Training Center

Digital Industry Academy

SITRAIN™ THAILAND

Training Course Catalog 2024

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

1. Introduction

SITRAIN™ THAILAND

Siemens Industry is committed to quality and excellence. Responding to needs in the local market, The Training Center in Thailand was established in 1998. With assistance from our "parent" training center in Nuremberg, Germany, SITRAIN™ Thailand offers training programs with a wide range of industrial automation and drive technology courses including SIMATIC S7, TIA Portal, PCS7, WinCC, Sinamics, Simotion, Pressure Technology, Switching and Routing in Industrial Networks with SCALANCE & RUGGEDCOM, WLAN and Security in Industrial Networks with SCALANCE & RUGGEDCOM.

Training Center in Bangkok :

Charn Issara Tower II, Room No. 1&2 on 31st floor, 2922/320-323 New Petchburi Road, Bangkapi, Huaykwang, Bangkok 10310

Programming Device in class room

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

2. Course Content

Simatic S7-Programming 1 Courses

ST-S7PRO1

Description

This course is directed at users with engineering experience in the fields of configuring, design and commissioning of SIMATIC S7 programmable controllers. The course provides an optimal entry level to the product-specific and in depth supplementary courses.

Objectives/Content

- System overview
- Ability to structure, generate, document and put into operation extensive PLC programs with SIMATIC S7
- Being acquainted with the structure and execution of programs in SIMATIC S7 programmable controllers and the structure of the IEC 1131 automation standard.
- Ability to use the STEP 7 tools for generating, documenting and testing of programs and for troubleshooting, module configuration and parameter assignment.
- Ability to use absolute and symbolic addressing
- Being in a position to evaluate system information of the programmable controller
- Being able to handle data types, data storage and archiving
- Configuring and implementing homogeneous communication links via the MPI interface
- Being acquainted with the basics of the integrated DP-interface.

The knowledge gained on all these aspects is consolidated by practical exercises using the S7-300 programmable controller and a plant model

Prerequisites requirements: ***Automation background***
Duration 5 days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

Simatic Programming 1 in the TIA Portal (Basic) Course

TIA-PRO1 (S7-1500)

Course Description / Objective

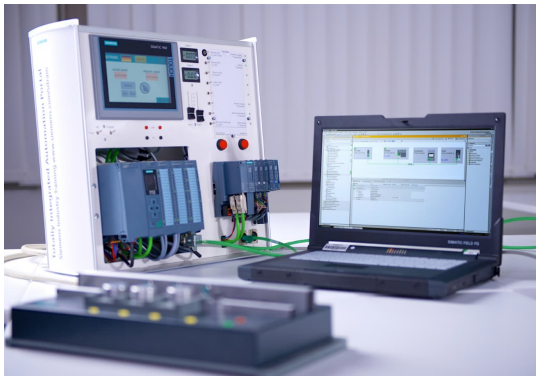
The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC.

In this first part of the SIMATIC TIA Portal programming training, we teach you the handling of the TIA Portal, basic knowledge about the structure of the SIMATIC S7 automation system, configuration and parameterization of hardware, and the basics of standard PLC programming. You also receive an overview of HMI and PROFINET IO.

After attending the course, you can do the following:

- Understand the fundamentals of interaction of the TIA components
- Solve simple programming tasks using elementary STEP 7 instructions
- Reliably operate the "TIA Portal" engineering platform
- Program simple plant functions with basic STEP 7 instructions in the ladder
- diagram (LAD) or function block diagram (FBD)
- Perform simple commissioning of TIA components

Course Content



- Overview and significant performance characteristics of the SIMATIC S7 system family
- The components of the TIA Portal: STEP 7, WinCC, communication
- Program execution in automation systems
- STEP 7 block types and program structuring
- Binary and digital operations in the function block diagram (FBD)
- Programming of parameterizable blocks
- Data management with data blocks
- Programming organizational blocks
- Test tools for system information, troubleshooting, and diagnostics
- Hardware configuration and parameterization of the SIMATIC S7 modules, a PROFINET IO system (ET-200), a Touch Panel
- Program documentation and saving
- Deeper understanding of contents through practical exercises on the SIMATIC S7-1500 system model\

Prerequisites requirements: ***Automation background***

Duration 5 days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

SIMATIC Programming 2 in the TIA Portal (Intermediate) Course

TIA- PRO2 (S7-1500)

Course Description / Objective

The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC.

