Water / Wastewater Industry Division

Setting the Standard for Automation™

Calendar of WWID Events

Jun 13-16, 2021	AWWA ACE 2021
Summer 2021	**2021 Energy and Water Automation Conference (EWAC) Webinars** July 20, Aug 3, and More Dates TBA
Spring-Fall 2021	WWID Connect Live virtual events Jun 30 and More Dates TBA
Oct 16-20, 2021	WEF WEFTEC 2021

In this Issue:

Newsletter Spring 2021

Director's Welcome

Manoj Yegnaraman, Carollo Engineers Inc.

Greetings and a warm welcome to all of you! I believe this Spring 2021 newsletter will serve a great resource for you. It is filled with technical articles, event details hosted by ISA WWID and other Divisions/Committees, and information from our ISA Division & Executive Board Members. I will take this opportunity to thank our ISA WWID Board Members who have been putting in a lot of effort in planning all Division activities, which includes putting together this newsletter.

We have been busy since the beginning of 2021. As I had mentioned in my previous newsletter, we have started to utilize ISA Connect as one of the ways to communicate with you starting this year. One of the successful Connect platforms used by multiple Divisions is "ISA Connect Live" using Zoom. As a refresher, these are short 30-60 minute sessions hosted by Divisions, Sections, specific ISA Committees, etc. The purpose of these video calls is for members to discuss specific technical topics among each other. These sessions are usually moderated by the corresponding Board members.

Several of you participated in our first WWID Connect Live meeting on March 25, 2021. This first meeting was different in that it was more of a Division Planning meeting, rather than a meeting to discuss technical topics. Working as a group we put together the plans that you have been reading about in our email messages and will find more.… **(continued on page 2)**

Newsletter Editor's Welcome

Graham Nasby, City of Guelph Water Services

Welcome to our Spring 2021 newsletter! We are finally starting to see some light at the end of the tunnel with respect to the global COVID-19 pandemic. Vaccination rates continue to increase, and in populations with increased vaccination we are seeing a steady decline in new cases. In many countries including the UK, USA and Canada, we are also starting to see some of the more drastic public health measures starting to scale back. The past 18 months have been tough on all of us, so it is nice to see that we are starting to get back on the path to normalcy.

In the meantime, many things have stayed pretty much the same for us in the municipal water sector. We have continued to keep the supply of clean, safe and reliable drinking water online and we have been able to continue to ensure that wastewater is treated efficiently and properly to protect the environment. My hat goes off to everyone in the sector, whether it be operators, management, service providers, vendors, consultants, contractors, system integrators and everyone in between. Together we have been able to keep the water flowing – in both directions – so our modern society can continue to march forward.

Early 2021 was a chance to reflect on the past 12 months. Apart from the various "never done this before" and "wow, we made this work", it was also a chance to look at the more human face of the pandemic.… **(continued on page 3)**

WWID Director's Message
(continued from Page 1)

…about in this newsletter. On the March 25, 2021 call we went through the following topics:

- WWID Board Member introductions
- WWID Member benefits – Standards, Newsletters, Division Webinars/Conferences (all virtual this year), Training, Certification, ISA WW external website, ISA Division Awards, ISA Student Scholarships
- Energy and Water Automation Conference (EWAC) Committee that is led by WWID, POWID and ISA staff
- ISA Connect
- WWID Membership
- Open Discussion

Also, during this meeting, we recognized two of our long-time WWID Volunteers with the following Division Awards:

- Graham Nasby: 2021 WWID Member of the Year Award
- Joe Provenzano: 2021 WWID Service Award

I am excited to announce that we have decided on our second WWID Connect Live meeting for 2021. On June 30, 2021 our very own Graham Nasby with City of Guelph (Ontario, Canada) will be taking lead to discuss the ISA112 SCADA Standards development, and how it would benefit the Water and Wastewater Industry. Graham will provide an introduction to this Standard, and will open it up for questions and discussions. We will also have several members of the ISA112 SCADA Standards Committee to assist with the discussions. Please look for an invite from the ISA WWID Division; this meeting will be scheduled for June 30, 2021 at 8am Pacific, 10AM Central, 11am Eastern (North America).

In other Division news, our EWAC committee has been working very hard to finalize our 2021 EWAC program. This year, our program consists of 3 days of Webinars (2 hours each) spread across the months of June, July, and August. Specific dates, webinar topics, speaker and other details can be found in this newsletter.

Thank you all for being a part of our WWID division, and for your contributions to our Water Wastewater Industry across the globe. I hope the benefits you receive by being a part of ISA and the WWID Division, are helpful on your job, and for your career. If you have any ideas on how we could improve, and/or if you would like to be a part of the Division Board, please let me know.

Warmest Regards,

Manoj Yegnaraman, PE
2021-2022 Director, ISA WWID
Associate VP, Carollo Engineers Inc.
myegnaraman@carollo.com

Newsletter Editor's Welcome
(continued from Page 2)

…I, like many people, took a long look at what it took for all of us in the sector to weather the storm known as COVID-19. I'm not talking about how we changed to virtual meeting formats, staggered our arrival times, did extra cleaning, learned how to work digital, or figured out how to work with less people on-site. What I'm referring to making sure that we also look after ourselves, to ensure we don't personally burn out. We all need to take a break.

For myself, I reviewed how much time off I took in 2020 – it wasn't much. With the pressures of the pandemic, there always seemed to be so much to do. We did we needed to do, but now it's time to take a deep breath. So my advice to you – now that the pandemic is starting to get better under control – is to make sure to take some time for yourself. Make sure to take some vacation time. If you have banked vacation time from last year, make sure to use it this summer.

Yes, we all need to work hard to keep the water on. But make sure to take some time off this year – we've all earned it.

Looking for someone to do during your vacation? Take a look at the WWID newsletters. I hope you enjoy reading them as much as we do with producing them.

Graham Nasby, P.Eng.
WWID Newsletter Editor
graham.nasby@guelph.ca

WELCOME

Director Elect's Welcome

Hassan Ajami, PCI-Vertex

For most of us, the warm weather is here and the sights and sounds of springtime are in the air. Under usual circumstances, this is the start of the busy outdoors season with large gatherings, cookouts, sporting events, etc. Unfortunately, COVID is still with us and the norm for another year has changed. We were close to seeing the light at the end of tunnel here in the US with widespread vaccinations, but we've gone through a rollercoaster ride of upswings and downswings. We also cannot forget about the rest of the world and the sever impacts COVID is having elsewhere. Similar to water access, pandemics are an international concern and no one can claim success until we all can.

Springtime has been busy for the ISA and WWID. All of our activities have shifted to virtual online events, including our annual Automation conference, which this year will be divided up into three webinar sessions. The downsides to virtual events are the loss of personal contacts and interactions with other attendees. The advantages are that you can access these from anywhere, and you don't have to worry about travel hassles or costs. Keep an eye out for upcoming events posted in the newsletter, WWID LinkedIn group and the "ISA Connect" website (https://connect.isa.org).

As industry professionals, we have to track major events that could affect our work or clients. The main one we've seen recently involves cybersecurity. Unauthorized access, hacks and ransomware have been in the headlines almost constantly. Although they have not all involved the Water/Wastewater industry, they are impacting industrial automation systems and we must all be vigilant to guard against these threats. Industry standards relating to SCADA system design and security should be the guides for assessing existing systems and designing new ones. We have to share our knowledge and experience with other professionals, and be open to learning from what they have to share. The old adage that "hindsight is 20-20" is basically a Lessons Learned approach. We have to learn from these events to see what can be changed to stop them from happening again. EWAC Webinar 3 will focus on Cybersecurity and I recommend that everyone participate in the presentation and panel discussion.

I hope that everyone stays safe and healthy. We're hopefully on the final downswing of this pandemic and I look forward to a near-normal future.

