# COURSE OVERVIEW IE0610
# Rockwell Historian & Data Configuration

**Course Title**
Rockwell Historian & Data Configuration

**Course Date/Venue**
June 08-12, 2026/Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

**Course Reference**
IE0610

**Course Duration/Credits**
Five days/3.0 CEUs/30 PD Hs


**Course Description**

***This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using one of our state-of-the-art simulators.***

This course is designed to provide participants with a detailed and up-to-date overview of Rockwell Historian & Data Configuration. It covers the historian systems, system architecture and components including installation, prerequisites and environment setup; the tag attributes, tag types, discovery of tags and tag naming best practices and governance; the data collection modes, tag import/export and bulk management and advanced tag attributes; the performance equations and totalizers, digital states and boolean/enumerated tags as well as data buffering and interface configuration; the asset framework/data model concepts, event frames and time-based events and visualization tools and trend displays; the archives, backfill and historical data management, audit; and the security and data integrity, system management tools (SMT) and administrative tasks.

During this interactive course, participants will learn the high availability, redundancy and disaster recovery; the backup, restore and maintenance activities; the performance tuning and scalability considerations; troubleshooting and fault resolution and integration with other systems and data export; using historian data and the dashboard creation for operations/management KPIs; the performance equations and event frames in analytics and predictive analytics; the asset health monitoring concepts; the governance model for tag, asset, archive changes and change control processes; and the documentation and versioning of historian system configurations.

## Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain an-depth knowledge on Rockwell Historian and data configuration
- Discuss historian systems, system architecture and components including installation, prerequisites and environment setup
- Identify tag attributes, tag types, discovery of tags and tag naming best practices and governance
- Carryout data collection modes, tag import/export and bulk management and advanced tag attributes
- Describe performance equations and totalizers, digital states and boolean/enumerated tags as well as data buffering and interface configuration
- Apply asset framework/data model concepts, event frames and time-based events and visualization tools and trend displays
- Carryout archives, backfill and historical data management, audit, security and data integrity and system management tools (SMT) and administrative tasks
- Illustrate high availability, redundancy and disaster recovery, backup, restore and maintenance activities
- Carryout performance tuning and scalability considerations, troubleshooting and fault resolution and integration with other systems and data export
- Design reports using historian data and apply dashboard creation for operations/management KPIs, performance equations and event frames in analytics and predictive analytics and asset health monitoring concepts
- Define governance model for tag, asset, archive changes and apply change control processes and documentation and versioning of historian system configurations

## Exclusive Smart Training Kit - H-STK®


*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

## Who Should Attend

This course provides a complete and up-to-date overview of Rockwell Historian and data configuration for control and automation engineers, SCADA/PLC Engineers, Instrumentation engineers and technicians, supervisors and team leaders, system integrators and project engineers configuring data historian systems and other technical staff.

## Course Fee

**US$ 5,500** per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

## Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

## Certificate Accreditations

Haward's certificates are accredited by the following international accreditation organizations: -

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. Haward's certificates are internationally recognized and accredited by the British Accreditation Council (BAC). BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- The International Accreditors for Continuing Education and Training (IACET - USA)

  Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

  Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

  Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

## Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

**Course Instructor(s)**

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

**Dr. Ahmed El-Sayed**, PhD, MSc, BSc, is a **Senior Electrical & Instrumentation Engineer** with over **35 years** of extensive experience in the **Power**, **Petroleum**, **Petrochemical** and **Utilities**. He specializes in **HV/LV Equipment**, **High Voltage Electrical Safety**, **LV & HV Electrical System**, **HV Equipments Inspection & Maintenance**, **HV Switchgear Operation & Maintenance**, **LV Distribution Switchgear & Equipment**, **HV Switchgear Maintenance**, **HV/LV Electrical** Authorisation, **Hazardous Area Classification, Power Quality**, **Disturbance Analysis**, **Blackout**, **Power Network**, **Power Distribution**, **Power Systems Control**, **Power Systems Security**, Power **Electronics**, **ETAP**, Electrical **Substations**, Tariff Design & Structure Analysis, **Engineering Drawings, Codes & Standards**, **P&ID Reading, Interpretation & Developing**, **PLC**, **SCADA**, **DCS**, **Process Control**, **Instrumentation**, **Automation**, Power **Generation**, **Process Control Instrumentation**, **SIS**, **SIL**, **ESD**, **Alarm Management Systems**, **Fieldbus Systems** and **Fiber Optics** as well as the service pricing of these. He is currently the **Systems Control Manager** of **Siemens** where he is in-charge of Security & Control of Power **Transmission Distribution** & **High Voltage** Systems and he further takes part in the Load Records Evaluation & Transmission Services Pricing.

