



Water / Wastewater Industry Division

Setting the Standard for Automation™

Calendar of WWID Events

Oct 8-12, 2022	WEF WEFTEC 2022 (includes WEF LIFT Challenge (2022))
Nov 7-9, 2022	ISA Fall Leaders Meeting Galveston, Texas, USA
Nov 11, 2022	ISA112 SCADA Management Standards Committee Meeting Galveston, Texas, USA

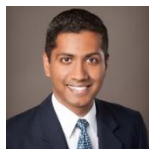
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Newsletter Fall 2022

Director's Welcome

Manoj Yegnaraman, Carollo Engineers, Inc.



A warm welcome to you all.

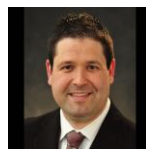
The field of automation undergoes technological advancements almost every single day. On the other hand, we have the constant goal of enhancing O&M efficiencies and solving new challenges in our water wastewater industry. This is where our ISA Water Wastewater Industries Division (WWID) plays an important role, as it serves as the central platform to collaborate and establish the best automation practices for our W/WW industry.

In this message, I have focused on WWID Division activities and an update on upcoming events.

One of our important activities earlier this year was our establishment of Memorandum of Understanding with the American Water Works Association (AWWA) and the Water Environment Federation (WEF), to support their annual conferences. These are so critical for our Division as this collaboration allows us to establish and refine our automation goals as needed to resolve our industry's specific concerns. Hassan Ajami and I participated in AWWA's annual ACE22 conference at San Antonio, TX in June 2022, where we presented on ISA's latest standard under development - ISA112 SCADA Systems, and how it would help our Water Utilities in managing their infrastructure and operations efficiently. The two of us, combined with Don Dickinson will also be having an Automation panel session at the ...**(continued on page 2)**

Newsletter Editor's Welcome

Graham Nasby, Co-Chair ISA112 SCADA Standards Committee



Welcome to the Fall 2022 issue of our Water/Wastewater Industries Division newsletter! It's hard to believe, but this will now be my last WWID newsletter issue where I am newsletter editor. I have enjoyed the past 11 years in the role, but now it's time to pass on the torch to our new newsletter editor Mr. Slawek Wolski. I want to thank Slawek for his help doing the editing and layout for this final issue for me. For the upcoming issues in 2023, you will be in good hands with Slawek. Thanks for all your support during the past 11+ years.

The fall newsletter is also a time when we step back and look at all we have accomplished. From uncertain beginnings in January 2022 turned out to be not that bad. Our division director Manoj Yegnaraman, director-elect Hassan Ajami, and program chair Joe Provenzano worked hard to present a full slate of virtual and online programming. We are now on track to finally have an in-person annual leadership conference this fall, after two long years of waiting while the pandemic ran its course.

I would like personally thank Manoj Yegnaraman for his service during his two-year term as director from 2021-2022 – you picked a tough time to take up the reins, and you did a pretty darn good job! Thanks, Manoj for all of your hard work.

On an unrelated note, I have to share the unfortunate news that we have long one of our longtime WWID volunteers this fall. Joe Provenzano, who has been active...**(continued on page 3)**

WWID Director's Message (continued from Page 1)

... upcoming WEFTEC 2022 conference, hosted by WEF, at New Orleans, LA in October 2022.

We continued to host our Energy and Water Automation Conference (EWAC) webinar series. This newsletter contains an excerpt of the presentations from our recent EWAC webinars. I hope you have been reviewing and finding our content useful on your job. Please provide any feedback to any of our WWID contacts found at the end of this newsletter. As you may already know, we have been using the webinar format for EWAC since 2020. The last time we had a F2F event was our 2019 EWAC in Orlando, FL. Our EWAC committee has already started working with the ISA events team for a potential F2F EWAC event in 2023.

Our Division was conferred with the 2022 Division Excellence Award by ISA. I thank all Divisions volunteers for their years of effort and involvement in supporting our Division activities to provide value to our members worldwide. I also thank ISA staff and its committees for their recognition and support. This award will be provided to us during the ISA Annual Leadership Conference at Galveston (Nov 7-9, 2022). I hope to see many of you at this conference.