The second part of the SIMATIC TIA Portal programming training is based on the knowledge of the TIA Portal gained in the SIMATIC S7 TIA Portal programming 1 course, including STEP 7, SIMATIC S7, HMI, connection of drives, and PROFINET IO. You will expand your knowledge of complex operations in statement lists (STL) and in Structured Control Language (SCL). Along with analog value processing and data administration with complex data types, the evaluation and handling of program-related errors are also considered. Building on this, you will learn how to display messages on the operator control and monitoring system (HMI). Thanks to the knowledge imparted, you will gain new impetus and ideas for efficient PLC programming

After attending the course, you can do the following:

- Understand the interaction of TIA components
- Apply classical program development methods
- Solve comprehensive programming tasks
- Program advanced functions such as indirect addressing in STEP 7 statement ts (STL) and in Structured Control Language (SCL)
- Implement data administration with the SIMATIC S7 automation system
- Apply system blocks along with blocks from the standard STEP 7 library
- Program classical software error handling and evaluation
- Configure alarms of the operator control and monitoring system (HMI)
- Configure TIA system components consisting of SIMATIC S7, HMI, PROFINET IO, and drive

Course Content

- Tools for program creation (e.g. structograms)
- Analog value processing
- Functions, function blocks, and multi-instances using the IEC-compliant timer/counter as an example (International Electro technical Commission)
- Jump commands and battery operations
- Indirect addressing
- Classical software error handling and evaluation with error organization blocks (OBs)
- Evaluation of diagnostic data
- Troubleshooting and alarms with an HMI device (Touchpanel)
- Introduction into Structured Control Language (SCL) and S7-GRAPH
- Deeper understanding of contents through practical exercises on SIMATIC S7-1500 system model

Prerequisites requirements: ***TIA- PRO1***

Duration 5 days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

TIA-S7-1500-Safety Course

TIA- SAFETY

Course Description / Objective

The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC. In this course, you will learn about configuring, programming, starting up, diagnosing and troubleshooting of the failsafe CPUs of the SIMATIC S7 Safety PLC (no H systems) and the failsafe, distributed ET200 systems.
After attending the course, you can do the following: starting up failsafe CPUs of the SIMATIC PLC programming of safety-related programs in the languages F-FBD and F-LAD diagnosing and troubleshooting of safety-related programs.

Course Content

- Overview and guidelines
- AS S7 Safety (principle, system configuration and I/O)
- Configuring of the failsafe I/O with STEP 7 Safety Advanced
- Programming of a safety-related user program
- Failsafe communication PROFIsafe (CPU-CPU communication, master-slave communication)
- Diagnostics facilities (CPU diagnostics, I/O diagnostics, advanced diagnostics)
- Exercises for I/O configuration, communication, troubleshooting
- Programming examples
- Deeper understanding of contents through practical exercises on the system SIMATIC S7-1500F

Prerequisites requirements: ***TIA- PRO2***

Duration 3 days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

Simatic S7-1200 Basic Course

TIA MICRO-1

Course Description / Objective

The Totally Integrated Automation Portal (TIA Portal) for SIMATIC S7-1200 forms the work environment for integrated engineering with SIMATIC STEP 7 Basic and SIMATIC WinCC Basic.
In this first part of the SIMATIC TIA Portal S7-1200 training, we teach you the handling of the TIA Portal, basic knowledge about the structure of the SIMATIC S7-1200 automation system, configuration and parameterization of hardware, and the basics of programming. You will learn how to clear simple hardware faults and software errors in the SIMATIC S7-1200 automation system and to create, modify and expand small STEP 7 programs. You will thus be capable of reducing downtime. You will also get an overview on operator control and monitoring