Hassan Ajami, PE, CAP
2021-2022 Director-Elect, ISA WWID
2021-2022 General Chair, ISA EWAC
Vice President / Lead Technical Officer
hajami@pci-vertix.com

WWID NEWS

WWID holds First Virtual Board Meeting

From the WWID committee

On Thursday, March 25, 2021 the WWID held its first board meeting of 2021. Held as a virtual meeting due to the current COVID-19 pandemic, the meeting brought together both WWID members and volunteer leaders for a joint planning session for the year ahead. At the virtual Zoom gathering which was open to all ISA Water/Wastewater Division members, attendees got to hear about what the division has been up to for the past several months, and to hear about upcoming programming from the division Discussion that took place at the meeting included:

- Welcome message from WWID Director Manoj Yegnaraman
- Introduction to our 2021 WWID Board Members
- Overview of the Benefits of being a WWID Members
- The WWID plan for 2021: Hassan Ajami
- Update on the Virtual EWAC (Energy and Water Automation Conference): Jon Grant
- ISA webinars and conferences in 2021: Jon Grant
- 2020 Service Awards from the WWID: Pavol Segedy
- Update from the 2021 WWID Program Committee: Joe Provenzano
- Update on WWID Newsletters: Graham Nasby
- Update on our WWID website at www.isawaterwastewater.com
- WWID Scholarship Update: Kevin Patel
- Update on WWID's presence on the ISA Connect community platform at http://connect.isa.org
- An update from the WWID membership team: Collen Goldsborough & Juliana Wafer
- Open Discussion and Q&A

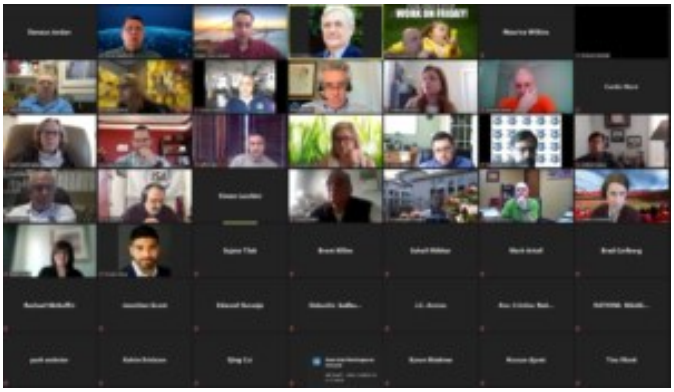
Many thanks to Mike Briscoe for his help coordinating the meeting for us and managing the Zoom interface.

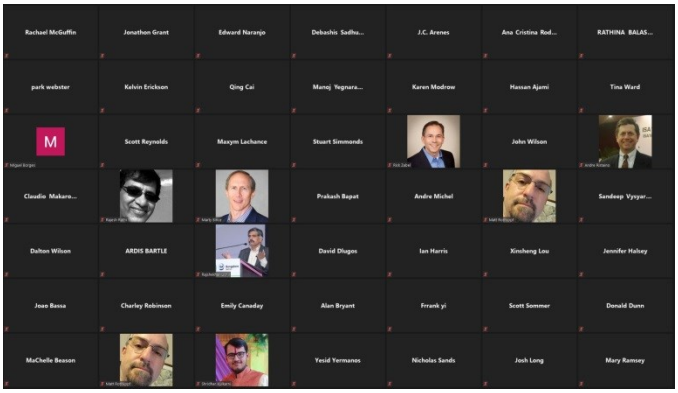
WWID NEWS

WWID was at ISA's 2021 Virtual Strategic Leader Meeting (SLM) in April 2021

From the WWID committee

On April 16 and 23, 2021 leaders from the ISA Water/Wastewater division participated in the ISA's society level 2021 Strategic Leaders Meeting. Held virtually due to the current global pandemic, the event had over 80 ISA leaders from around the world come together to discuss the ISA's overall Strategic Plan and vision. Like the Water/Wastewater division, the ISA as a whole has had to pivot to a new online strategy in light of the global COVID-19 pandemic. Participants got the chance to hear a detailed update of ISA's operations to date and to help shape the ISA's path forward.





Due to the current global COVID-19 pandemic, the ISA will be holding its society-level leadership meeting virtually. If you have not had a chance to attend a society-level leader meeting – either the spring Strategic Leadership Meeting or the fall Annual General Meeting – it is an event well worth attending. The ISA is very much looking forward to returning to in-person events in 2022, once the global health situation has improved.

At the meeting fellow ISA leaders from around the world used the time to compare notes with what they were doing to keep members engaged and to share plans for the year ahead. Both divisions and section were able to provide insight into how they were using digital tools to continue to reach out to their membership and the greater automation community at large.

WWID NEWS

2021 ISA Water/Wastewater Division Service Awards Announced

By Pavol Segedy, WWID Honors and Awards Chair

The ISA Water/Wastewater Division is pleased to announce the winners of the 2021 service awards for our technical division.

2021 Member of the Year Award
ISA Water/Wastewater Division

Graham Nasby, P.Eng., CAP
Water SCADA & Security Specialist
City of Guelph Water Services
Guelph, Ontario, Canada

Graham Nasby has been an active member of the ISA Water/Wastewater Division since 2010, when he joined the division after attending an ISA leadership meeting that spring. Since then, Graham has held various roles in the division including: Marketing Chair, Symposium Chair, Director-elect, Director, Honors & Awards Chair, Paper Review, WebMaster, and Newsletter Editor. Graham continues to serve as the division's newsletter editor, a role he has held since 2011. The division wishes to thank Graham Nasby for his efforts during the past year to keep the division and its membership engaged in the face of the global COVID-19 pandemic.

2021 Service Award
ISA Water/Wastewater Division

Joe Provenzano
Principal Consultant
KPRO Engineering Services
Naugatuck, Connecticut, USA

Joe Provenzano has been involved with the ISA Water/Wastewater division for more than 25 years. Joe was the lead organizer of the first ISA Water/Wastewater and Automatic Controls Symposium in 2003. Since then, he has been involved with every WWID-focused symposium held since. Recently he served as the program chair for the 2019 ISA Energy & Water Automation Conference, and was part of the program committee for the 2020 ISA Water/Wastewater webinar program. Over the years, Joe has held roles including Membership Chair, Division Director, Paper Review, and most importantly as Division Program Chair. The division would like to thank Joe Provenzano for his many years of dedicated service, and for his ongoing inspiration of all those around him.

WWID SCHOLARSHIPS

2021 Scholarship Winners Announced Michael Fedenyszen Memorial Scholarship

The ISA Water & Wastewater Industries Division (WWID) is pleased to announce the winners of the 2021 WWID Student Scholarships. This year's recipients are Mary Bergin and Paige DiPietro. Each received a $1000 USD scholarship prize to help with their school costs. Congratulations!

Mary Bergin
University of Guelph
Guelph, Ontario, Canada

"Thank you for honouring me as a recipient of the 2021 ISA WWID Michael Fedenyszen Memorial Student Scholarship. I was thrilled to learn of my selection and am very appreciative of your generous support."

Biography: Mary is a fourth year Software Engineering student at the University of Guelph, Ontario, Canada. She previously completed a co-op term at the City of Guelph's Water Services as a SCADA (Supervisory Control and Data Acquisition) developer. She was able to gain vital experience in the water sector by standardizing operator interfaces and programming Allen Bradley PLC's. During the school year Mary is Co-President of Guelph Women in Computer Science, a club that promotes inclusivity and a welcoming environment for women studying in the Bachelor of Computing at Guelph. She looks forward to completing her degree and discovering where it can take her next.

Paige DiPietro
New Hampshire Technical Institute
Concord, New Hampshire, USA

"I would like to thank ISA for awarding me the Water and Wastewater Division Scholarship. I am very honored to be awarded this scholarship to help further my education in automation for the potential to be a part of automating the future."

