ABB

South Devon College

WATER INDUSTRY TECHNOLOGY DAY

Friday 11th February 2022

INTRODUCTION

South Devon College and ABB will host an engineering and technology day for apprentices, engineering students and newly qualified engineers working within or alongside the Water Industry. The program will include specific aspects of electrical engineering and technology used in the industry. The event is open to all interested parties from other engineering/ technical disciplines.

VENUE

Hi Tech & Digital Centre, South Devon College, Vantage Point, Paignton TQ4 7EJ

The event will be streamed online and will be available for people to attend in person, with a limited number of seats available. This will be held at South Devon College's Hi Tech & Digital Centre, Paignton TQ4 7EJ. Registration for the online attendance can be found through the **EventBrite link; https://www.eventbrite.co.uk/e/digital-innovations-in-technology-day-tickets-157062228353**

AGENDA

Learning Module(s)	A time allocation of 50 minutes for every module with a 20-minute break between modules.
Lunch Time	A time allocation of 40 minutes

TIME	MODULE DESCRIPTION	SPEAKER
09.00	Arrival & Refreshments	
09.30	Introduction with health and Safety	Adrian Bevin
09.40	Motor Technology	Luciano Santos
10.50	Frequency Converters	Dan Banks
12.00	Electrification	Tim Nicholas
12.50	Lunch	
13.30	Instrumentation	Andrew Griffin
14.40	Digital – Remote Monitoring	Steve Hughes
15.30	Final Questions and Close	Adrian Bevin
16.00	Event closed.	

SPEAKERS

Luciano Santos	ABB Area Manager for Drives and Motors. For 13 years Luciano has worked across various technical disciplines within ABB and holds a bachelor's degree in Electronic Engineering.
Dan Banks	ABB Water and Wastewater Manager for Variable Speed Drives. Dan has 25 years for technical background in both the utility and industrial markets. His current role of 8 years is working within the UK water industry. Dan has a master's degree in Electronic and Electrical Engineering.
Andrew Griffin	ABB Area Manager for Instrumentation. Andrew has developed his strong knowledge with 27 years of experience within Instrumentation for the Water Industry.

SPEAKERS

Tim Nicholas   ABB Engineer for over 8 years. Tim's prior experience to ABB includes the Army Royal Engineers. Tim qualified with a Higher National Diploma for Electrical Engineering, Robotics and Process Automation. He successfully completed a four-year Engineering Apprenticeship.

Steve Hughes   Steve is responsible for ABB Motion Service Marketing & Sales as well as the development of the ABB Ability™ digital products and services offering for ABB's Motion business. He is working together with other ABB UK businesses to develop integrated digital solutions across their entire industry and customer base. Steve has worked in ABB for 26 years in sales and channel management roles for both variable speed drives and instrumentation products.

PROGRAM

Module 1   Motor Technology

Introducing the new energy demand for Eco Design 2021 and the direction to develop more efficient motors. A brief introduction into various types of motors will highlight the differences between the standard induction motor and a high efficiency IE5 rated Synchronous Reluctance Motor. Compliance of motors with the Water Industry Mechanical and Electrical Specifications sets the standards for the acceptance of the electrical motor in this harsh environment. Aspects of these standards will be discussed.

Module 2   Frequency Converters

In the modern water industry, control of our network is key to reducing carbon emissions, dropping energy consumed and lowering costs. Improving the resilience of our systems is vital to achieving our outcomes. By controlling how we pump water, we can control dangerous pressure spikes that are one of the key drivers of leaks and bursts. Frequency Converters bring control, energy efficiency and resilience to the modern water industry. This is an introduction to what they are, how they work and how they help us in Water Industry applications.

Module 3   Electrification

The content will cover an overview of the main Low voltage switchboards and motor control centre. The terminology used within the electrical plantroom environment including an explanation of circuit breakers, fuses and transfer switches. This will lead into the motor control and protection solutions and the module will finish with an introduction into remote supervision and operation.

Module 4   Instrumentation

Instrumentation in the water industry will focus on water quality and conductivity/ temperature. The scope of the module will include how technology for transmitters and sensors are used within the water industry applications. The subject will explore how continuous water analysis is necessary within the water industry and how this is achieved using the most modern digital range of instrumentation, transmitters, and sensors. Uncertainty is removed with plug and play technology which provides advanced diagnostics and remote condition monitoring.

Module 5   Remote Condition Monitoring

Variable speed drives and motors are now commonplace within the water industry, some of these have associated redundancy built in with duty standby configuration while others are more critical in nature. Other than routine maintenance (sometimes), drives and motors are generally left to run until they fail, and all focus goes on fixing he issue at the time of failure, often at high costs due to the urgency to make a fix. The faulty asset is in control of the process outage, not operations or maintenance.

The cost of unplanned machine failures can be far more than just lost output, it can result in additional costs associated with waste materials, labour, emergency spare part supply, fines, and even damage to reputation. Drives and motors remote condition monitoring helps to monitor critical health and operating parameters of mechanical powertrain components in real-time. This means users are given advanced notification of potential problems, so maintenance can be planned and undertaken before a failure occurs.

 ABB's Digital Powertrain technology not only allows manufacturers to predict when maintenance is required, but it gives them a broad picture of the unique influence components have on one another allowing them to improve the performance, reliability, and efficiency of their powertrain which in turn improves system optimization.

Registration Details

All attendees please register with your full name and email address as per below link;

https://www.eventbrite.co.uk/e/digital-innovations-in-technology-day-tickets-157062228353