COURSE OVERVIEW IE0466
Telephone Switchboard Systems: Installation, Configuration, Service, Upgrade & Troubleshooting

Course Title
Telephone Switchboard Systems: Installation, Configuration, Service, Upgrade & Troubleshooting

Course Date/Venue
Session 1: May 05-09, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
Session 2: November 02-06, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

Course Reference
IE0466

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

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.

Telephone switchboard systems in the oil and gas industry are critical for seamless communication across onshore and offshore facilities. Their installation and configuration involve integrating rugged, explosion-proof hardware with VoIP or PBX systems to ensure reliable connectivity in remote and hazardous environments. Regular servicing and upgrades are essential to maintain compliance with industry standards and enhance operational efficiency.

This course is designed to provide participants with a detailed and up-to-date overview of Telephone Switchboard Systems: Installation, Configuration, Service, Upgrade & Troubleshooting. It covers the the history of communication and components; the real time communication modules and communication modules over IP; communication protocols and communication by using satellites; Siemens HiPath 4000 telephone system configuration; the communication maintenance programs, communication system accessories and alternatives; resolve redundancy in communications systems; Siemens HiPath 4000 maintenance details and versions; Siemens HiPath 4000 maintenance and system administration in a professional manner; the privileges of Siemens HiPath 4000 system.

Course Objectives

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

- Apply and gain an in-depth knowledge on telephone switchboard systems: installation, configuration, service, upgrade and troubleshooting
- Discuss the history of communication and its components
- Distinguish real time communication modules and communication modules over IP
- Carryout communication protocols and communication by using satellites
- Practice Siemens HiPath 4000 telephone system configuration
- Recognize and employ communication maintenance programs
- Identify communication system accessories and alternatives
- Avoid and resolve redundancy in communications systems
- Describe Siemens HiPath 4000 maintenance details and versions
- Perform Siemens HiPath 4000 maintenance and system administration in a professional manner
- Enumerate the privileges of Siemens HiPath 4000 system

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 an overview of all significant aspects and considerations of telephone switchboard systems: installation, configuration, service, upgrade and troubleshooting for electrical, control and safety managers, engineers 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.

Accommodation

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

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

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**. 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.

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:

Mr. Said Ghanem, MSc, BSc, is a **Senior Electrical & Instrumentation Engineer** with almost **20 years** of wide experience within the **Oil**, **Gas**, **Power**, **Petroleum**, **Petrochemical** and **Utilities** industry. His extensive experience widely covers in the areas of **Process Control & Instrumentation**, **Pressure & Temperature** Measurement, **Level & Flow** Measurement, **Control Valve & Actuator**, Distributed Control System (**DCS**), Programmable Logic Controllers (**PLC**), **Control System & Instrumentation**, **GE Steam Turbines**, **Speedtronic Mark II**, **V & VIe**, Control Systems, **GE Gas Turbine Frame V**, **Combined Cycle Power Plant**, **ABB DCS Control**, **Ansaldo Gas Turbine**, **Field Instrumentation & Calibration**, PLC Step7 Control Systems, **Transducers & Control Valves**, **Switches**, **Transmitters**, Proximity Sensors, Control Systems Cards, **Analog & Digital Multi-meters**, Druck DPI 610, Hand Pump, Hart Communicator 475, Two Ansaldo Gas Turbine Model AE94.2, Process, Control Philosophy ,Logic & Wiring Diagrams, Instrument Specifications & Data Sheets For Sensors, Control Valves, PRVs, Electrostatic Discharge (**ESD**), Digital & Microprocessor Based Instruments, Mark VI Control System Software Program (**Toolbox ST**), **Compact PCI Controller**, IO NET, IO Packs & Terminal Boards & Sulzer Turbines. Further, he is also well-served in Firefighting Systems, Smoke Detectors & Gas Detectors, Model Predictive Control (**MPC**) & Adaptive Control Strategies, **Control System** Optimization, **Real-Time Control System** Monitoring, **RCA** Methodologies, **Control Loops**, **Lean** Methodologies, Statistical Process Control (**SPC**), **Energy Efficiency & Process** Optimization, **Automation & Control** Systems, **Process** Safety & Troubleshooting, **Process** Safety Controls & Mitigation Strategies, **Rotating Equipment** (**Pumps**, **Turbines**, **Compressors**), Preventive Maintenance & Reliability-Centered Maintenance (RCM) and **Steam Generation** Systems.

During his career life, Mr. Said has held various significant positions as the **Instrumenta & Control Maintenance Engineer**, **Instrument Field Maintenance Engineer**, **Se Instrument Maintenance Engineer**, **Lead Instrument & Control Engineer** and **Se Trainer/Lecturer** from the Ministry of Electrical Energy, Egyptians Maintenance Com (EMC) and Belayim Power Station Petroleum Company (Petrobel).