Biography: Paige DiPietro is currently enrolled in her second year of college at New Hampshire Technical Institute in Concord, New Hampshire. She will be graduating NHTI with an associate's degree in Mechanical Engineering and an Automation Certificate. In the fall, she plans to transfer to the University of New Hampshire where she will working on a bachelor's degree in Mechanical Engineering.

Application forms for the 2022 WWID Student Scholarships will be available in Fall 2021.

WWID SCHOLARSHIPS

Welcoming our newest ISA WWID Volunteer Mike Briscoe – Signature Automation

Please welcome our newest volunteer leader: Mike Briscoe. Mike, who is based out of Dallas Texas USA, will be serving as our WWID Secretary.

Mike Briscoe is a Retired Navy veteran after serving 20+ years active duty as a Gas Turbine Systems Mechanic. After retiring as a Chief Petty Officer, he worked at several car dealerships as a salesman until landing a job with GE Water and Process Technologies. He started with GE as a field service representative responsible for setup, commissioning, operation and breakdown of emergency water treatment systems. In 2011, his performance, aptitude and desire lead him to take on the responsibility of Controls Engineer for South Texas. Also in 2011, he enrolled as a full-time student at University of Houston to major in Biochemistry while still working full time with GE. In May of 2017, he was awarded a Bachelor of Science in Biochemical/Biophysical Sciences with a minor in Computer Graphics Technologies. Due to his experience and passion for controls programming, in June 2017, he was offered and accepted a position at Signature Automation, LLC where he continues to work as a Controls Systems Programmer. Mike has been involved with the ISA Water/Wastewater Division (WWID) since 2018, and currently serves as the WWID Secretary.

https://www.isa.org/events-and-conferences/

WWID WEBINARS

ISA & WWID Continue to Provide Virtual Events and Plan for 2021 and Beyond

From the WWID program committee

With the unprecedented cancellations of in-person events due to the COVID-19 pandemic, our industry has had to pivot to providing online events. Both the WWID and ISA as a whole, has been actively working to adapt to this new format.

For the WWID, this has meant providing a series of technical webinars for our members. We started off with four webinars in July and September 2020, and then continued in to 2021. The Webinars are free, so we encourage you to register and attend future events. Keep an eye on the ISA website for more announcements.

In addition to WWID-associated events, the ISA has also embarked on providing a wide range online programming:

These include:

- Virtual Conferences
- Cybersecurity Series Webinars
- IIOT & Smart Manufacturing Webinars
- Digital Transformation Webinars
- Process Control and Instrumentation Webinars
- Division-Specific Webinars
- ISA Connect Live Events

Please visit www.isa.org/virtualevents for more information.

ISA WEBINARS

2021 ISA Free Technical Webinars Series

From www.isa.org website

Digital Transformation Series
How to Get the Digital Transformation Right (This Time) – Lessons from Three Decades in the Oil and Gas Industry
30 June, 2021
10 am – 11 am ET
ZOOM REGISTRATION LINK

Process Control & Instrumentation Series
Optimizing the Industry Through Data Analytics, Emerging Technologies and Digital Transformation
Part of the Energy & Water Automation Spotlight Series
20 July, 2021
1 pm – 3 pm ET
ZOOM REGISTRATION LINK

Digital Transformation Series
Successfully Implementing Digital Twin Technology
22 July, 2021
1 pm – 2 pm ET
ZOOM REGISTRATION LINK

Process Control & Instrumentation Series
Panel Discussion: Industrial Cybersecurity in the Power/Water Industries
Part of the Energy & Water Automation Spotlight Series
3 August, 2021
1 pm – 3 pm ET
ZOOM REGISTRATION LINK

Process Control & Instrumentation Series
Small Steps Lead to Big Returns: How Utilities Can Navigate the Digital Transformation Journey
Part of the 2021 Process Industry Virtual Conference
17 August, 2021
1 pm – 2 pm ET
ZOOM REGISTRATION LINK

Process Control & Instrumentation Series
Importance of Process Instrumentation in the Steel Industry
Part of the 2021 Process Industry Virtual Conference
14 September, 2021
10 am – 11 am ET
ZOOM REGISTRATION LINK

Process Control & Instrumentation Series
Automation and Robotics in Industrial Inspection: Trends & Advances
Part of the 2021 Process Industry Virtual Conference
5 October, 2021
10 am – 11 am ET
ZOOM REGISTRATION LINK

ISA WEBINARS

2021 ISA Connect Live Series

From www.isa.org website

The ISA Water/Wastewater division invites its members to sign up for the following ISA Connect Live series of webinars. Registration is free for ISA members.

ISA Connect is an exclusive community for members to engage in technical discussions and build their professional network. Connect Live offers the same discussion and networking in a live, virtual setting.

Connect Live with the Water & Wastewater Industries Division
ISA 112 SCADA Standards & Water/Wastewater Industry Application
30 June
11:00 am ET
ZOOM REGISTRATION LINK

Connect Live with the Pulp and Paper Industries Division
Digital Twins
30 June
11:00 am ET
ZOOM REGISTRATION LINK

Connect Live with the Pulp and Paper Industries Division
Predictive Maintenance, Optimization and Artificial Intelligence
14 July
11:00 am ET
ZOOM REGISTRATION LINK

Connect Live with YPs
New Job/Change of Career/Onboarding
27 July
9:00 am ET
ZOOM REGISTRATION LINK

Connect Live with the Pulp and Paper Industries Division
Screening Control Technology
28 July
11:00 am ET
ZOOM REGISTRATION LINK

Connect Live with the Pulp and Paper Industries Division
Pulp & Paper and the Progress of Industry 4.0
11 August
11:00 am ET
ZOOM REGISTRATION LINK

Connect Live with YPs
Mentorship
25 August
1:00 pm ET
ZOOM REGISTRATION LINK

Connect Live with YPs
ISA Volunteer Involvement
30 September
8:00 pm ET
ZOOM REGISTRATION LINK

Connect Live with YPs
Leadership
13 October
9:00 am ET
ZOOM REGISTRATION LINK

Connect Live with YPs
Motivation and Positivity in the Workspace
18 November
8:00 pm ET
ZOOM REGISTRATION LINK

Connect Live with YPs
Work Life Balance
15 December
9:00 am ET
ZOOM REGISTRATION LINK

Follow this link for more information:
https://isaautomation.isa.org/virtual-events-program/#connect-live

ISA VIRTUAL CONFERENCES

2021 ISA Virtual Conferences

From www.isa.org website

The ISA is putting on several virtual conferences in 2021. Information can be found below.

Digital Transformation Series
ISA Digital Transformation Virtual Conference
31 August, 2021
9 am – 6 pm ET
Register Now!

Cybersecurity Series
ISA Cybersecurity Standards Implementation Virtual Conference
19 October, 2021
9 am – 6 pm ET
Learn More

Process Control & Instrumentation Series
ISA Process Industry Virtual Conference
2 November, 2021
9 am – 6 pm ET
Register Now!

TECHNICAL ARTICLE

The Five Steps of Troubleshooting

By Jeff Miller, Northeast Ohio Regional Sewer District

Before I started my career in automation, I was putting myself through college as a bench technician for aviation electrical equipment used in military aircraft. The equipment was troubleshot, diagnosed, and repaired down to the component level. The systematic approach of following the schematics, tracing the current through the circuit, and searching through the operation manual was highly rewarding when the solution was eventually made apparent. This job is not an easy task and daunting when initially looking down at a PCB (printed circuit board) full of components, any of which could be the culprit. This job is where I harnessed the troubleshooting and critical thinking skills that I apply to automation systems today. There are five key steps in troubleshooting that I follow to find the source of the problem; verify, communicate, documentation, break the circuit and compare.

Automation control system troubleshooting is a higher level of troubleshooting than component level troubleshooting, but I have found the principles still apply. The process starts with "trust but verify;" many times, a reported issue is not always accurate, this reported issue could have been a misunderstanding of how the system works, or there could have been a planned outage in an area that encompassed a component or process that wasn't expected. Verify that what is reported as "broken" is genuinely not working.

