

COURSE OVERVIEW TE0342
Digital Transformation for the Water & Utilities Sector

Course Title

Digital Transformation for the Water & Utilities Sector

Course Date/Venue

November 09-13, 2026/Al Hosn Suite, Le Royal Méridien Abu Dhabi, Abu Dhabi, UAE

Course Reference

TE0342

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 our state-of-the-art simulators.



This course is designed to provide participants with a detailed and up-to-date overview of Digital Transformation for the Water & Utilities Sector. It covers the digital transformation, water supply, wastewater systems and digital maturity models; the core digital technologies, data-driven decision making and change management in digital transformation; the smart water networks, IoT architecture in utilities, smart metering systems, SCADA systems and automation; the asset management systems, cybersecurity in smart utilities, big data in utilities and advanced analytics; and the AI and machine learning applications, digital twins in utilities and optimization of operations.



During this interactive course, participants will learn the visualization and reporting, system integration and interoperability; the smart grid and smart water integration, sustainability and environmental impact; the regulatory and compliance consideration and advanced monitoring technologies; the resilience and risk management, digital transformation strategy development and implementation best practices; and the operational efficiency metrics, customer service indicators, sustainability KPIs and continuous improvement.

Course Objectives/Outcomes & Benefits for the Participants

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

- Apply and gain a comprehensive knowledge on digital transformation for the water and utilities sector
- Discuss the digital transformation, water supply and wastewater systems and digital maturity models
- Carryout core digital technologies, data-driven decision making and change management in digital transformation
- Recognize smart water networks, IoT architecture in utilities, smart metering systems, SCADA systems and automation
- Recognize asset management systems, cybersecurity in smart utilities, big data in utilities and advanced analytics
- Determine AI and machine learning applications, digital twins in utilities and optimization of operations
- Carryout visualization and reporting, system integration and interoperability as well as smart grid and smart water integration
- Identify sustainability and environmental impact, regulatory and compliance consideration and advanced monitoring technologies
- Apply resilience and risk management, digital transformation strategy development and implementation best practices
- Carryout operational efficiency metrics, customer service indicators, sustainability KPIs and continuous improvement

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 digital transformation for the water and utilities sector for management and leadership, operations and engineering roles, IT, digital and data specialists, policy, regulatory and sustainability professionals, consultants, contractors and technology providers, sector-specific and supporting roles 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:



Mr. Henry Beer is a **Senior Water Engineer** with over **30 years** of in-depth industrial experience within the **Petrochemical, Oil & Gas** and **Refinery** industries. His wide expertise covers in the areas of **Digital Transformation in Water & Utilities** including **Smart Water Networks, SCADA-based Monitoring & Control Systems, Water Data Acquisition & Analytics, Asset Performance Management, Predictive Maintenance Concepts, Digitalization of Water Distribution Systems, Process Automation, Remote Monitoring of Utility Operations and Operational Efficiency Optimization, Digital Transformation Strategy Development, Smart Metering Systems, Water Hydraulic Modelling, Water Distribution System, Water Analysis & Quality Control, Water Sampling, Water Resources Hydraulic, Water Hydraulic Operation & Troubleshooting, Crude Oil & Water Testing, Crude Oil Testing, Crude Stabilization Operations, Crude Oil Storage Handling, Crude Oil & Water Sampling Procedures, Equipment Handling Procedures, Crude Oil Testing Procedures, Water Analysis, Process Systems Foundations, Gas Processing Plant Operations & Control, Gas Processing Monitoring & Troubleshooting, Chemical Engineering, Process Equipment Design & Troubleshooting, Polymers & Polymerization, Applied Process Engineering, Process Plant Optimization, Process Plant Troubleshooting & Engineering Problem Solving, Process Plant Performance & Efficiency, Flare Blowdown & Pressure Relief Systems, Polypropylene Manufacturing, Polyethylene & Process Troubleshooting, Process Operation Troubleshooting, Fluidized Bed Reactor, Oil Movement & Storage, Power Plant Chemistry, Catalyst Manufacturing Techniques, Fuel Systems Management, Process Design & Optimization, Aviation Fuel, Diesel Engine, Jet Fuel, Petrol, IP Octane, Cetane Control, Pipeline Distribution, Boiler Fundamental Preparation, Flocculation Sedimentation, Hotline Water Softening Processes, Desalination Processes, Reverse Osmosis, Molecular Sieves, Loop Water Management System, Sludge Removal, Cooling Water System, Tank Farms and Hydrocarbons. Currently, he is the **Director** and **Senior Technical Consultant** wherein he is deeply involved in developing new industrial process and designing new process plants and equipment.**

During his career life, Mr. Beer has gained his practical and field experience through his various significant positions and dedications as the **Global Commissioning Manager, Senior Business Analyst, Water Engineer, Process Engineer, Chemical Engineer, Technical Sales Engineer, Senior Technician, Entrepreneur, Financial Consultant, Business Analyst, Business Financial Planner, Independent Financial Planner, Investment Independent Financial Advisor, Financial Broker, Trainer/Instructor** and **Technical Consultant** for various international companies such as the Sasol, TAG Solvents, Virgin Solvent Products, RFS Financial Services (Pty) Ltd, FNB and GHC Trading.