Course Content

- Overview and significant performance characteristics of the SIMATIC S7-1200 system family
- The components of the TIA Portal: SIMATIC STEP 7 Basic and WinCC Basic
- Program execution in automation systems
- Binary and digital operations in the function block diagram (FBD)
- Setup and assembly of the SIMATIC S7-1200 automation system
- Addressing and wiring the signal modules
- Hardware and software commissioning of the SIMATIC S7-1200 with the TIA Portal
- SIMATIC S7-1200 hardware configuration and parameterization
- Introduction to the Touchpanel
- Saving and documentation of the implemented program changes with the TIA Portal
- Deeper understanding of contents through practical exercises on SIMATIC S7-1200 system model

Prerequisites requirements: ***Automation background***

Duration 3 days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

Simatic WinCC Course

ST-BWINCCS

Description

The course is directed at configuring engineers, commissioning engineers, decision-makers and service personnel. Simple examples help the trainees to obtain the necessary basic knowledge allowing them to use the system quickly and easily for their own applications.

Objectives/Content

- Overview of the WinCC system
- Starting a project, connection of the PLC, var. simulation
- Graphics
- Alarm display, alarm logging
- Curve display, tag logging
- User archives
- Report Designer (demonstration)
- Background processing (demonstration of Global Scripts)
- Openness of the API (demonstration of its structure and uses)
- Practical exercises

Prerequisites requirements: ***ST-S7PRO1***

Duration 5 days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

SIMATIC WinCC Unified & Unified Comfort Panels Course

(TIA-UWCCMA)

Course Description

In order to provide you with the best possible support and training in your personal learning environment (own office/home office), we have implemented selected courses as digital online trainings for you. We provide you with live theory lectures from our experts, which convey the course content described in the learning objectives in a practical and comprehensive manner, utilizing our virtual exercise environment for practical exercises. In our virtual classroom, our expert is also available to you at any time during your individual practical exercises for in-depth questions and technical discussions. SIMATIC WinCC Unified is the new visualization system in the TIA Portal. The system convinces through the use of native web technologies, which are introduced to you in this course. You will also learn the high degree of openness through high-performance interfaces. Learn how to use WinCC Unified and the new Unified Comfort Panels and get a personal impression of the performance of new devices.

Objectives

The training is aimed at first-time users of WinCC Unified and Unified Comfort Panels. The elementary basics and configuration steps are taught. Only general knowledge of automation technology is advantageous.

Upon completion of the course, you will be able to use Unified Comfort Panels with confidence and create your own HMI projects with WinCC Unified Engineering:

- Design TIA Portal faceplates and create simple dynamizations
- Efficient configuration through the use of faceplates (screen window technology)
- Create screen navigation (screen window technology)
- Configure alarms and messages
- Access S7 controllers
  Advantages
- Training for the new HMI system, WinCC Unified, directly from the manufacturer.
- Skill is more than knowledge. Upon completion of the course, you will have mastered WinCC Unified by performing numerous practical exercises.

You will deepen your theoretical knowledge through numerous practice-oriented exercises in our virtual exercise environment.

Content

- Product version: WinCC V17
- System overview
- Getting to know the configuration user interface of the engineering system
- Creating and editing projects
- Downloading the project to the HMI device
- Creating screens and screen navigation
- Using system functions and schedulers
- Getting to know and creating faceplates
- Creating the user administration
- Configuring data logging and alarm logging including logs
- Using recipes
- Consolidation of the contents through practice-oriented exercises in the virtual exercise environment.

