Charting the Course: Leading the Way

2019

CAROTEK® Process Solutions Summit

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C001 Optimize Your Supply Chain with Inventory Management Solutions

Endress+Hauser 2:45 - 3:45 pm Wed., TH

Inventory Management Solutions help you reduce inventory costs, improve customer satisfaction, and increase productivity. From easy monitoring of tank and silo levels to highly accurate custody transfer Tank Gauging at tank farms and the automation of terminals, solutions are available. Software, gateways and process instruments work together to get the data where it needs to go to most effectively run your plant. Learn how these solutions work and see examples of how others are using this technology to manage their inventories.

C002 Empowering the Mobile Worker: Carefree running of Production with IIoT Services

Endress+Hauser 9:45 - 10:45 am Wed., TH

Endress+Hauser's smart instruments can send on-board diagnostics, status information and other parameters needed by maintenance people to host systems via digital communications. Once received by a host system, this data is easily accessible from handheld computers, smartphones and control system consoles. You can download Endress+Hauser's new digital apps to check the status of your device wherever you go.
Using our IIoT digital services with the most modern and secure Internet technologies, complicated project startups, asset management concerns, and reactive maintenance are a thing of the past.
Learn how Endress+Hauser can support and help prepare your plant for IIoT!

C003 Optimize calibration + verification efficiencies in the Food and Beverage Industry

Endress+Hauser 2:45 - 3:45 pm Wed., TH

Regular calibration is essential to keep the instrumentation controlling your quality-critical processes to spec. Endress+Hauser provides timely, traceable and cost-effective services that are accompanied by clear and concise calibration certificates. From in-situ testing to fully accredited laboratory calibration, we carry out and advise on every aspect of calibration.

C004 Improve Your Process Safety: Introduction to Functional Safety

Endress+Hauser 11:00 am - 12:00 pm Wed., TH

"Functional safety" has come into focus for the process industry more and more. The term SIL (Safety Integrity Level) is used frequently in this context. The production of a safety instrumented system must be done with the best SIL certified instruments. This presentation is intended to provide an initial overview of functional safety and SIL systems in the process industry. Learn how Endress+Hauser can help reduce your risk.

C005 Reduce Cost and Improve Efficiency in your Process Steam Plant with Advancements in Vortex Flow Technology

Endress+Hauser 8:30 am - 9:30 am Wed., TH

Vortex flow meters have traditionally been the flow meter of choice in steam applications, and with the advancement in technology that allows for clear thinking and actionable insights on process steam.
In this session you'll learn about proven robustness, resistance to vibration, temperature shocks, and water hammer, as well as wet steam detection and industry-compliant two-wire technology. It's a must for those with steam lines in your plant!

C006 Advancements in Point Level and High-Frequency Free-Space Radar

Endress+Hauser 8:30 am - 9:30 am Wed., TH

For reliable radar level measurement, it's essential to choose the right frequency for your application - we will help you choose the right one for your task. We'll also discuss how to save time and money by harnessing the power of Heartbeat Technology to achieve documented point level proof testing and on-demand measurement verification. Modern level instrumentation is now more affordable and capable for difficult applications. Learn more about how advances in technology, inventory management solutions, and overspill protection continue to show us that costs can decrease as reliability and safety increase.

C007 Electronic Differential Pressure Measurement- Advantages and Disadvantages vs. Traditional Impulse Lines and Oil-filled Capillaries

Endress+Hauser 1:30 pm - 2:30 pm Wed., TH

Differential pressure (dp) measurement is widely used to measure level in pressurized and vacuum tanks. Traditional DP measurement using impulse lines and capillaries has its drawbacks in terms of accuracy and total cost of ownership, and DP systems that use oil-filled capillaries face issues in applications with changing ambient temperatures.
Electronic DP systems eliminate these problems - you not only benefit from precise measured values but also increased reliability and process safety. Learn more about the advantages - and disadvantages - to new Electronic DP measurement technology.

C008 Renewable Energy from Biogas via Anaerobic Digesters

Endress+Hauser 9:45 am - 10:45 am Wed., TH

Anaerobic digesters are commonly used to treat sewage sludge in municipal wastewater plants. These systems are also being used increasingly in waste treatment plants across the industrial spectrum, notably in food & beverage, brewing, chemicals, pulp & paper and large-scale agriculture. Biogas, a by-product of the anaerobic digester process, is created as a result of the solid waste treatment process. This same Biogas, which is rich in methane, has the potential to be used as an energy source. Wastewater treatment is a 24-7 process, and produced biogas via anaerobic digesters can be considered as an indefinitely available renewable energy source. Learn how intelligent Ultrasonic flowmeters can accurately measure this Biogas and provide real-time methane content data that enables the safe and efficient operation of digesters, where additional revenue can be earned from the combustion of biogas to generate electrical energy.

