System / Local Server Overview
2. Cloud Service / Local Server Connection
  - a. Connecting gateway to PLC via router
  - b. Confirm IO Signals Connection

3. Data Analytics Overview

4. Alarms and Notification

### Day 4

Introduction to IOT Gateway and Configuration

- a) Set up Gateway and Connections
- b) Assign controller's parameters to gateway
- c) Data exchange between gateway and controller

Dashboard Configurations and Troubleshooting

### Day 5

Hands on Session on Cloud Service / Local Server  
Automation System Integration

- a) Introduction to OEE
- b) Big Losses and World Class OEE
- c) Introduction of SPC and Data Analytics

Hands on Session on Cloud Service / Local Server  
Automation System Integration

- a) Practical Session
- b) Case Studies and Discussion

### Day 6

Hands on Session on Cloud Service / Local Server  
Automation System Integration

- a) Hands-on Assessment