The next step in the troubleshooting process that I find invaluable in automation that was not available to me as an aviation bench technician is communication; I couldn't contact the person who initially diagnosed the problem if you can follow up with the person who reported the issue. The more information you have on an issue, the better it will serve you to resolve the problem. In wastewater plants and in many plants across sectors, Historians are mandatory and should be used to assist you in your troubleshooting journey. Historians can be used to assist you in the first step of the troubleshooting process, trust but verify. If the issue is said to have started at a specific date, sometimes the historian can verify this statement. The historian can also give you a snapshot in time for what else was occurring when the issue occurred. We are amid the fifth industrial revolution, and data is king; if it is available, it should be utilized!

The third step in troubleshooting is analyzing the documentation. Documentation is a critical element in the troubleshooting process. In lieu of a set of updated drawings and documentation, the system will likely have to be reverse-engineered before analyzing where the issue resides. Accurate documentation and drawings are often unavailable, and I wouldn't trust a set of drawings in an automation plant with constant work occurring to keep it running over the years. It is best to walk down the architecture and "red-line" any discrepancies on the drawings before using them to help troubleshoot!

The fourth step in my troubleshooting process is breaking the "circuit" in half. Where does the problem start occurring? I would start with the power supply on electrical circuits and verify they were performing as they were supposed to. In automation, I start with the field device, i.e., is the device reporting the appropriate signal to the PLC. The next part of the circuit would be the PLC, is the PLC reading the field device correctly, and the third part of the circuit is the SCADA? Is it adequately read from the PLC to the SCADA? It is important NOT to change multiple things or break multiple circuits simultaneously; troubleshooting is a systematic approach of change ("break") and monitor. Breaking the circuit will reveal where to focus on the issue to troubleshoot further and eventually diagnose the problem.

The fifth step in the troubleshooting process is comparison. Often when you find yourself with a new system that you are unsure of, the process of comparison can shed some light on if the system to analyze if it is performing as it should. As a bench technician, I found myself with a new electrical assembly to compare the circuit to a known "good" circuit. This practice can be done in the automation world, compare settings, signals, and indicators. This can prove a section of the system is working correctly and further point you in the direction of the source of the problem.

These are five steps that helped me as an Aviation Bench Technician and now as an Automation Engineer. When the systematic approach of troubleshooting is looked at from a macro perspective, the same principles and approach will apply across multiple disciplines.

About the Author

Jeffrey E. Miller is a Senior Process Control & Automation Engineer with the Northeast Ohio Regional Sewer District (NEORSD), and currently pursuing an MBA at Cleveland State University. He has been actively involved with the automation community since 2012, and has a Bachelor Degree in Electrical Engineering Technology from Cleveland State University. Mr. Miller lives in Greater Cleveland, Ohio, USA. Contact: MillerJeffreyE@outlook.com

TECHNOLOGY SPOTLIGHT

Cloud-Hosted Web-Based Dashboards

How the Water & Wastewater Industry can use Self-Service Industrial Analytics to Improve Treatment Processes

By Sam Vijay and Bob Monahan, TrendMiner

Treatment plants in the municipal water/wastewater sector often have no shortage process data, but trying to visualize and analyze this data in a meaningful way continues to be a challenge. In this spotlight article, we show case a web-based cloud-hosted analytics platform that has been used extensively in Europe. As a cloud-hosted solution, it pulls data from the Treatment plant via a secure read-only link. This data is then used to provide dashboards and analytics that can provide new insight into a plant's various treatment processes.

Introduction

The Water & Wastewater Industry is tasked with challenging work to secure water now and for our future. They must continuously improve and innovate water treatment processes to be able to handle the increased demand and to meet challenging and stringent regulatory compliance. When looking forward, there is a great sense of optimism and potential for the industry to achieve these goals by using self-service industrial analytics. This platform puts the data and the analytics in the hands of the water process experts, so they themselves can analyze their plant's process data. With this capability, they can quickly solve process problems, increase plant efficiency, and optimize treatment processes to be able to manage water treatment demands.

Unlocking the Value of Your Plant's Data with Self-Service Industrial Analytics

Often water treatment engineers turn to data scientists to help them with complicated operational challenges. However, this approach presents some obstacles: there are a limited number of available data scientists, and these experts are not familiar with process data since they are in essence "foreigners" to water treatment processes and need help understanding the data. Therefore, process experts must explain the data to the data scientists resulting in a lot of time-consuming meetings between these two groups.

A logical alternative is to empower the process experts with self-service industrial analytics. They are, after all, the people who know best about the treatment processes so can understand the data. As analytics users, they will be able to do the analyzes themselves, gaining fast insights into the data, without needing to be data scientists or experts in mathematics, statistics, or computer science. If the process experts can quickly access, search, and analyze a plant's sensor generated data, they will be able to directly answer relevant questions in their day-to-day jobs without having to consult data scientists, thus improving efficiency and saving time.

Currently, self-service industrial analytics platforms are available and can help the Water and Wastewater sector easily tackle common challenges and also complex optimization problems thus improving asset performance and treatment processes. Other challenges this type of platform can help the industry address include energy reduction, knowledge exchange, maintenance cost reduction, regulatory compliance, data availability, and analytics expertise.

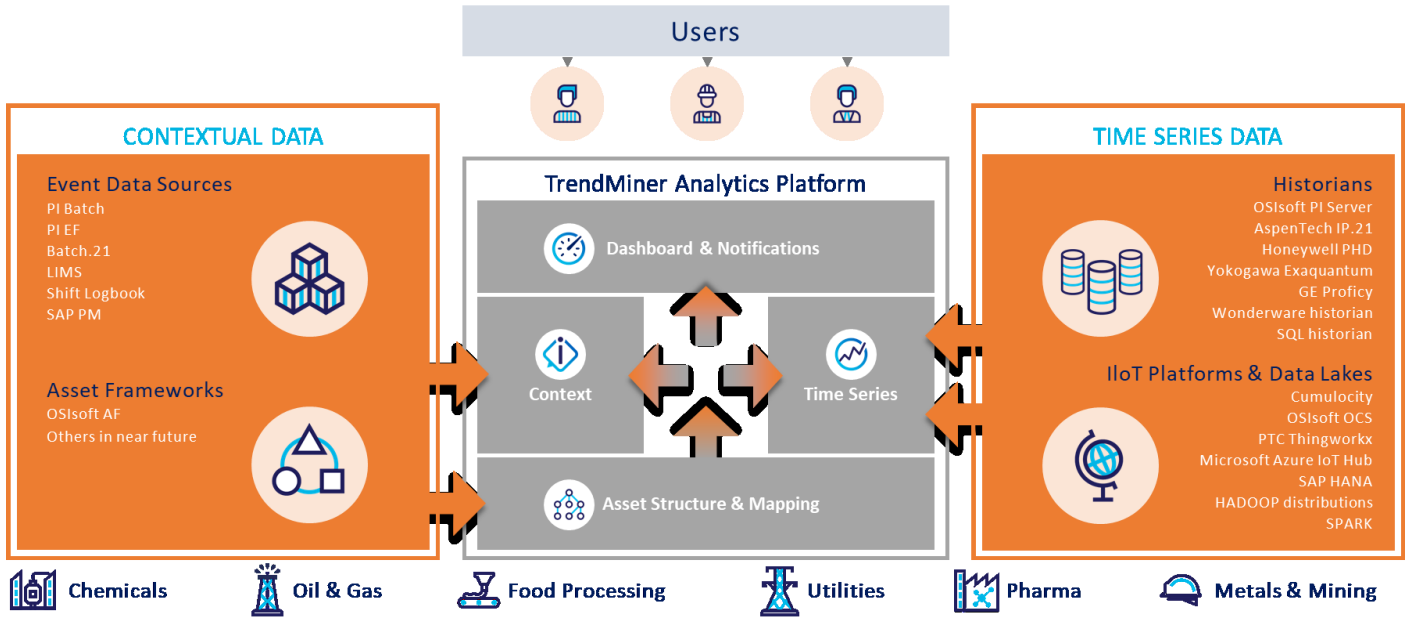


Figure 1 - Online Analytics and Dashboarding Architecture (Source: TrendMiner)

With self-service industrial analytics, process engineers and operators will be empowered to:

- Visualize data to view operational behavior and anomalies.
- Use its search algorithm and pattern recognition to gain process behavior insights.
- Overlay trends for comparison to see how the process is changing over time.
- Find root causes of performance anomalies.
- Set process monitors and alarms to alert process experts about potential deviations in time to for them to take corrective action.
- Make predictions about future process behavior.
- Incorporate process contextual information, so the entire team has a better and clearer understanding of operations.