C009 The Mobile-Connected Worker

Pepperl+Fuchs 1:30 pm - 2:30 pm Wed., TH

The Mobility focused technologies is reducing cost and improving efficiency in all industries. Mobility computing and communication technologies are enabling industries to improve workforce productivity, data quality and the speed and accuracy of decision making. We will be discussing the IoT that is becoming increasingly important in the industrial sector. During our in-house discussion, we will provide a technical overview of how the right Mobility is maximizing workforce productivity; providing the right information, when needed & where needed; accurate data capture for real-time informed decision making, and minimizing cost and time improving knowledge retention.

C010 How to Measure Your Entire Process Online with a Single Probe

Kaiser 9:45 am - 10:45 am Wed., TH

Using a technique called Raman spectroscopy, measurements can be made to determine the chemical composition of a liquid, solid or gas in the process without any sample preparation. We present multiple application examples that highlight the use of Raman spectroscopy to measure, understand and control manufacturing processes. Advances in instrumentation technology have enabled application of Raman spectroscopy in fields such as polymer production, petroleum refining, life sciences and process control in various manufacturing environments. Integration of the Raman-derived process data into a quality management system for chemical, hydrocarbon, bioprocessing, pharmaceutical or food safety testing improves process efficiency and safety.

C011 Process Weighing 101 - How to Select a Weighing Solution for Your Process that Optimizes ROI, Reduces Downtime and is the Least Total Cost to Own

Hardy Process 8:30 am - 9:30 am Wed., TH

Weigh scales used in process and packaging are an engineered combination of sensors, instrumentation and accessories; learn how choosing the best combination for your process, best practices for installation and long term maintenance your scale system can save your company thousands of dollars a year. Starting with the sensors, this session will identify common issues that plague industrial weighing and present solutions to increase accuracy, reduce calibration time, and simplify troubleshooting.

C012 Stop Living in Isolation - Select and Write Better Valve Specs

Advanced Valve 9:45 am - 10:45 am Wed., TH

Did you know that every isolation valve has one of four specific Valve Sealing Mechanisms? The ability to properly select the correct valve for an application depends on your knowledge and understanding of the 4 Sealing Mechanisms of Isolation Valves! "Comprehensive Valve Application Training" or CVAT is an 8 hour class which focuses on the proper application of the most common types of Industrial Process Valves. This 1 hour introduction to CVAT will highlight some of the most important application considerations, many of which you are probably not aware.
We will also touch on:
• Proper procedures for Double Block & Bleed isolation.
• Piping considerations for Steam Control Valve selection.
• Writing better Valve Specifications.

C013 How Strong Is Your Weakest Link?

Valtek 8:30 am - 9:30 am Wed., TH

The Control Valve is typically the only component in a process loop the ACTUALLY MOVES to adjust the process. How are control valve “sized”, their ability to respond to signal changes, and providing a predictable output has significant impact on plant efficiency and profitability! After this session, you will understand the factors critical to control valve performance, sizing, and gain knowledge on “best fit” for the type of control valve needed for today’s demanding applications.

C014 Get Smart... With Control Valve Diagnostics via SmartTechnology

Flowserve 11:00 am - 12:00 pm Wed., TH

Are your control valves operating at optimal performance? Do they provide the necessary feedback to know they are "healthy? Do unexpected control valve failures upset processes or cause production loss/shutdowns? If you answered "yes", we are happy to inform you there is a solution ! With "smart" positioner technology combined with intuitive software you can gain real-time diagnostics/data, exact condition and performance of your control valve. Join us to look at monitoring valves, preventing unexpected failures and how to perform predictive maintenance.

C015 Make It Rain! How Proper Valve Selection in the Pulp & Paper Industry Can Increase Profits

DeZurik 11:00 am - 12:00 pm Wed., TH

Take a journey through valve applications in the Pulp & Paper Industry. You will come away with increased knowledge of valve solutions to improve process "uptime" and make your plant more profitable!

C016 Have the Rules Changed for Vortex Grit Removal?

Smith & Loveless 11:00 am - 12:00 pm Wed., TH

Efficient grit removal is fundamental for protecting and optimizing downstream Water Resource Recovery Facility processes and equipment. Recent activity has placed an emphasis on the nature of grit, resulting in more comprehensive and advanced studies. The presentation will discuss complete aspects of five grit efficiency tests recently conducted at different WWTPs, advantages of baffled grit systems, and common problems with grit system design.