During his career life, Dr. Ahmed has been actively involved in different Power System Activities including Roles in Power System Planning, Analysis, Engineering, **HV Substation** Design, Electrical Service Pricing, Evaluations & Tariffs, Project Management and also in Teaching and Consulting. His vast industrial experience was honed greatly when he joined many International and National Companies such as **Siemens**, **Electricity Authority** and **ACETO** industries where he focused more on dealing with Technology Transfer, System Integration Process and Improving Localization. He was further greatly involved in manufacturing some of **Power System** and **Control & Instrumentation Components** such as Series of Digital Protection **Relays**, MV **VFD**, **PLC** and **SCADA** System with intelligent features.

Dr. Ahmed is well-versed in different electrical and instrumentation fields like Load Management Concepts, **PLC** Programming, Installation, Operation and Troubleshooting, **AC Drives** Theory, Application and Troubleshooting, Industrial Power Systems Analysis, AC & DC **Motors**, Electric Motor **Protection**, **DCS SCADA**, **Control** and Maintenance Techniques, Industrial Intelligent Control System, **Power Quality** Standards, Power Generators and Voltage Regulators, Circuit Breaker and Switchgear Application and Testing Techniques, **Transformer** and **Switchgear** Application, Grounding for Industrial and Commercial Assets, Power Quality and **Harmonics**, **Protective Relays** (O/C Protection, Line Differential, Bus Bar Protection and **Breaker Failure Relay**) and Project Management Basics (PMB).

Dr. Ahmed has **PhD**, **Master's** & **Bachelor's** degree in **Electrical** and **Instrumentation Engineering** from the **University of Wisconsin Madison**, **USA**. Further, he has numerous papers published internationally in the areas of Power Quality, Superconductive Magnetic Energy Storage, SMES role in Power Systems, Power System **Blackout** Analysis, and Intelligent Load Shedding Techniques for preventing Power System Blackouts, HV **Substation Automation** and Power System Stability.

## Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

## Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

***Day 1:*** ***Monday, 08th of June 2026***

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| *0730 – 0800* | *Registration & Coffee* |
| *0800 – 0815* | *Welcome & Introductions* |
| *0815 – 0830* | ***PRE-TEST*** |
| *0830 – 0930* | ***Historian Systems***<br>*Definition, Purpose and Business Value of a Historian System • Comparison: Real-Time vs Historical Data Collection • Key Vendors and Positioning of FactoryTalk Historian SE / Site Edition (FT-Historian) • Course objectives and Expected Outcomes* |
| *0930 – 0945* | *Break* |
| *0945 – 1100* | ***System Architecture & Components***<br>*Server, Interface Nodes, clients and Archives • Data Flow: Tags → Interface → Server → Archive → Client • Buffering and Redundancy Layers • High Availability and Clustering Basics* |
| *1100 – 1215* | ***Installation, Prerequisites & Environment Setup***<br>*Hardware, OS and Network Prerequisites • Software Installation Steps: Server, Interfaces, Clients • Licensing and Activation Considerations • Hands-on Lab Setup: Virtual Machine or Training Environment* |
| *1215 – 1230* | *Break* |
| *1230 – 1330* | ***Tag Basics: What is a Tag / Point?***<br>*Tag attributes: Name, Type, Scan Class, Engineering Units • Tag Types: Analog, Digital, String, Performance, Totalizers • Discovery of Tags: manual vs Automatic/Import • Tag Naming Best Practices and Governance* |
| *1330 – 1420* | ***Data Collection Modes***<br>*Polled versus Advised Modes of Collection • Real-Time versus Snapshot versus Event-Driven Collection • Exception and Compression: Why and How • Configuring Scan Classes and Data Collection Interval* |