Prerequisites requirements: ***Automation background***

Duration 3 days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

Simatic PCS7 Course

ST-PCS7_P1

Description

This course is directed at users with engineering experience in the fields of configuring, design and commissioning of Simatic PCS7. The course provides programming basic PCS7 and understands architecture of the system. The training unit is stand alone system. (One AS one OS/ES)

Objectives/Content

- Managing the project data in the SIMATIC Manager
- Station and network configuration
- Configuraton of AS functions in CFC
- Configuration of monitoring and controlling in the OS
- Configuration of sequences in SFC
- User blocks - attributes and visualization
- Syntax rules for SIMATIC PCS 7 engineering

Prerequisites requirements: ***ST-S7PRO1 & WINCC***

Duration 5 days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

SINAMICS S120 Parameterizing and Commissioning

DR-S12-PM

Short Description

DR-S12-PM (Old Course Code - DR-SNS-SI)

Aims & Objectives

This training course encompasses the basics of the SINAMICS S120 drive system. It provides the technical knowledge required for startup, parameterization, drive optimization, and troubleshooting.
Practical exercises for reinforcing the knowledge gained are carried out on the SINAMICS S120 Training Case. On completion of the course, you will be able to implement automation solutions with the SINAMICS S120. You can carry out startup and optimization of the SINAMICS S120 quickly and effectively with skilful use of the STARTER commissioning tool. In this way, you reduce engineering costs and minimize downtimes in your plant.
You can gain advanced knowledge of communication with PROFIBUS.

Content

- Design of the drive system and overview of documentation and service
- Startup and parameterization with the STARTER commissioning tool
- Diagnostics and troubleshooting
- Fundamentals of communication via PROFIBUS
- Software functions, closed-loop control and optimization of SERVO and VECTOR drives
- Startup of the integral basic positioner (EPOS)
- Practical exercises on the Training Kit

Prerequisites requirements:

A general knowledge of electrical engineering and good PC skills is sufficient for taking part in this course.

Duration 5 Days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

SINAMICS S120 Parameterizing and Commissioning in the TIA Portal

DR-S12-PMT

Aims & Objectives

You are responsible for the commissioning of SINAMICS S120 drive systems using the commissioning software Startdrive in TIA Portal.
Modern converter systems offer a variety of functions and setting possibilities. By a purposeful procedure you can save time and avoid faults.
In this course you will learn the procedure at commissioning step by step. You can handle parameter setting and data saving with the software Startdrive in the TIA Portal. By a correct parameter setting you support the reliable operation of the entire plant.
After the course you can put the converter system SINAMICS S120 efficiently into operation. You can adapt the parameters of the closed-loop controller to the respective application and use the diagnostic tools in case of a fault.

Content

Design and functional principle of the converter system SINAMICS S120:
- Control unit, line infeed and motor modules
- Motors, encoders and interfaces

Parameterization, data backup and diagnostics using Software Startdrive in the TIA Portal:
- Online connection via PROFINET and Ethernet
- Project structure: drive objects and drive components
- Topology of the DRIVE-CLiQ-Interface

Function charts: setpoint channel, Input and output signals
Control signals and internal signal interconnection using BiCo-technology
Optimization of the closed loop control using automatic procedures
Functional principle of the operating modes Servo and Vector
Analysis of the operating status using enable signals, warnings and alarms
Monitoring of signals using the trace function
Introduction to positioning and Safety Integrated
Data exchange with SIMATIC S7 via PROFIdrive Standard Telegram
Practical exercises at training kits with SINAMICS S120 in frame size booksize with servomotor and induction motor

Prerequisites requirements:

A general knowledge of electrical engineering and good PC skills is sufficient for taking part in this course.

Duration 5 Days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

SIMOTION System and Programming Course

MC-SMO-SYS

Description/Objective

You will learn how to configure and start up the SIMOTION Motion Control system with the associated drives and visualization devices. The course also includes the programming of movement sequences with the help of Motion Control Chart and ladder diagram/function block diagram.

The technologies positioning, synchronous operation, probe, and cam plates are explained and reinforced by means of practice-oriented examples.

The course enables you to use SIMOTION optimally in the automation of production machinery.
The programming course (MC-SMO-PRG) builds on this to deal in depth with the creation of parameterizable blocks.