Enjoy the rest of the newsletter. My best wishes to all of you.

Regards,

Manoj Yegnaraman, PE

Director, ISA WWID

Vice President, Carollo Engineers, Inc.

myegnaraman@carollo.com



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CYBERSECURITY THREATS RANK AS BIGGEST CHALLENGE IN 2017: IEEE SURVEY

Online security threats will be the biggest challenge for Chief Information Officers (CIOs) and Chief Technology Officers (CTOs) this year (45 percent), followed by the speed of technological change (18 percent) and regulation or compliance (11 percent), according to an IEEE survey of 300 U.S., U.K. and India CIOs and CTOs.



DEVICE OVERLOAD

The global Internet of Things (IoT) market and installed base of connected devices – smartphones, tablets, sensors, printers, vehicles and more – is expected to increase dramatically to 30.7 billion devices in 2020¹, all potentially vulnerable to cyberattacks.



Today, there are already so many devices connected to businesses that:



TOP CYBERSECURITY THREATS

Workers are increasingly mobile, driving the growth of portable primary work devices. As such, among the top two concerns of CIOs and CTOs are cloud vulnerability and security issues related to employees bringing their own devices to work.

Other concerns include IoT security and mobile device vulnerability.

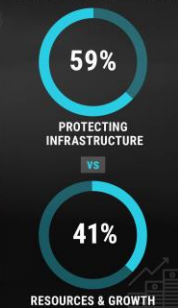


MAJOR CONCERNS



CONSIDERATIONS

If given an extra \$5 MILLION USD, CIOs/CTOs would invest in:



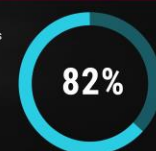
PREPARATIONS



HACKING FOR GOOD

Whether highlighting flaws in order to improve security as a "white hat" hacker, teaching children to code, or through hackathons that unite coders and designers to expose problems before a public software release,

A STRONG MAJORITY OF CIOs AND CTOs BELIEVE HACKING CAN BE USED IN A POSITIVE WAY



To learn about cybersecurity vulnerabilities and advances, visit transmitter.ieee.org/ieee-cyber-security

¹ HSE Technology: IoT platforms: enabling the Internet of Things <https://info.hse.com/news/pdf/enabling-iiot.pdf>

IEEE
In the world's largest technical professional organization
dedicated to advancing technology for the benefit of humanity

Newsletter Editor's Welcome (continued from Page 1)

....in our ISA water/wastewater division for more than 50 years passed away on Sept 28, 2022 in his home in Naugatuck Connecticut. Please read the obituary about Joe's many contributions to our division in this newsletter on page 5. We will miss you Joe.

In this newsletter, you will also see a listing of all the various volunteers who helped out with our WWID in 2022 and a slate of our incoming volunteers for 2023. Thank you everyone for your many ongoing efforts.

Continuing our tradition of sharing technical knowledge, we have included several high-quality technical articles in this issue. We start off with an update from the ISA112 SCADA systems committee, which talks about the importance of having a strong governance framework for SCADA Systems. Read more to find out why having a strong governance work process is essential to being able to build, maintain and operate a SCADA system in the long term.

This is then followed by an article Omer Bin Abdul Aziz who talked about opportunities when SCADA systems are integrated into work order systems. Omer, a longtime member of the ISA112 committee, is pleased to offer this case study and some guidance on how to effectively integrate these types of systems together.

Lastly, we finish this newsletter issue with our ever-popular automation quiz and a timely column from our 2022 ISA Society President, Carlos Mandolesi.

Being your WWID newsletter editor for the past 11 years has been a pleasure. Thanks for all the great memories. I look forward to staying in touch with all of you in the years to come.