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| *1230 – 1330* | ***Initialise the Historian Server***<br>*Create a new Historian Server Connection • Import Initial Tags from Sample PLC/Controller • Verify Data Arrival Using Client Tools • Basic Troubleshooting: Data Gaps, Connection Issues* |
| *1420 – 1430* | ***Recap***<br>*Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow* |
| *1430* | *Lunch & End of Day One* |

***Day 2:*** ***Tuesday, 09th of June 2026***

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| *0730 – 0830* | ***Tag Import/Export & Bulk Management***<br>*Excel/CSV or Tag Configurator forBulk Tag Import/Export • Tag Templates and Attribute Inheritance • Modifying Existing Tag Attributes in Bulk • Tag Lifecycle: Activation, Decommissioning, Archiving* |
| *0830 - 0930* | ***Advanced Tag Attributes – Exception, Compression & Deadbands***<br>*Compression Attributes: CompDev, CompMin, CompMax • Exception Reporting: Setting Thresholds for Value Change Reporting • Digital State Changes and Event-Based Tags • Case Studies: Optimizing for High-Volume Signals* |
| *0930 – 0945* | *Break* |
| *0945 – 1100* | ***Performance Equations & Totalizers***<br>*Definition and Use of Performance Equation Tags • Totalizer Tags: Example Use Cases (Cumulative Counters) • Configuration Steps for Equations and Totalizers • Verifying Equation/Totalizer Outputs and Accuracy* |
| *1100 – 1215* | ***Digital States & Boolean/Enumerated Tags***<br>*What are Digital State Tags and How are they Managed? • Configuring Enumerations for States (e.g., Run/Stop/Maintenance) • Mapping Raw Tag Values to Meaningful States • Using Digital States in Visualization and Analytics* |
| *1215 – 1230* | *Break* |
| *1230 - 1330* | ***Data Buffering & Interface Configuration***<br>*Purpose of Buffering: When interface Loses Connection to Server • Configuring Buffer Service on Interface Nodes • Interface Node setup: Registration, Trust, Network Connectivity • Monitoring buffering Behavior and Resolving Buffer Backlog* |
| *1330 – 1420* | ***Tag Configuration & Data Collection Strategy***<br>*Create/Import Tags with Tailored Attributes • Configure Exception/Compression Settings for Selected Tags • Set up Digital State Tags and Map Enumerations • Monitor Data Collection and verify Behavior in Archive/Client* |
| *1420 – 1430* | ***Recap***<br>*Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow* |
| *1430* | *Lunch & End of Day Two* |

| Day 3: | Wednesday, 10th of June 2026 |
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| 0730 – 0830 | ***Asset Framework / Data Model Concepts***<br>*Definition of Assets and Hierarchies (Equipment, Lines, Sites) • Tag to Asset Mapping: Linking Tags to Assets/Equipment • Use of metadata and Attributes at Asset Level • Benefits: Context, Asset-Centric Analytics, Traceability* |
| 0830 -0930 | ***Event Frames & Time-Based Events***<br>*What is an Event frame and how is it used? • Configuration of Event-Triggered Frame Creation (Start/Stop Events) • Associating Tags and Assets with Event Frames • Use Cases: Batch Runs, Downtime Events, Quality Runs* |
| 0930 – 0945 | *Break* |
| 0945 – 1100 | ***Visualization Tools & Trend Displays***<br>*Client Tool Options: TrendPro, View SE, Excel/DataLink, VantagePoint • Creating and Configuring Trend Displays of Archived Data • Filtering, Grouping and Aggregating Data in Views • Exporting and Reporting Historic Data for Analytic* |
| 1100 – 1215 | ***Archives, Backfill & Historical Data Management***<br>*Archive Concepts: Primary, Secondary, Dynamic versus Fixed Archives • Backfilling Data: When and How (after Downtime, Migration) • Archive Management Tools: Monitoring, Purging, Compression Settings • Disk-Space Planning and Archive Growth Estimation* |
| 1215 – 1230 | *Break* |
| 1230 – 1300 | ***Audit, Security & Data Integrity***<br>*Audit Trails: Tracking Changes to Server, Tags, Configurations • Security Roles and User access Management • Trusts and Interface Security: Ensuring Secure Data Collection • Ensuring Data Integrity: Gap Checks, Out-of-Order Events, Validation* |
| 1300 – 1420 | ***Asset Framework & Visualization***<br>*Define an asset Hierarchy for a Sample Process Unit • Link Tags to Assets and Configure Event Frames • Create Trend Displays and Dashboards for Asset Data • Perform a Backfill for a Selected Period and Verify Archive Inclusion* |
| 1420 – 1430 | ***Recap***<br>*Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow* |
| 1430 | *Lunch & End of Day Three* |