One self-service industrial analytics platform that can enable Water and Wastewater engineers and process engineers to accomplish the above tasks is TrendMiner.

In fact Daniel Münchrath, a TrendMiner Data Analytics Engineer, explains how self-service industrial analytics is being used to optimize Water & Wastewater processes in the "Advanced Analytics for Water & Wastewater Treatment" webinar. He demonstrates how the platform can be used for two real world use cases, which are also discussed below.

Sample Water Industry Use Cases

Within a typical water or wastewater treatment plant there are numerous applications, also known as "use cases', where a web-based self-serve analytics platform can be a powerful tool for doing process visualization and optimization.

We will demonstrate four use cases:
1. Analyzing Energy usage and maintenance scheduling
2. Monitoring pump performance
3. Monitoring the fouling aeration basin pargers
4. Plant-wide monitoring of pumps

Use Case 1 - Increase Energy Efficiency with Improved Maintenance Scheduling

The aeration elements in the biological wastewater treatment suffer from fouling effects which can decrease oxygen concentration and nitrogen/carbon conversion rates. Self-service industrial analytics can be used to create a clear overview of the oxygen concentration within the plant. In Figure 2, a trend is displayed showing the oxygen concentration within two sections over time. The orange trend shows the oxygen valve opening while the black and blue trends show the oxygen concentration that is increasing due to the valve opening. Problematic behavior which is annotated on the monitor by the bubbles with exclamation marks, is shown in the low oxygen concentration of the blue trend. This information can then be combined in an overview dashboard to allow the operators and engineers to constantly monitor concentrations. Using this achieved situational awareness, they can schedule the maintenance/cleaning processes at the optimal time resulting in increased regulatory compliance and reduced energy cost.

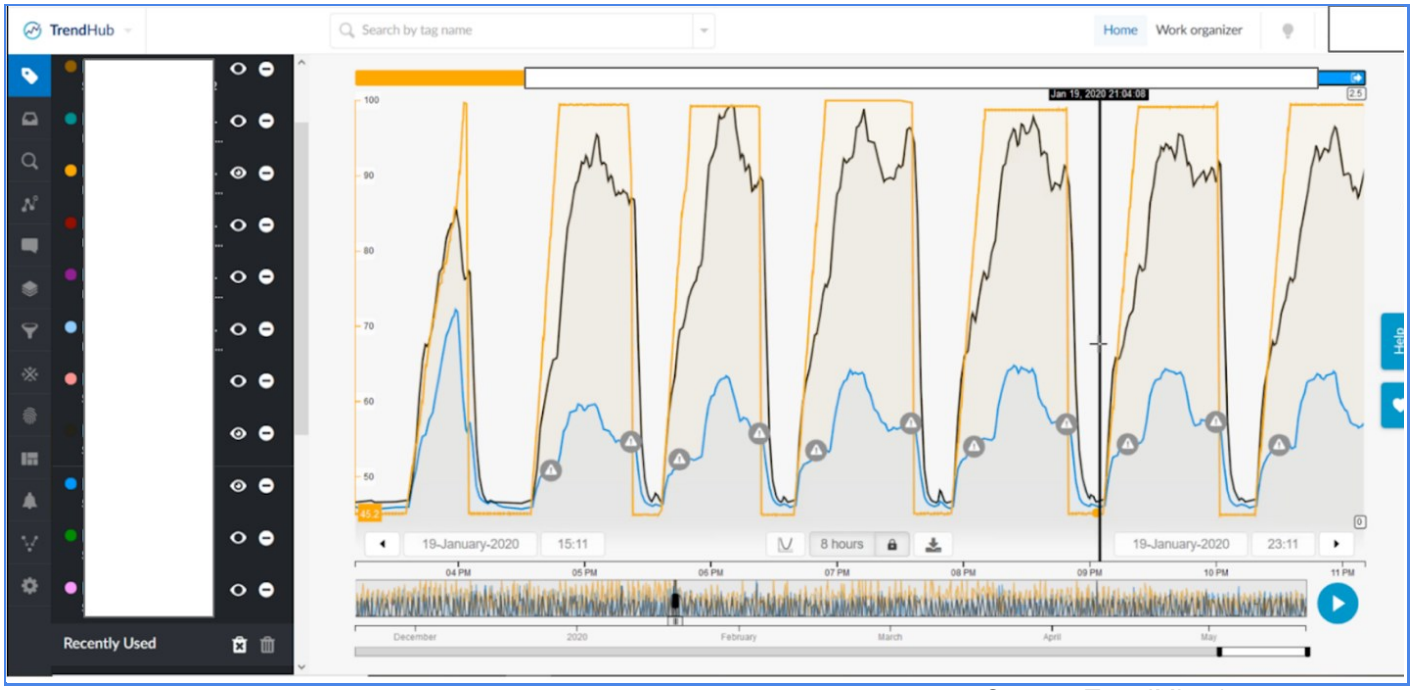


Figure 2 - Oxygen Concentration of a Biological Wastewater Treatment Plant Over Time. (Source: TrendMiner)

Use Case 2 - Monitoring Pump Performance

Self-service industrial analytics allows process experts to monitor their assets based on the desired operation zone, and in turn they can schedule maintenance at the right time to avoid any downtime or any unwanted process issues. They can monitor equipment like pumps for an increase in differential pressure which is a sign that there could be fouling issues. For example, the process expert can first analyze the data to check if the deviating pressure condition led to fouling (or any other unwanted behavior). If the analysis confirms this hypothesis, the conditions can be turned into a monitor that can be set to notify the process expert and/or any other relevant stakeholder. By doing so, operation cost and downtime can be reduced, and unwanted process states can be avoided. Figure 3 illustrates an overview (in a Gantt chart) of multiple pumps, which can be one of the desired end results. Each row represents one pump, and each colored box represents one event. The event can be general information, for example, blue and green boxes indicate operation, and red boxes indicate that the equipment showed signs of failure. These events are automatically tracked based on the conditions that the process experts provided and can be combined in a customizable fashion.

Improved Data Visualization Enables Plant Performance

Besides these, there are other use case examples and value drivers where process experts can use self-service industrial analytics to analyze process data. They can reduce safety risks through early warnings and use predictive maintenance to reduce maintenance, repairs, overhauls (MRO) costs. Furthermore, they can determine the impacts of equipment/process changes and facilitate monthly/yearly reports. Ultimately, with such a platform, process experts will create an active learning organization by using data patterns, events, and conditions. There are also additional use cases the platform can be used for such as monitoring fouling states of aeration elements for improved maintenance scheduling and monitoring pump infrastructure.

Use Case 3 - Monitoring the Fouling State of Aeration Elements for Improved Maintenance Scheduling

An example of such a Use Case is when a wastewater treatment plant must overcome high input variances of the incoming wastewater stream to create a condition-based maintenance schedule. Depending on weather conditions and the time of the day and year, the incoming wastewater can have high variances in throughput and composition. Given this, gaining insights into deviations in the process and equipment performance can be extremely difficult.