Mr. Said has a **Master's** degree in **Electrical Engineering** and a **Bachelor's** degre **Electrical**, **Communication & Electronic Engineering**. Further, he is a **Cert Instructor/Trainer** and has delivered numerous trainings, courses, workshops conferences worldwide.

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

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Communication History***
0930 – 0945	*Break*
0945 – 1100	***Communication Components***
1100 – 1230	***Real Time Communication Modules***
1230 – 1245	*Break*
1245 – 1420	***Communication Modules Over IP***
1420 – 1430	***Recap***
1430	*Lunch & End of Day One*

Day 2

0730 – 0930	***Communication Protocols***
0930 – 0945	*Break*
0945 – 1100	***Communication by Using Satellites***
1100 – 1230	***Siemens HiPath 4000 Telephone System Configuration***
1230 – 1245	*Break*
1245 – 1420	***Siemens HiPath 4000 Telephone System Configuration (cont'd)***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Two*

Day 3

0730 – 0930	***Communication Maintenance Programs***
0930 – 0945	*Break*
0945 – 1100	***Communication Maintenance Programs (cont'd)***
1100 – 1230	***Communication System Accessories and Alternatives***
1230 – 1245	*Break*
1245 – 1420	***Redundancy in Communications Systems***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Three*

Day 4

0730 – 0930	***Siemens HiPath 4000 Maintenance Details***
0930 – 0945	*Break*
0945 – 1230	***Siemens HiPath 4000 Maintenance Details (cont'd)***
1230 – 1245	*Break*
1245 – 1330	***Siemens HiPath 4000 Maintenance Versions***
1330 – 1420	***Practical Session***
1420 – 1430	***Recap***
1430	*Lunch & End of Day Four*

Day 5

0730 – 0930	***Operation of Siemens HiPath 4000 Maintenance***
0930 – 0945	*Break*
0945 – 1030	***Siemens HiPath 4000 System Administration***
1030 – 1230	***Siemens HiPath 4000 System Administration (cont'd)***
1230 – 1245	*Break*
1245 – 1345	***Privilege of Siemens HiPath 4000 System***
1345 – 1400	***Course Conclusion***
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

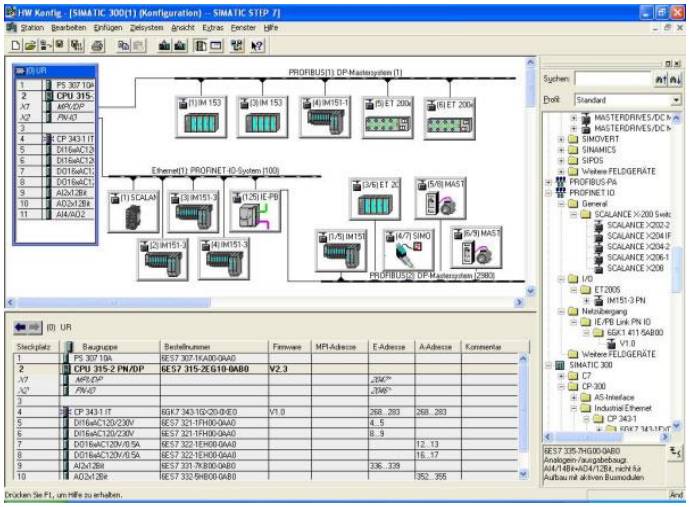
Siemens S7-1200 Simulator

Siemens S7-400 Simulator

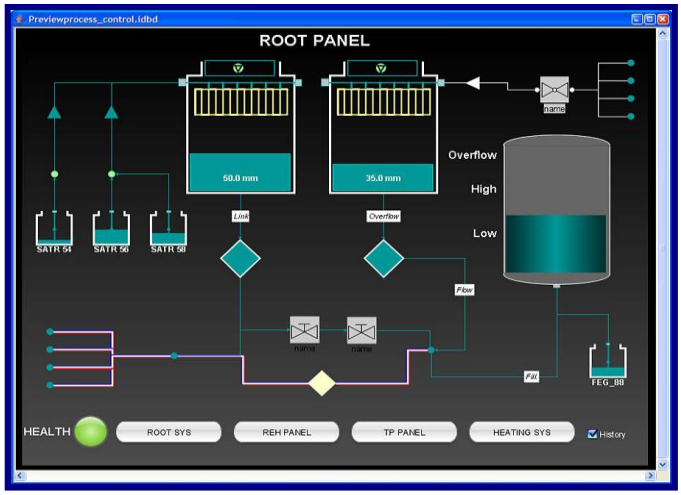
Siemens SIMATIC S7-300

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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