| Day 4: | Thursday, 11th of June 2026 |
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| 0730 – 0830 | ***System Management Tools (SMT) & Administrative Tasks***<br>*Overview of Tools: Historian System Management Tools, Interface Config Utility • Managing Server Processes, Services and Startup/Shutdown • Daily Health Check for Historian System (Archives, Queues, Logs) • Monitoring Performance Counters and System Metrics* |
| 0830 – 0930 | ***High Availability, Redundancy & Disaster Recovery***<br>*Configuring High Availability for Historian SE (Cluster, Mirrored Archives) • Redundant Interface Nodes and Failover Scenarios • Disaster Recovery Planning: Backups, Restore Strategies, Hot Standby • Testing HA/DR Scenarios and validating failover Behaviour* |
| 0930 – 0945 | *Break* |

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| *0945 – 1100* | ***Backup, Restore & Maintenance Activities***<br>*Scheduling Backups of Archive Data and Configuration Files • Restore Processes: Full, Incremental, and Selective Tag Restoration • Maintenance Windows: Archive Shifting, Patching, Upgrades • Best Practices: Storage Management, Partitioning, Archive Relocation* |
| *1100 – 1215* | ***Performance Tuning & Scalability Considerations***<br>*Identifying Performance Bottlenecks: Interface Load, Server CPU/Disk I/O • Optimizing Scan Classes and Tag Collection Strategy • Disk Subsystem Planning: throughput, Latency, RAID Configuration • Scaling Strategy: Increasing Tag Count, Multiple Servers, Distributed Architecture* |
| *1230 – 1330* | ***Troubleshooting & Fault Resolution***<br>*Common Issues: Data Gaps, Out-of-Order Events, Buffering Backlog, Tag Failures • Tools for Diagnosis: Logs, SMT Plug-Ins, Message Queues, Event Queue viewers • Case Studies: Real-World Troubleshooting Scenarios • Preventive Maintenance: Checklists and Automated Alerts* |
| *1330 -1420* | ***HA, Backup & Performance Tuning***<br>*Configure a Redundant Archive Path and Simulate Failover • Perform a Backup and Test Restore of Configuration and Data • Use SMT Tools to Monitor Server Performance and Identify Bottlenecks • Apply Tuning Adjustments and Validate Improvement in Collection/Response* |
| *1420 - 1430* | ***Recap***<br>*Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow* |
| *1430* | *Lunch & End of Day Four* |

***Day 5:*** ***Friday, 12th of June 2026***

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| *0730 – 0830* | ***Integration with Other Systems & Data Export***<br>*Connecting Historian Data to MES/ERP/BI Systems • Use of ODBC/SQL Access, DataLink, Excel Integration • Web/API Interfaces: Live Data Feeds, REST Interfaces (if applicable) • Interfacing with Big Data/Cloud Analytics Platforms* |
| *0830 – 0930* | ***Reporting, Dashboards & Advanced Analytics***<br>*Designing Reports Using Historian Data (Trend, Snapshot, Summary) • Dashboard Creation for Operations/Management KPIs • Use of Performance Equations and Event Frames in Analytics • Predictive Analytics and Asset Health Monitoring Concepts* |
| *0930 – 0945* | *Break* |
| *0945 – 1045* | ***Change Management & Governance***<br>*Defining Governance Model for Tag, Asset, Archive Changes • Change Control processes: Tag Setup, Attribute Change, Configuration Changes • Documentation and Versioning of Historian System Configurations • Training Operators/Engineers and Sustaining the Historian System Over Time* |
| *1045 – 1230* | ***Workshop: Best Practices & Real-World Implementation***<br>*Review of Best practices in Design, Collection Strategy, HMIs, Archives • Lessons Learned from Real Implementations: Pitfalls, Successes • Planning Future Growth: Tag Expansion, New Assets, Migrating Old data • Hands-on Group Activity: Design a Data-Collection Architecture for a New Plant Area* |
| *1230 – 1245* | *Break* |