In one European treatment plant, process experts wanted to improve the maintenance schedule for the aeration elements of the biological wastewater treatment. Since the aeration elements suffer from fouling, these elements needed regular cleaning. The goal was to transition the maintenance planning from a time-based schedule to a condition-based schedule. However, the high variance of input variables made it difficult to have a clear indicator.

To overcome this hurdle, a self-service analytics tool was used to create a dashboard to monitor the oxygen concentration during the nitrification of the wastewater treatment (Figure 4). The resulting visualization allowed the process experts to see if the aeration elements needed treatment and to plan accordingly, which led to savings in both maintenance and energy costs.

Figure 4 shows a Maintenance Dashboard to monitor the fouling state of aeration elements. In the middle left box, the long-term trend of input flow is displayed to give the operator more context to the operation state. The bottom trend shows the overview of oxygen concentration (like in Figure 2).

Figure 3. Asset Monitoring Over Time... (Source: TrendMiner)

Figure 4 - Maintenance Dashboard to monitor the fouling state of aeration elements (Source: TrendMiner)

Use Case 4 - Monitoring of All Plant Pumps

Another example Use Case of a wastewater treatment plant is the monitoring of a plant's pump infrastructure. Pumps are an integral part in the water and wastewater industry and are needed to move massive amounts of water. Thus, it is important to monitor the pumping system to ensure smooth plant operation. Frequently, process experts have difficulty simultaneously observing multiple pumps for different purposes.

At a different European water treatment facility, process experts also used a self-service industrial analytics platform to monitor the plant's pump infrastructure. The engineers easily translated their process knowledge into monitoring criteria using the search functionalities of the tool. They looked for potential problems in the normal operation of the pumps, for example, using vibrations in a pump as an indicator of a malfunction. In the case of high vibrations, alerts were set to notify the operators and the engineers of a problem. Additionally, process contextual information was automatically written on the asset, so all the process experts were up to date on the status of all the pumps. As seen in Figure 5, the Dashboard shows the summary of all outputs of their analysis. The statuses of pumps 1 - 4 in the last 30 days (30d) are on top. One counter gives the total amount of high vibration periods, and another counter gives the number of actual malfunctioning pumps. As seen on the bottom trend, the vibration readings of pumps 1-4 were combined into an aggregated real-time value, which shows the maximum of all vibration amplitudes. This trend adds to the situational awareness of the process experts, so they can immediately see if a pump shows suspicious behavior.

In addition, the analytics tool was used to set up a Gantt chart for an overall view of all the pump runs in a defined time period. With this insight, process experts knew which pumps were running, which pumps had malfunctioned, and what was the frequency of pump problems (Figure 6).

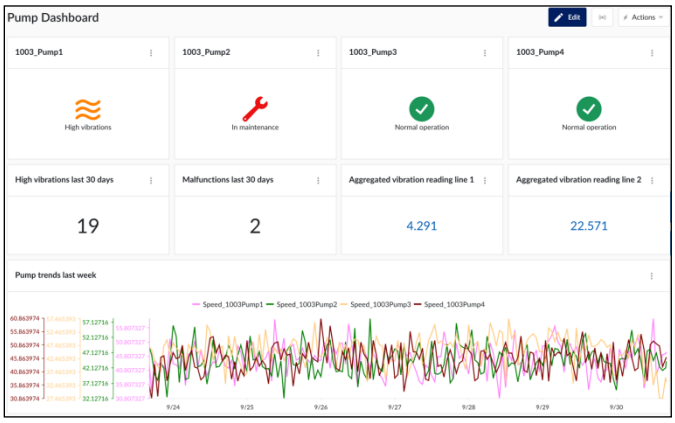


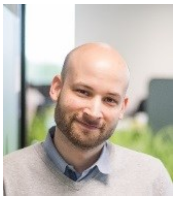
Figure 5. Dashboard for live monitoring of all plant pumps.

In Figure 6, the GANTT chart overall view of all pump runs in a defined time period. Blue boxes indicate normal operation; yellow boxes indicate operations with high vibration; and the tool wrench indicates a maintenance event.

The Substantial Data-Driven Improvement Potential & Sustainability of Self-Service Industrial Analytics

With a self-service industrial analytics tool like TrendMiner, the Water & Wastewater industry can make the best use of its process data. Such a tool puts the data and the analytics in the hands of the people who know about water treatment - the water process experts - so they can have data-driven insights and thus make data-driven decisions. This increased analytics capability and process knowledge is the path to process optimization. Given the sustainability and substantial improvement potential self-service industrial analytics can provide, the future indeed looks bright for the Water & Wastewater industry.

About the Authors



Daniel Münchrath is a Data Analysitcs Engineer with the DACH-division of TrendMiner since 2017. He has a Bachelor of Science in Biochemical Engineering and a Masters in Chemical Engineering from TU Dortmund University. H lives in Colonge, Germany.

Samudra "Sam" Vijay, PhD is the CEO of SAM Analytic Solutions, LLC, a distributor of OT/IA software and hardware that is expert in helping clients navigate the OT/IT interface. SAM Analytic Solutions is a TrendMiner Partner engaged in helping W&WW engineers and process experts gain a better, more timely and more thorough understanding of their processes to improve process operations and obtain energy savings by using TrendMiner self-service analytics. Sam holds a PhD in Engineering Systems (Technology and Policy) from MIT. Contact: Sam Vijay, 1-919-491-9796, sam@samanalytic.com

Figure 6. Gantt chart overall view of all pump runs (Source: TrendMiner)

ISA STANDARDS

NATO Security Centre and ISA Establish Cooperative Cybersecurity Agreement

From ISA News Release

The ISA99 standards committee—lead developer of the widely used ISA/IEC 62443 series of standards on industrial automation and control systems security—and the NATO Energy Security Center for Excellence have signed a letter of intent for cooperation in the exchange of information and collaboration pertaining to the application of cybersecurity standards and guidelines in the energy sector.

The NATO Energy Security Center for Excellence (NATO ENSEC COE) became interested in applying the ISA/IEC 62443 standards during the course of a 2018-2019 cyber risk study of the industrial control systems used in the NATO Central Europe pipeline system, according to Vytautas Butrimas, who spearheaded the agreement and now represents NATO ENSEC COE on ISA99. "With this agreement," Butrimas stated, "we look forward to exploring new ways of collaboration with ISA to improve the safety, reliability, and performance of the backbone technologies that support economic activity, national security, and well-being of our societies."

The ISA/IEC 62443 standards are developed primarily by the ISA99 committee with simultaneous review and adoption by the Geneva-based International Electrotechnical Commission (IEC). ISA99 draws on the input of cybersecurity experts across the globe in developing consensus standards that are applicable to all industry sectors and critical infrastructure, providing a flexible and comprehensive framework to address and mitigate current and future security vulnerabilities in industrial automation and control systems.

The agreement with NATO ENSEC COE is the latest in a string of notable milestones in the ongoing development and growing global application of the ISA/IEC 62443 series. It follows a previous decision by the United Nations Economic Commission for Europe to integrate the standards into its Common Regulatory Framework on Cybersecurity, which serves as an official UN policy position statement for Europe.

The ISA/IEC 62443 standards are available at http://www.isa.org/findstandards. In addition, ISA offers extensive training resources on cybersecurity as well as safety, fundamentals, and other topics in industrial automation and control systems. Visit http://www.isa.org/training for information.

For more information on ISA99 and the ISA/IEC 62443 series of standards, contact Eliana Brazda, ISA Standards, ebrazda@isa.org or +1-919-990-9200.

ISA STANDARDS

New ISA/IEC Standard can be used for Assessing Cybersecurity Risks

From ISA News Release

ISA/IEC 62443-3-2: *Security Risk Assessment for System Design* can be applied across all industry and critical infrastructure sectors that depend on secure IACS operations.

The widely used ISA/IEC 62443 Industrial Automation and Control Systems (IACS) Security standards, developed primarily by the ISA99 standards development committee with simultaneous review and adoption by the International Electrotechnical Commission (IEC), provide a flexible framework to address and mitigate current and future IACS security vulnerabilities. The ISA99 committee draws on the input and knowledge of IACS security experts from across the globe to develop consensus standards that are applicable to all industry sectors and critical infrastructure.