Warmest Regards,

Graham Nasby P.Eng, FS Eng, PMP, CAP, CISSP, CISM
Guelph, Ontario, Canada
graham.nasby@grahamnasby.com



**Water/Wastewater
Industry Division**

Assistant Newsletter Editor's Welcome

Slawek Wolski, Engineering Supervisor - Ulteig

This fall has started off with so much happening. The world is changing and we are evolving with it. As fall has started, storms have rolled into north America. The news has been bombarding us with information about floods, storm surges, power outages and lack of supplies. Our industry is being challenged with equipment supply shortages and longer than ever before lead times. Never have I ever seen MCC buckets empty with external temporary direct online contactors installed due to a lack of VFDs.

Additionally, we have been met with our own loss within the group. Joe Provenzano has passed away he was a long-time volunteer leader in our ISA water/wastewater division, and this is sad news I have great respect for someone I have not had the pleasure of even meeting. My inbox was filled with several touching emails showing how close-knit this family truly is.

However, we are persevering and changing with time. The race for more extraordinary technology has started. The possibilities for providing information that is typically challenging to understand is becoming simpler. People with no prior programming experience can now develop their own logic with no code programming or low code programming application. This all leads to an exciting future for this standards division as we develop these road maps that will lead to straightforward applications that are not concentrated on the effort required to develop them, leading to genuinely brilliant designs.

As Graham mentioned, some amazing articles are within this issue, and some sentimental stories have been shared. So please follow along and enjoy this fall issue.

Warmest Regards,

Slawek Wolski
Assistant Newsletter Editor, WWID
Engineering Supervisor (Water/Wastewater)
Ulteig Engineering Inc
Hamilton, Ontario, Canada
Tel: (416) 606-3294
Email: slawek.wolski@ulteig.com



Slawek Wolski is the Engineering Supervisor (Water/Wastewater) with Ulteig Engineering's Hamilton Ontario office. Ulteig Engineers is an employee-owned company with offices in Hamilton ON, Austin TX, Billings MT, Bismark ND, Boise ID, Cedar Rapids IA, Denver CO, Detroit Lakes MN, Sacramento CA, Sioux Falls SD, St. Paul MN, Williston ND, and head offices in Fargo ND. Slawek was an associate director with NLS Engineer, prior to it being acquired by Ulteig in 2021. Slawek has also held senior positions with Grey Matter Systems, Hatch Mott MacDonald, Insyght Engineering, Sirron Systems, and The Walter Smith Co. Slawek and his wife live in Etobicoke, Ontario, Canada which is part of Canada's largest city: Toronto.

WELCOME

Director Elect's Welcome

Hassan Ajami, PCI-Vetrix



Greetings to our WWID members all across the globe. The leaves are starting to change color here in Michigan, a sign that Fall/Autumn is here. While taking a drive to look at trees might not sound all that interesting, it's a major tourist industry in the Midwest with Fall Color Tours popping up everywhere. It's magical what nature can provide. On the other side, nature can also be devastating as we've all seen with the recent hurricanes in the Caribbean and Florida. Besides the high winds and the damage they bring, storm surges brought in walls of water. Many people don't realize or appreciate the impact force that water carries, it can sweep away objects and shift structures off of their foundations. We've all seen the impacts of water force in the Water/Wastewater industry with main breaks destroying lines of all types and sizes.

These massive storms wreak havoc on all infrastructure with power being the first one impacted. Water lines are usually safe, but systems can't operate without power. The ones that are able to operate have to cope with massive amounts of groundwater that overwhelm any sewer treatment facility and have the potential to destroy the balanced biological processes that are the base of wastewater treatment. One positive note that has come out of the devastation is how it brings everyone together. That is the essence of the human spirit, helps those who need it.

On an ISA/Industry note, we recently completed our 3rd webinar in the 2022 EWAC series, the final one for the year. The topic was "Empowering and Ever-Changing Process Workforce" and focused on training and certifications as they apply to the automation industry. We had three excellent speakers present their views, followed by a panel discussion with industry leaders and experts. The slides and recording will be posted in the WWID Library soon. Stay tuned as we work with ISA on the plans for next year's conference!