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| *1245 – 1345* | ***Reporting & Analytics***<br>*Create a Dashboard with KPIs Using Historian Data and Event Frames • Export Data to Excel/DataLink and Build a Summarized Report • Set Up Alerts Based on Tag/Event Thresholds and Test Scenario • Perform a Mini-Audit of the Historian Configuration (Tags, Archives, Backups)* |
| *1345 - 1400* | ***Course Conclusion***<br>*Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course* |
| *1400 – 1415* | ***POST-TEST*** |
| *1415 – 1430* | *Presentation of Course Certificates* |
| *1430* | *Lunch & End of Course* |

**Simulator (Hands-on Practical Sessions)**

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using one of our state-of-the-art simulators "Allen Bradley SLC 500", "AB Micrologix 1000 (Digital or Analog)", "AB SLC5/03", "AB WS5610 PLC", "Siemens S7-1200", Siemens S7-400" "Siemens SIMATIC S7-300", "Siemens S7-200" "GE Fanuc Series 90-30 PLC", "Siemens SIMATIC Step 7 Professional Software", and "HMI SCADA".

Allen Bradley SLC 500 Simulator

Allen Bradley Micrologix 1000 Simulator (Digital)

Allen Bradley Micrologix 1000 Simulator (Analog)

Allen Bradley SLC 5/03

Allen Bradley WS5610 PLC Simulator PLC5

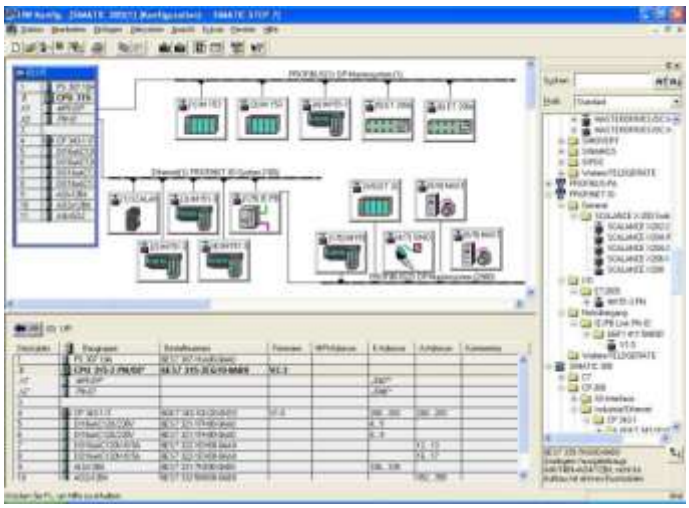
Siemens S7-1200 Simulator

Siemens S7-400 Simulator

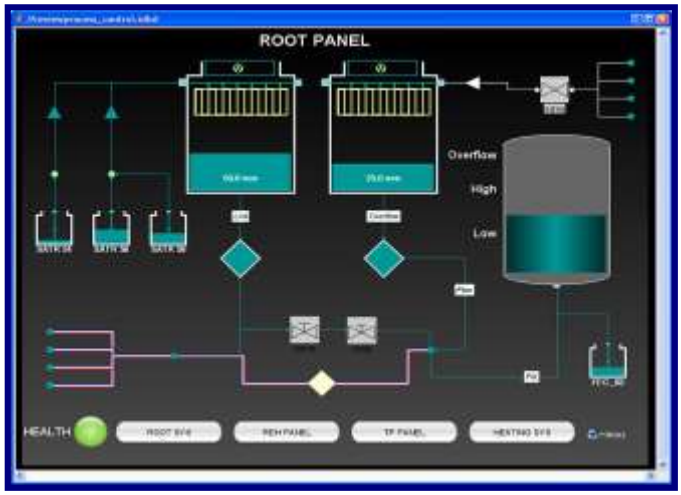
Siemens SIMATIC S7-300 Simulator

Siemens S7-200 Simulator

GE Fanuc Series 90-30 PLC Simulator



**Siemens SIMATIC Step 7 Professional Software**




**HMI SCADA**

## Course Coordinator

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