A vital new standard in the series is based on the understanding that each organization that owns and operates an IACS has its own tolerance for risk—and that each IACS represents a unique risk depending on the threats it is exposed to, the likelihood of those threats arising, the inherent vulnerabilities in the system, and the consequences if the system were to be compromised. The new standard, ISA/IEC 62443-3-2: *Security Risk Assessment for System Design* defines a comprehensive set of engineering measures to guide organizations through the essential process of assessing the risk of a particular IACS and identifying and applying security countermeasures to reduce that risk to tolerable levels.

The new standard can be effectively applied across all industry and critical infrastructure sectors that depend on secure IACS operations. Moreover, it provides much-needed guidance to all key stakeholder categories, including asset owners, system integrators, product suppliers, service providers, and compliance authorities.

"Currently, there is wide degree of variability in how industry defines and conducts IACS risk assessments," says John Cusimano of aeSolutions, who led the ISA99 subgroup that wrote the standard. "ISA/IEC 62443-3-2 establishes fundamental requirements for an IACS risk assessment without being overly prescriptive. The result is a standard that will bring uniformity across industry while still allowing IACS owners and operators to apply any methodology that is compliant with the standard."

Other standards in the ISA/IEC 62443 series cover terminology, concepts, and models; establishing an IACS security program; patch management; and system security requirements and security levels. All may be accessed at www.isa.org/findstandards.

For more information on ISA99 and the ISA/IEC 62443 series of standards, contact Eliana Brazda, ISA Standards, at ebrazda@isa.org or +1-919-990-9200.

AUTO-QUIZ: BACK TO BASICS

Instrument Deadband Basics

From the ISA Certification Program

AD Converters are necessary to convert an analog signal to a digital one that our computers can understand. The output of an AD Converter is a binary number. Digital instruments most commonly use 12, 14 and 16-bit converters, although there are much higher bit converters available.

Question:
The following is a practice question from one of ISA's classes:
1. Calculate the incremental steps for a 12-bit A/D converter
2. If the sensor connected to the A/D converter was ranged for 0-1000 F, what is the smallest increment of temperature that can be seen on the digital side of the A/D converter?
3. If I wanted to control the temperature to within 0.1 F can I do this with a 12-bit A/D converter in the sensor module?
4. What effect would a 14-bit A/D have?
5. Can you think of further improvements?

Answer to 1:
LSB represents = 100% / 2^12 = 100%/4096 = 0.0244%

Answer to 2:
LSB (or smallest increment of temperature on the digital side):
= 1000 F / 2^12 = 1000 F/ 4096 = 0.244 F

Answer to 3:
A 12-bit A/D converter in the sensor module is not accurate enough.

Answer to 4:
A 14-bit A/D converter would give a resolution or LSB of:
= 1000 F / 2^14 = 1000 F / 16384 = 0.061 F

Answer to 5:
14-bit A/D converter would be better for control to within 0.1 F, however a 16-bit A/D converter would be even better because the resolution would be 0.0153 F.

Some points to remember are that although a higher bit converter allows for highly accurate instruments, we want our test equipment that we use to calibrate them to be at least 4 times more accurate. So, for example if we had a transmitter with an accuracy of .02% FS, then our test equipment would have to have an accuracy of .005% FS. Also if the AD Converter on the host system's analog input card (when the transmitter's digital signal is being converted to 4-20) is not equal or higher in bits then the transmitter's, the resolution that you gained is lost.

Reference: "The Automation, Systems, and Instrumentation Dictionary", Fourth Edition, ISA Press, 2019. 582 pages.

ISA CAP and CCST certification programs provide a non-biased, third-party, objective assessment and confirmation of an automation professional's skills.

The CAP exam is focused on direction, definition, design, development/application, deployment, documentation, and support of systems, software, and equipment used in control systems, manufacturing information systems, systems integration, and operational consulting.

Certified Control System Technicians (CCSTs) calibrate, document, troubleshoot, and repair/replace instrumentation for systems that measure and control level, temperature, pressure, flow, and other process variables.

Question originally appeared in the ISA Certified Automation Professional; (CAP) program column of https://blog.isa.org. Reprinted with permission. (https://blog.isa.org/ad-converters-quiz-convert-an-analog-signal-to-a-digital-one)

SOCIETY NEWS

The New Normal

By Steve Mustard, 2021 ISA Society President

I just took my first flight in 16 months. Just a short trip from Houston to Orlando, but enough to realize all I had neglected to remember about travel—like the parking, the security lines, etc. Thankfully, my packing skills were still on point, and I remembered everything I needed.

All this is to say that there is a sense of returning to normal in some countries. And while there are still some outbreaks and lockdowns around the world, there is a growing sense of hope that this return to normal will be global. When it does finally happen, I do believe our normal will look different. Some companies may return to offices, but only for 2-3 days per week. Some may not ever return to the office. PwC found remote work so successful that it is now a permanent option for their staff. Of course, not every function can be done from home. Projects like mine involve extended periods on-site and offshore. I do not see this entirely changing, but the use of technology has provided opportunities to reduce the number of people who need to be on-site.

> *"In the rush to return to normal, use this time to consider which parts of normal are worth rushing back to." - Dave Hollis, author and coach*

ISA, like all organizations, is also working through what the new normal means. We have found great interest in our virtual events, webinars, and Connect Live sessions hosted by Divisions. At the virtual Analysis event in March, attendance was up 40% from the in-person equivalent, 54% of the attendees were non-members and 53% of the attendees were from outside North America. Successes like this need to be considered in the shaping of our new normal. I have previously mentioned how our training and certification programs quickly transitioned to online. Our offer for members to sign up for the first Certified Automation Professional online learning module was so oversubscribed, we had to stop registrations after just one hour.

Last month we achieved another first, having a Connect Live session with the three 2023 presidential candidates. This event gave the membership a chance to hear directly from their candidates just before voting opened. If you missed the session, you can watch the recording. And please, login and cast your ballot for your next ISA leaders. Voting closes on 30 June.

As always, feel free to contact me if you have any thoughts or comments. I would love to know what you are most excited about as the world reopens and what you hope we learned during this time that to which we should hold tight.

Let's take heed of Dave Hollis' comment and consider which parts of returning to normal are worth the rush. We must capitalize on this opportunity (hopefully a once in a lifetime opportunity) to change how we work and interact for the better. Together, as a global membership, we are creating a better world through automation.

Steve Mustard
2021 ISA President

About the Author

Steve Mustard is an industrial automation consultant with extensive technical and management experience across multiple sectors. He is a licensed Professional Engineer (PE), ISA Certified Automation Professional® (CAP®), UK registered Chartered Engineer (CEng), European registered Engineer (Eur Ing), GIAC Global Industrial Cyber Security Professional (GICSP), and Certified Mission Critical Professional (CMCP). Backed by 30 years of engineering experience, Mustard specializes in the development and management of real-time embedded equipment and automation systems and cybersecurity risk management related to those systems. He serves as president of National Automation, Inc. Mustard writes and presents on a wide array of technical topics and is the author of 'Mission Critical Operations Primer," published by ISA.

Call for Newsletter Articles

The WWID newsletter is published four times a year (winter, spring, summer, and fall) and reaches the WWID's 2,000+ members. Each issue is approximately 16-32 pages long, and is electronically printed in color PDF format. A notification email goes out to all WWID members and it is available for public download at www.isawaterwastewater.com.

We are always on the lookout for good articles, and we welcome both solicited and unsolicited submissions.

Article submissions should be 500-2000 words in length and be written for a general audience. While it is understood that the articles are technical in nature, the use of technical jargon and/or unexplained acronyms should be avoided. We actively encourage authors to include several photos and/or figures to go along with their article.