Content

- System overview of SIMOTION
- Components of SIMOTION
- SCOUT engineering system and option packages
- Hardware platforms
- Motion control technology packages
- Creating a project with SCOUT
- Starting up and optimizing axes
- Programming user programs with MCC (Motion Control Chart) and LAD/FBD
- Runtime system (task system) configuring
- Learning to use tools for fault diagnostics
- Performing practical exercises on training devices

Prerequisites requirements: ***DR-S12-PM***

Duration 5 Days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

SIMOTION Programming

MC-SMO-PRG

Description/Objective

Building on the knowledge gained in the SIMOTION system and programming course, you will learn the advanced programming facilities with Structured Text and Motion Control Chart.
The applications for the technologies are reinforced using selected examples on our exercise equipment. On completion of the course, you will be able to create parameterizable blocks such as FCs and FBs with the help of the Structured Text language. With knowledge of the cam plate function, you will be able to parameterize and program cam plate synchronization. This extends your scope for creating programs for your production machine.

Content

- Introduction to creating user programs with Structured Text
- Creating variables and data structures in ST-Units
- Creating re-usable blocks (FCs and FBs)
- Programming commands for motion control
- Creating cam plates with CAM EDIT and using system functions
- Parameterizing and programming cam plate synchronization
- Overview of communication with OPC and UDP
- Practical exercises using application examples

Prerequisites requirements: ***MC-SMO-SYS***

Duration 5 Days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

Pressure Technology Basic

SC-PI-P

Description/Objective

Participants will get basic knowledge on pressure measurement. The attendees will acquire knowledge about of the different types of pressure, how to find the suitable customer's solution using the catalog.

Content

- Basics pressure measurement
- The Siemens product portfolio SITRANS P and their technical specifications
- SITRANS P320 / P420 Measuring cells
- Ordering example

Prerequisites requirements:

Basic knowledge of process instrumentation technology

General knowledge of electrical engineering

Duration 1 Days (4 Hours)

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

Ethernet Fundamentals in Industrial Networks

IK-ETHBAS

Description/Objective

The Industrial Ethernet Fundamentals course provides a broad overview in network technology and mechanisms which are the foundation of today's digital communication. Ever heard of the OSI reference model? This course will give you the insight and takes you on a tour through all seven layers.

Upon completion the participants will gain a foundation knowledge of networking and its applications in industrial environments and will be prepared for the certification trainings of the Siemens Industrial Networks Education program.
measures.

Content

Introduction to Industrial Ethernet

- Layer 1 - Physical Layer
- Layer 2 - Data Link Layer
- Layer 3 - Network Layer
- Layer 4 - 7

Duration 2 Days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

Switching and Routing in Industrial Networks with SCALANCE

IK-SWIROS

Description/Objective

An industrial or industry-related environment without Ethernet is no longer conceivable. A high degree of reliability and sufficient capacities are demanded from hard-wired industrial networks. At the same time, a secure connection of these Ethernet networks to an existing network structure as well as the seamless integration into a corporate network is highly required.
At the end of the course, you are familiar with the special requirements of industrial network solutions and will have the knowledge to plan, implement, and provide support for plain networks in an industrial or industry-related environment.

Content

Switching:

- Comparison of Ethernet and Industrial Ethernet
- Typical topologies
- Redundancy mechanisms (MRP, HRP, Standby Redundancy, Protocol, RSTP, Passive Listening, HSR, PRP)
- Network segmentation with VLANs
- Special industrial functions
- Diagnostics and troubleshooting

Routing:

- IPv4 basics (addressing, data exchange, important protocols)
- Static routing
- Router redundancy (VRRP)
- Dynamic routing (RIP, OSPF)
- Diagnostics and troubleshooting

Prerequisites requirements: ***IK-ETHBAS***

Duration 5 Days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

Switching and Routing in Industrial Networks with RUGGEDCOM

IK-SWIROR

Description/Objective

Ethernet has found its way into the industrial environment. A high degree of reliability and throughput rates are demanded from industrial networks. At the same time a reliable integration into a corporate network is highly required. At the end of the course, participants will be familiar with the special requirements of industrial network solutions and will have the knowledge to plan, implement, and provide support for plain networks in an industrial or industry-related environment.