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.

Learning Design & Customization

This course can be customized to the exact requirements of clients. Haward Technology is so proud of our huge capabilities in tailoring our courses to the training needs of our valued clients.

Course Program

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

Day 1: Monday, 09th of November 2026

0730 – 0800	<i>Registration & Coffee</i>
0800 – 0815	<i>Welcome & Introduction</i>
0815 – 0830	PRE-TEST
0830 – 0930	Introduction to Digital Transformation <i>Definition and Key Concepts • Drivers of Digital Transformation in Utilities • Benefits (Efficiency, Sustainability, Resilience) • Challenges and Barriers</i>
0930 – 0945	<i>Break</i>
0945 – 1030	Overview of the Water & Utilities Sector <i>Water Supply and Wastewater Systems • Power and Utility Infrastructure Basics • Key Stakeholders and Operations • Regulatory Environment</i>
1030 – 1130	Digital Maturity Models <i>Levels of Digital Maturity • Assessing Organizational Readiness • Benchmarking Practices • Roadmap Development</i>
1130 – 1215	Core Digital Technologies <i>Internet of Things (IoT) • Cloud Computing • Big Data and Analytics • Artificial Intelligence (AI)</i>
1215 – 1230	<i>Break</i>
1230 – 1330	Data-Driven Decision Making <i>Importance of Data in Utilities • Data Lifecycle Management • Key Performance Indicators (KPIs) • Real-Time vs Historical Data</i>

1330 – 1420	Change Management in Digital Transformation Organizational Change Challenges • Leadership and Culture • Stakeholder Engagement • Training and Capability Building
1420 – 1430	Recap 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, 10th of November 2026

0730 – 0830	Smart Water Networks Concept of Smart Water Systems • Sensors and Monitoring Devices • Leak Detection Technologies • Pressure and Flow Monitoring
0830 – 0930	IoT Architecture in Utilities Devices and Sensors • Communication Networks (LoRaWAN, NB-IoT) • Data Platforms • Integration with Existing Systems
0930 – 0945	Break
0945 – 1100	Smart Metering Systems Advanced Metering Infrastructure (AMI) • Data Collection and Billing • Demand Forecasting • Customer Engagement
1100 – 1215	SCADA Systems & Automation Role of SCADA in Utilities • Real-Time Monitoring and Control • Automation of Processes • Integration with IoT
1215 – 1230	Break
1230 – 1330	Asset Management Systems Digital Asset Tracking • Predictive Maintenance • Lifecycle Management • Performance Optimization
1330 – 1420	Cybersecurity in Smart Utilities Threat Landscape • Data Protection Strategies • Secure Communication Protocols • Compliance Standards
1420 – 1430	Recap 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, 11th of November 2026

0730 – 0830	Big Data in Utilities Sources of Utility Data • Data Storage and Processing • Data Integration Challenges • Data Governance
0830 – 0930	Advanced Analytics Descriptive, Predictive, and Prescriptive Analytics • Trend Analysis • Forecasting Techniques • Decision Support Systems
0930 – 0945	Break
0945 – 1100	AI & Machine Learning Applications Predictive Maintenance • Demand Forecasting • Fault Detection • Optimization Algorithms
1100 – 1215	Digital Twins in Utilities Concept and Benefits • Modeling Physical Systems • Real-Time Simulation • Use Cases in Water and Energy Systems

1215 – 1230	Break
1230 – 1330	Optimization of Operations Energy Optimization in Water Systems • Pump Scheduling • Network Optimization • Cost Reduction Strategies
1330 – 1420	Visualization & Reporting Dashboards and KPIs • Data Visualization Tools • Real-Time Monitoring Interfaces • Communicating Insights
1420 – 1430	Recap 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, 12th of November 2026

0730 – 0830	System Integration & Interoperability Integrating Legacy Systems • APIs and Middleware • Data Standardization • Interoperability Challenges
0830 – 0930	Smart Grid & Smart Water Integration Integration of Water and Energy Systems • Demand-Side Management • Cross-Sector Optimization • Resource Efficiency
0930 – 0945	Break
0945 – 1100	Sustainability & Environmental Impact Reducing Water Losses • Energy Efficiency Improvements • Carbon Footprint Reduction • Circular Economy Approaches
1100 – 1215	Regulatory & Compliance Considerations Data Privacy Regulations • Environmental Regulations • Reporting Requirements • Governance Frameworks
1215 – 1230	Break
1230 – 1330	Advanced Monitoring Technologies Remote Sensing • Satellite Monitoring • Drones for Inspection • Advanced Sensors
1330 – 1420	Resilience & Risk Management Infrastructure Resilience • Climate Change Impacts • Emergency Response Systems • Risk Mitigation Strategies
1420 – 1430	Recap 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