We actively welcome articles from all of our members. However, we do ask that articles be non-commercial in nature wherever possible. One or two mentions of company and/or product names for the purposes of identification are acceptable, but the focus of the article should be technical content and not just sales literature. If you are unsure of whether your article idea is workable, please contact our newsletter editor for more information – we are here to help.

Some examples of the types of articles we are looking for include:

- Explanatory/teaching articles that are meant to introduce or explain a technical aspect of automation and/or instrumentation in the water/wastewater sector.
- Biographical stories about personalities and/or leaders in the water/wastewater sector.
- Case Studies about plant upgrades and/or the application of new technologies and techniques. This type of article must include at least two photos along with the article text.
- Pictorial Case Studies about a plant upgrade consisting of 4-6 photos plus a brief 200-500 word description of the project undertaken. The article should ideally include one to two paragraphs about lessons learned and/or advice for other automation professionals.
- Historical reflections on changes in technology pertaining to specific aspects of instrumentation or automation, and how these changes point to the future.
- Discussions about changes in the water/wastewater sector and how these affect automation professionals.

Once we receive a submission, we will work with you to edit it so it is suitable for publication in the newsletter.

Article submissions can be sent to the WWID newsletter editor Graham Nasby at graham.nasby@grahamnasby.com .

WWID Newsletter Advertising

The WWID newsletter is an excellent way to announce new products and services to the water/wastewater automation community. With a distribution of 2,000+ professionals in the automation, instrumentation and SCADA fields, the WWID newsletter is an effective targeted advertising tool.

The WWID newsletter is published quarterly, on the following approximate publication schedule:

- Winter Issue – published in January/February
- Spring Issue – published in April/May
- Summer Issue – published in July/August
- Fall Issue – published in October/November

Advertising in the newsletter is offered in full page, half-page and quarter page formats. Advertisements can be purchased on a per issue basis or for four issues at a time. The newsletter itself is distributed as a full-color PDF, so both color and black/white artwork is acceptable.

The current advertising rates are as follows:

Per Issue:
- Full page, full color (7" x 9"): $500
- Full page, full color, (8.5x11"), with bleed $600
- Half page horizontal, full color (7"x4.5"): $350
- Half page vertical, full color (3.5"x9"): $350
- Quarter page, full color (3.5" W x 4.5" H): $250

Per Year: Apply 20% discount if purchasing 4 ads at a time

Other sizes of advertisements are available, but are priced on an individual basis. Contact us for more information.

Please book advertising space as early as possible before the intended publication date. Artwork for advertisements should be submitted a minimum of two weeks prior to the publication date; earlier is always better than later. Artwork for advertisements can be submitted in EPS, PDF, PNG, JPG or GIF formats. EPS, PDF and PNG formats are preferred. Images should be at least 300dpi resolution if possible. A complete list of ad specs can be found at www.isawaterwastewater.com .

The ISA Water/Wastewater Industry Division is run on a non-profit basis for the benefit of its members. Monies raised from the sale of advertising in the newsletter are used to help offset the cost of division programming and events. Like its parent organization, the ISA, the WWID is a non-profit member-driven organization.

For more information, or to discuss other advertisement sizes not outlined above, please contact the WWID newsletter editor Graham Nasby at graham.nasby@grahamnasby.com .

WWID Board Member Contacts

Director (2021-2022)
Manoj Yegnaraman, PE, CP/CE(Profibus)
Carollo Engineers Inc.
Dallas, Texas, USA
Tel: (972) 239-9949 ext. 44424
myegnaraman@carollo.com

2021-2022 Conference Chair
2021-2022 Director-Elect
Hassan Ajami
PCI Vertix
Detroit, Michigan, USA
Tel: 313-874-5877
hajami@pci-vetrix.com

Past Director
Don Dickinson
Phoenix Contact USA
Cary, North Carolina, USA
Tel: (919) 633-0147
ddickinson@phoenixcontact.com

Program Chair
Joe Provenzano
KPRO Engineering Services
Naugatuck, Connecticut, USA
Tel: (203) 560-1816
provenzano2@comcast.net

2021-2022 Asst. Conference Chair
2021-2022 Director-Elect-Elect
Jon Grant, PE, CISSP, CISM
DirectDefense
Boston, Massachusetts, USA
Tel: +1 (781) 690-7651
jgrant@directdefense.com

Honors and Awards Chair and Sections-Divisions Liaison
Pavol Segedy, PE
HDR Inc.
Raleigh, North Carolina, USA
Tel: (919) 427-5313
pavol.segedy@segedyfam.com

Membership Chair
Colleen Goldsborough
United Electric Supply
Lancaster, Pennsylvania, USA
Tel. (717) 392-8500
cgoldsborough@unitedelectric.com

Asst. Membership Chair
Juliana Wafer, PE
Amazon
San Antonio, Texas, USA
Tel: +1 (318) 497-3562

Newsletter Editor
& Co-Chair, ISA112 SCADA Systems Standards Committee
Graham Nasby, P.Eng, PMP, CAP
City of Guelph Water Services
Guelph, Ontario, Canada
Tel: (519) 822-1260 ext. 2192
graham.nasby@grahamnasby.com

Scholarship Committee Chair & Asst. Newsletter Editor
Kevin Patel, PE, MBA
Signature Automation
Dallas, Texas, USA
Tel (469) 619-1241
knpatel@sig-auto.com

Secretary
Mike Briscoe
Signature Automation
Dallas, Texas, USA
Tel: +1 (469) 619-1241

David Hobart, P.Eng, CAP
Hobart Automation Engineering
Tel (802) 253-4634 – Portland, Maine, USA
dghobart@gmail.com

Steve Valdez
Generic Electric
Paramus, New Jersey, USA
Svaldez1210@gmail.com

Chris Hidalgo
Signature Automation
Dallas, Texas, USA
Tel: +1 (469) 619-1241
crhidalgo@sig-auto.com

Student Scholarship Committee Members
Kevin Patel, Signature Automation (chair), knpatel@sig-auto.com
Sean McMillan, Jones & Carter, sean.mcmillan@jonescarter.com
Steve Valdez, General Electric, svaldez1210@gmail.com
Thomas C. McAvinew, I&C Engineering, tcmcav@gmail.com
Wally Ingham, Consultant, wally1234ingham@gmail.com

ISA Staff Contacts – Division Services
Andrea Holovach, Rachael McGuffin,
Karen Modrow, MaChelle Beason
ISA Headquarters, 67 T.W. Alexander Drive, PO Box 12277, Research Triangle Park, North Carolina, 27709, USA
Tel: (919) 990-9404
Fax: (919) 549-8288
divisions@isa.org

ISA Water/Wastewater Division Links:
Website: www.isawaterwastewater.com
Blog: www.isawaterwastewater.com/blog/

ISA Microsite: www.isa.org/wwid/
ISA Connect: connect.isa.org
LinkedIn: https://www.linkedin.com/groups/2031271/
Facebook: https://www.facebook.com/ISAWaterWastewater/

ISA Customer Service
ISA Headquarters - Raleigh, North Carolina, USA
Tel: 1 (919) 990-9404
Fax: (919) 549-8288
Customer Service Hours: Mon-Fri 9am-4pm (Eastern, UTC-05:00)
Email: info@isa.org

About the ISA Water/Wastewater Industries Division

The ISA Water / Wastewater Industry Division (WWID) is concerned with all aspects of instrumentation and automated-control related to commercial and public systems associated with water and wastewater management. Membership in the WWID provides the latest news and information relating to instrumentation and control systems in water and wastewater management, including water processing and distribution, as well as wastewater collection and treatment. The division actively supports ISA conferences and events that provide presentations and published proceedings of interest to the municipal water/wastewater sector. The division also publishes a quarterly newsletter, and has a scholarship program to encourage young people to pursue careers in the water/wastewater automation, instrumentation and SCADA field. For more information see www.isa.org/wwid/ and www.isawaterwastewater.com