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/Executive Boardroom B Meeting Room, InterContinental Abu Dhabi, Abu Dhabi, UAE

3.0 CEUs (30 PDHs) AWARD

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.

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. Sam Ocie, PhD (on-going), MSc, is a **Senior Water Engineer** with almost **25 years** of extensive experience in **Water Testing & Commissioning** Techniques, **Wastewater** Treatment, **Water Supply** Design, Qualitative Analysis of Soil & **Ground Water**, **Waste Water Effluent Treating** Facilities, **Water Analysis**, **Water Treatment** Technology, **MBBR**, **Hydraulic Design**, **Hydraulic Network** System, **Laboratory Practice**, **Analytical Measurement & Uncertainty**, **Effluent Treatment & Slurry Handling**, **Oily Water Treatment Technology**, **Water Equipment** Selection & Inspection, **Water Networks Components**, **Groundwater**: **Well Inventory**, **Monitoring** & **Conservation**, **Oily Water Treatment** and **Well Injection**, **Water Distribution** Systems, **Water Networking**, **Water Pipeline** System, **Water Distribution System**, **Water Quality** Analysis, **Hydraulic** Modelling Systems, **Pumping Stations**, **Water Reservoirs**, **Water Storage Tanks**. Further he is also well versed in **Data Analysis & Statistics**, **Artificial Intelligence**, Advanced **Data Analysis & AI**, **AI** in **Financial** Data Processing & Analysis, **AI Tools** for **Finance**, **AI & Data Governance** in Finance, **AI** in **Accounts Payable & Receivable**, **Data Analytics**, **Querying Data** using **ArcGIS**, **Data Management**, **IT Strategy** & **Architecture** Principles and Practices, **Data Science & Big Data Analytics**, **Machine Learning & Deep Learning**, **Data Mining**, **Data Collection** Procedures and **Financial** Forecasting, Financial **Model Development**.

Mr. Ocie had occupied several significant positions as the **Head** of **Traffic Planning & Road Design Department**, **Traffic Police Lieutenant**, **Head** of **Transport** in **Artillery Brigade**, **Cargo Development Coordinator**, **Road Safety & Logistics Consultant** and **Senior Trainer/Consultant** for various international companies such as the Chartered Institute of Logistics & Transport, **PDO**, Sheida International LLC, Niskogradnja, Ministry of Interior and Serbian Army.

Mr. Ocie has a **Master's** degree in **Logistics and Supply Chain** and currently taking up **PhD** degree on **Applying Machine Learning to Predict Human Behavior**. Further, he is a **Professional Engineer** (Chartered Engineer) from the Serbian Chamber of Engineers, a **Chartered Member** of the **Chartered Institute of Logistics and Transport** in **UK** and an active **International Member** of **Institute of Transportation Engineers** in **USA** and the **American Production & Inventory Control Society**. He is also a **Certified Instructor/Trainer** and has delivered numerous trainings, courses, workshops, seminars and conferences internationally.

Accommodation

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

Training Methodology

Our courses employ an interactive, learner-centred methodology that integrates theoretical knowledge with practical application. The training is delivered through a suitable combination of some or all of the following methods, selected according to the course content and learning objectives:

- Instructor-led presentations and facilitated discussions
- Practical workshops and participant presentations
- Hands-on exercises and real-world case studies
- Equipment demonstrations and technical drawings
- Hardware- and software-based simulations
- Gamification & Role Play in soft-skills courses only
- Virtual Reality (VR) and Augmented Reality (AR)
- Instructional videos and other relevant training resources

This blended approach encourages active participation, strengthens practical skills and supports the effective application of acquired knowledge in the workplace.

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

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*

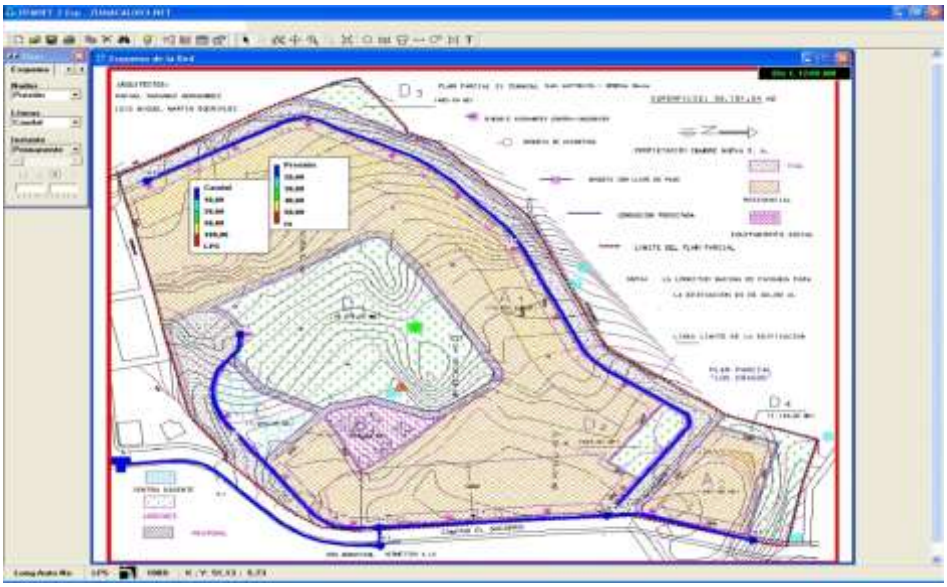
Day 5: Friday, 13th of November 2026

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*** *Smart Water Network Implementations • Digital Wastewater Treatment Plants • Energy Utility Transformation Examples • Lessons Learned*

1100 – 1230	***Performance Measurement & KPIs*** *Operational Efficiency Metrics • Customer Service Indicators • Sustainability KPIs • Continuous Improvement*
1230 – 1245	*Break*
1245 – 1315	***Future Trends in Utilities*** *AI-Driven Autonomous Systems • Edge Computing • Blockchain Applications • Decentralized Infrastructure*
1315 - 1345	***Capstone Project & Evaluation*** *Designing a Digital Transformation Plan • Selecting Technologies • Identifying Benefits and Risks • Presenting Recommendations*
1345 – 1400	***Course Conclusion*** *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 the latest revision of "EPANET" simulators.



EPANET Simulator

Course Coordinator

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