Content

Switching:

- Layer 2 Technology Overview
- Switching in Industrial Ethernet Networks
- Commissioning with RUGGEDCOM Operating System (ROS)
- Port Configuration
- Redundancy in Switched Networks (Rapid Spanning Tree Protocol)
- Network segmentation with Virtual Local Area Networks (VLAN)
- Increasing bandwidth availability (Link Aggregation)
- Integrating Serial Protocols
- Monitoring (ROS)
- Diagnostics and Troubleshooting (ROS)

Routing:

- Layer 3 Technology Overview
- Commissioning with ROX Operating System
- LAN and IP interfaces
- WAN interfaces
- Internet Protocol Services
- Router redundancy (VRRP)
- Static Routing
- Dynamic Routing (OSPF)

Prerequisites requirements: ***IK-ETHBAS***

Duration 5 Days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

Security in Industrial Networks with SCALANCE

IK-SECIN-S

Description/Objective

It is difficult to imagine day-to-day industrial operations without Ethernet connections. From large-scale production systems to the smallest Industrial Ethernet communication networks, nearly everything has come to depend on their reliability and security. The opportunities on the one hand are countered by risks on the other hand. Access by outsiders or manipulation in the network always has catastrophic consequences for production or in-house expertise. Therefore, functioning security systems are an absolute must.
At the end of this course, you will know the requirements and fundamentals needed to plan, implement, and provide support for industrial security measures.

Content

- Current trends and security risks
- Defense-in-depth with Siemens - a holistic security concept
- Update and replacement of security components
- Potential threats in a network
- Basic security measures (ports, passwords, protocols, etc.)
- Cell protection concept
- Access restriction
- Connection of standard machines to networks
- Remote access via VPN
- Comprehensive exercises using the SIMATIC NET product portfolio

Prerequisites requirements: ***IK-SWIROS***

Duration 3 Days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

Security in Industrial Networks with RUGGEDCOM

IK-SECIN-R

Description/Objective

It is difficult to imagine day-to-day industrial operations without Ethernet connections. From large-scale environment to the smallest Industrial Ethernet communication network, nearly everything has come to dependency on the overall systems reliability and security. The opportunities on the one hand are countered by risks on the other hand. Access by outsiders or manipulations in the network always has catastrophic consequences on application or on in-house expertise. Therefore, functioning security systems are an absolute must.
At the end of this course, participants will understand the requirements and fundamentals needed to plan, implement, and provide support for industrial security measures.

Content

- Understanding what threats lurk Industrial Ethernet networks
- Defense-in-depth approach
- Security measures and guidelines (best practices, industry driven)
- Hardening the RUGGEDCOM product line
- Protecting Control Networks (firewall, address translation (NAT))
- Site to Site and Remote access via VPN (IPsec)
- Comprehensive exercises using the SIMATIC NET product portfolio

Prerequisites requirements: ***IK-SWIROR***

Duration 3 Days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

Ethernet Wireless LAN in Industrial Networks

IK-IWLANS

Description/Objective

In industrial environments, WLAN is exposed to more extreme conditions, such as temperature fluctuations, humidity, dust, etc. In addition, a high-degree of reliability and performance is expected from these systems. At the same time, these industrial WLAN networks (IWLAN for short) provide a great deal of flexibility for companies in the implementation of complex applications indoors and outdoors. Thus, with Safety Integrated, applications can also be wirelessly implemented and seamlessly connected to Industrial Ethernet with PROFINET components.

The course teaches the configuration, planning, and operation of IWLAN, also in interaction with real-time-capable systems. To ensure that the theoretical knowledge can later be implemented, we value in-depth practical exercises during the training.

You can deepen your theoretical knowledge with numerous practical exercises on products from the SCALANCE W product line.

At the end of the course, you will know the requirements for wireless solutions in industrial networks. You will learn the fundamentals and knowledge required to plan, implement and support for plain mobile networks.