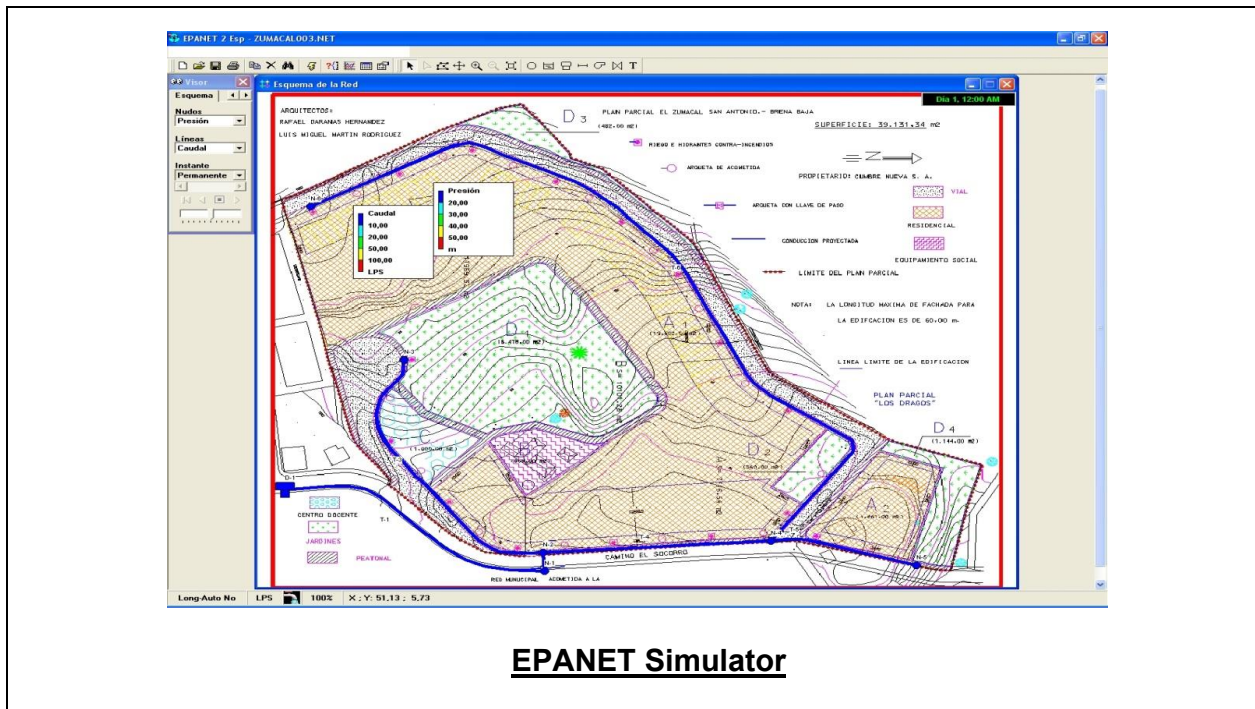
Day 5: Friday, 13th of November 2026

0730 – 0830	Digital Transformation Strategy Development Defining Vision and Goals • Roadmap Creation • Prioritizing Initiatives • Investment Planning
0830 – 0930	Implementation Best Practices Pilot Projects and Scaling • Agile Methodologies • Vendor Selection • Project Governance
0930 – 0945	Break

0945 - 1100	Case Studies in Utilities <i>Smart Water Network Implementations • Digital Wastewater Treatment Plants • Energy Utility Transformation Examples • Lessons Learned</i>
1100 - 1230	Performance Measurement & KPIs <i>Operational Efficiency Metrics • Customer Service Indicators • Sustainability KPIs • Continuous Improvement</i>
1230 - 1245	<i>Break</i>
1245 - 1315	Future Trends in Utilities <i>AI-Driven Autonomous Systems • Edge Computing • Blockchain Applications • Decentralized Infrastructure</i>
1315 - 1345	Capstone Project & Evaluation <i>Designing a Digital Transformation Plan • Selecting Technologies • Identifying Benefits and Risks • Presenting Recommendations</i>
1345 - 1400	Course Conclusion <i>Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course</i>
1400 - 1415	POST-TEST
1415 - 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>

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 the latest revision of “EPANET” simulators.



Course Coordinator

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