C017 Viking Internal Gear Hands-On Training

Viking 8:30 am - 10:30 am Wed., TH (2-hr class)

Hands-On Gear Pump disassembly and rebuild. You and your colleagues will have your own work station, factory built pump and the tools you will need for a complete Gear pump disassembly and re-build. You will see and touch the components that make up an Internal Gear Pump, perform a disassembly and rebuild in 90 minutes. You will have a trainer and service technicians available to help you through this hands-on educational process. You will learn about wear points in a gear pump and what to look for in wear patterns to find the root cause of a gear pump failure. You will learn about factory tolerances and how to measure tolerance in your pump to determine necessary parts replacement. This class is suitable for all attendees to the PSS. From entry level to corporate executive this is your chance to learn about how an Internal Gear Pump works. Take this opportunity to learn more about a total process system and how you can increase your uptime performance in the workplace. At the end of the class you will receive a certification of completion of this Pump Analysis Class.

C018 Best Practices to Kill Your Pump!

Carotek 1:30 pm - 3:30 pm Wed., TH (2-hr class)

See a working pump module and watch as we subject it to all the things you can do wrong in a pump system. We will demonstrate first hand some of the common problems in a pump system that can kill your pump. Here are the situations and topics we will cover in this live demo. 1-Skip the strainer - We will show pumps that have been destroyed by foreign objects that entered the suction of the pump. 2- Starve the Pump- We will demonstrate common suction problems and how it affects pump performance. 3- Over-speed the pump - demonstrate the fluid dynamics when you run the pump too fast. 4- Over-pressure the pump - see how common discharge restrictions over pressurize and reduce the life of the pump. 5-Run to Failure-see how you can monitor your pump to indicate upset conditions and shut the pump down before catastrophic failures. 6-Deadhead the Pump - illustrate common discharge problems that can deadhead a pump. We will show wear patterns that indicate deadhead and over-pressure. 7- Install the Pump poorly-severe misalignment, excessive flange loading, and pipe stress can severely damage your pump. 8-Change the service without consulting your pump expert - examples include pumping thicker, more corrosive, less lubricating or abrasive fluids without consideration for the current pump construction. 9-Run relief valve in full bypass - relief valves are there to protect your pump and are not to be used as full bypass valves. 10- Skip preventive maintenance - re-greasing bearings, changing gear box oil, and replacing worn parts will all extend the life and performance of your pump. Overall you will learn how pump failures are more often a symptom of a pump system problem and not a fault of the pump.

C019 Sulzer Process Pumps ANSI Centrifugal Pump Hands-on

Sulzer Process Pumps 1:30 pm - 3:30 pm Wed., TH (2-hr class)

Hands-On ANSI Centrifugal pump disassembly and re-build. This will be a small hands-on class where you and your colleagues will work together to disassemble and re-build an ANSI process pump back to factory standards. You and your team will have your own workbench, tools and the pump to perform this task. You will learn about the components on an ANSI pump and how each has it's importance in the pump's reliability. The new CPE process pump will include the bearing frame, back plate, seal chamber, the rotating components and the casing. You will learn how to look for wear areas and what the causes may be. Learn about pump hydrodynamics and the right way to rebuild a process pump for better reliability.

C020 Sandpiper Air-operated Double-Diaphragm Pump Hands-on Class

Warren Rupp / Sandpiper 8:30 am - 10:30 am Wed., TH (2-hr class)

Hands-on Pump disassembly and rebuild. This is a small class where you and your colleagues will work together to tear down and rebuild an Air Operated Double Diaphragm pump. Your team will have your own work bench, the pump and the tools to complete the task. This class is suited for everyone from Maintenance to Engineering to Purchasing and Management. You'll learn about the components of this pump and how it works. You'll learn how to identify wear points, root cause failure and what you can do to prolong the life of your pump. Once you're finished we'll put air to the pump and operate it to see how well you performed the Pump rebuild. At the end of the class you will receive certification of your Pump Maintenance training session to take with you. For an hour and a half of your time you can't afford to miss this Hands-On educational session

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C021 Moving Air- What are the technologies available for Aeration and Pneumatic Conveying Applications?

Gardner Denver 1:30 pm - 2:30 pm Wed., TH

There are a number of ways to produce air flow. Most air flow applications are satisfied by centrifugal blowers or positive displacement blowers. But how do you know which one to use? This basic overview of the equipment available to move air will give you the information you need to make a proper selection. Flow of air and the discharge pressure required are the beginning of selecting the right blower for your application. Learn more about Centrifugal blowers vs. PD blowers and why to choose one over another.