Content

- Comparison and coexistence of different wireless technologies
- Theoretical fundamentals of wireless technology
- Security and high date rates in WLAN
- Introduction to the different WLAN standards
- Planning and configuration of different radio links
- Planning and configuration of RCOAX radio networks with iPCF
- Planning and configuration of free radio networks with iPCF-MC
- Comprehensive exercises using the SCALANCE W product line
- Layer 1 - Physical Layer
- Comparison and coexistence of different wireless technologies
- Theoretical fundamentals of wireless technology
- Security and high date rates in WLAN
- Introduction to the different WLAN standards
- Planning and configuration of different radio links
- Planning and configuration of RCOAX radio networks with iPCF
- Planning and configuration of free radio networks with iPCF-MC
- Comprehensive exercises using the SCALANCE W product line

Prerequisites requirements: ***IK-ETHBAS***

Duration 3 Days

Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand

3. Course Schedule

Please see the attached file for Training Course Schedule.

Training programs are scheduled at fixed dates during the year. To register, please let us know at least two weeks before course schedule in advance. The minimum participants for per class is 6/8 paxs. If the course registration participants do not meet the minimum no. of paxs, the class will be re-scheduled. - Course registration is on first-come-first-served basis.

On-Site Training
We also provide training on-site at your company premises **with Extra Charge**. On-site training arrangements should be made at least one month before the starting date of the course. Please contact the training coordinator.

Contact Person

Training Coordination : K. Pattaranan Varisanont **Tel : (66) 91-576-3151**

Email : Industrymarketing.th@siemens.com

4. Terms and Condition

1. Registration closes when the course is full.
2. Course fees are payable in advance at least one week before course start. Payment can be made by cheque payable to **SIEMENS LTD**.
3. 100% cancellation fee, if participant cancels the course after receiving the official course confirmation.
4. Course Price includes Coffee Breaks and Lunch.
5. Price is not included Hotel accommodation.

General Condition for Trainee

Certificates will only be issued to participants with 75% attendance and course fee fully paid to Siemens.

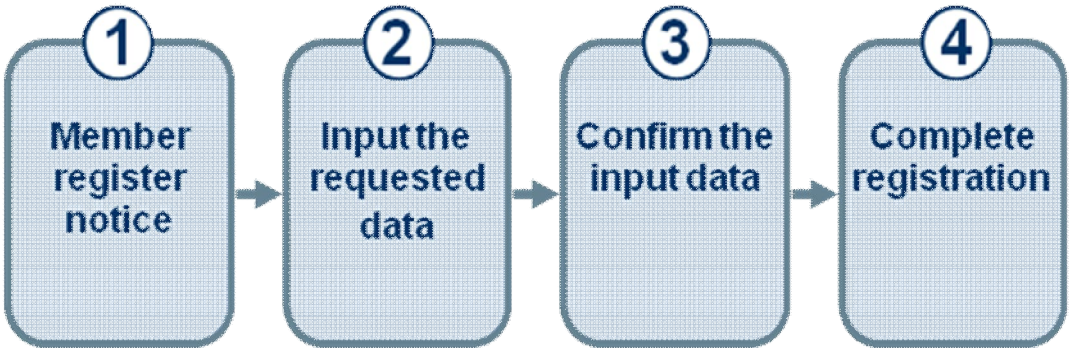
5. Registration Channel

SITRAIN only accept training reservation by e-Pass system, therefore it is mandatory for trainees to register e-Pass in advanced.

Registration at : https://e-pass.aae.siemens.cloud/dashboard

SITRAIN Training e-PASS™

Member Registration



Tel. +66 91-576-3151 Hotline : (+662) 079-5465
e-mail : Industrymarketing.th@siemens.com website http:// https://e-pass.aae.siemens.cloud/dashboard
Charn Issara Tower II, Training room No. 1&2 on 31st floor
2922/320-323 New Petchburi Road ,Bangkapi, Huaykwang Bangkok 10310 Thailand