C022 The Difficult Process of Selecting Positive Displacement Pumps

IDEX Corporation 9:45 am - 10:45 am Wed., TH

Selecting centrifugal pumps for low viscosity, water consistency types of fluids is a relatively simple process. Establishing flow, head and brake horse power will surely guide you to the most efficient centrifugal pump curve. But when high viscosity, solids, abrasives and shear sensitive products come into play you will likely turn to PD pumps. The problem with PD's is which one to select. In this class you will learn about the top (5) PD pump technologies and when to apply them in these difficult applications.

C023 Develop Analytics That Scale Using FactoryTalk® InnovationSuite

Rockwell Automation 8:30 am - 9:30 am Wed., TH

In the Industrial Internet of Things, is your aim to collect data or to gain insight? Learn how FactoryTalk Analytics tools speed time to insight by connecting to and modeling processes, then validating, calculating and presenting actionable insights to key stakeholders at relevant levels of an organization and operation.

C024 Using EtherNet for Process Control

Rockwell Automation 11:00 am - 12:00 pm Wed., TH

EtherNet 101 for Process Control, including FactoryTalk Security and Policy Manager. Why you should be concerned about safety and security within your process solution.

C025 Batch Management: Overview of What's New and What's Next

Rockwell Automation 1:30 pm - 2:30 pm Wed., TH

The Rockwell Automation modern batch solution leads to new productivity gains through ground breaking new products. This session explores the features and capabilities of the latest release of FactoryTalk® Batch. It also provides an overview of new offerings such as controller-based sequencing with the SequenceManager™ solution and new mobility capabilities. The session will also provide a preview of upcoming features and capabilities of the Rockwell Automation portfolio of batch and sequencing products.

C026 Trends in the W & WW Industry

Rockwell Automation 9:45 am - 10:45 am Wed., TH

In this session, we will examine important trends in the W&WW Industry, especially focusing on (i) America's Water Infrastructure Act of 2018, (ii) Change Management & Disaster Recovery and (iii) Cyber Security.

C027 Power Quality

Rockwell Automation 2:45 pm - 3:45 pm Wed., TH

Did you know 30-70% of equipment downtime can be attributed to power quality. Why do power quality events occur and how do they impact production? What are the methods to measure power quality and solutions to mitigate voltage sags?

C028 Optimizing Plant Utilities

Armstrong 2:45 pm - 3:45 pm Wed., TH

Thermal Utilities, namely Steam Systems and Boiler Plants, are a vital component of industrial production and institutional operations. Safe and efficient operation of these systems are critical but the systems are often overlooked or misunderstood. This class will provide an overview of what a Thermal Utility Assessment is and how it can help you get your arms around how the system works and can be improved. We will touch on the important aspects of the boiler room, distribution system, heat exchangers and condensate return systems and how to execute a strategy for improvement.

C029 The Evolution of Wireless Technologies

Armstrong & Everactive 11:00 am - 12:00 pm Wed., TH

Learn about the various options available today for wireless monitoring of process equipment and process variables. This includes wired, battery powered and battery-less systems.

C030 Automatic Filtration Technologies

Eaton Filtration 8:30 am - 9:30 am Wed., TH

This course will cover the types of automatic self-cleaning filtration and typical applications for each. This includes backwashing and mechanically cleaned technologies.

C031 Heat Trace in the Workplace

Thermon 1:30 pm - 2:30 pm Wed., TH

This session is an intro into best practices for freeze protection for your entire facility including valve tracing, entry seals, splicing bundles, end termination and proper installation practices.

C032 Preparing for the Implementation of Ammonia-Based Aeration Control (ABAC) Process

Charlotte Water 1:30 pm - 2:30 pm Wed. only

Charlotte Water is implementing its first Full Scale Ammonia Based Aeration Control (ABAC) Process at the Sugar Creek WWTP, with hopes to see a significant Energy Reduction on Aeration Costs. Successful implementation of the ABAC Process relies on the right Selection of Instruments, Placement of the Instruments in the Process, Process Air Blower Design, and the Development of the Control Logic. The ABAC Process must have the flexibility to both meet Permit Limits, and to reduce the overall Air Demand to achieve the desired Energy Savings.

C033 Maximizing the Flexibility of your Treatment Plant Design for Phosphorus Removal

Charlotte Water 2:45 pm - 3:45 pm Wed. only

Charlotte Water's Sugar Creek WWTP Improvements Project was initially designed to achieve Phosphorus Removal chemically, however, that approach has proven problematic. With Interference from a local Industry Discharge, and Nutrient Harvesting on the horizon for Charlotte Water, the Sugar Creek WWTP Staff have devised a plan to convert the planned Aeration Basin Modifications to work in a Biological Phosphorus Removal configuration. By utilizing the Flexibility designed into the Aeration Basin improvements, Plant Staff expects to reliably achieve Biological Phosphorus Removal to <1 mg/L.