Over the next few months, we will be updating our WWID Org Chart to showcase our subcommittee groups that will focus on major industry topics, as well as groups involved with our expanded social network presence and partner organizations. We are always open to volunteers who want to participate in the WWID group. Our work deals with planning for webinars and conferences, membership interaction, and coordination with partner organizations such as AWWA and WEF. If anyone has an article they would like to present, or publish in our newsletter, please reach out to anyone on the board.

I wish you all the best for the rest of 2022!

Hassan Ajami, PE, CAP

2021-2022 Director-Elect, ISA WWID

2021-2022 General Chair, ISA EWAC

Vice President / Lead Technical Officer

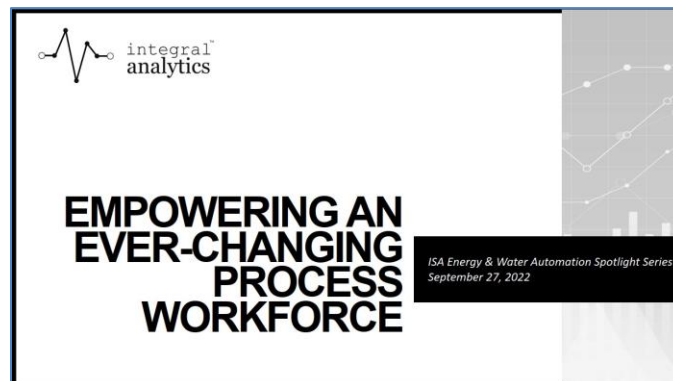
hajami@pci-vetrix.com

WEBINARS

Workforce Development Webinar

From the WWID Program Committee

Here are some screenshots from our recently held webinar held on September 22, 2022 workforce development.



WWID NEWS

Joe Provenzano (1937-2022)

From the WWID Committee

It is with heavy heart that I share the news that our dear friend Joe Provenzano is no longer with us. Joe, one of long-time volunteer leaders in our ISA water/wastewater division, passed away in his home in Naugatuck, Connecticut on Sept 28, 2022. Joe had been involved with ISA for more than 50 years, and was for many years the program chair of our water/wastewater division and ISA water/wastewater and automatic controls symposium. Joe was a recipient of the ISA's society-level Enduring Service award in 2021 and multiple leadership awards from the ISA water/wastewater division.

Joe Provenzano was born in Astoria, New York, USA on May 9, 1937, the son of the late Thomas and Mildred (Cocito) Provenzano. He served his country honorably in the United States Army. Joseph played for the Brooklyn Dodgers farm team and had an invitation to play baseball for the New York Yankees farm team, however he made the decision to attend college rather than pursue a career in sports. Joseph received his B.A. degree in computer science from Adelphi University in Garden City, NY and a Master's Degree in Physics from Pace University. He was the Assistant Vice President for Bristol Babcock Incorporated in Waterbury for many years until his retirement, and was the owner/operator of KPRO Engineering LLC in both Naugatuck and Southbury. Joseph enjoyed watching the UConn Men and Women's basketball games and was an avid N.Y. Yankees fan, but loved the time he spent with his family and grandchildren. He was a longtime member of the the (ISA) International Society of Automation and a member of the Naugatuck Lodge of Elks # 967.

Since the start of his career in 1957, Joe has been involved in the automation, instrumentation and control sector for over 50 years. He has worked in companies large and small, and been involved in positions ranging from hands-on technical roles to being part of executive management teams.

Joe has been an active ISA member for over 50 years, holding positions throughout the organization that include officer-level roles at the section, district, division, and society levels as well as being involved with standards committee work. He was also one of the key organizers of the first ISA Water/Wastewater and Automatic Controls Symposium which took place in 2003, and has been heavily involved with the symposium ever since.

Joe began his career in 1957 when he graduated with an Electrical Technology Associates Degree from Brooklyn Community College located New York City. His first job out of school was with Sperry Gyroscope where he started as an electronics test technician. He moved up through the ranks and was soon managing one of their electronics groups. While working at Sperry he completed courses at Adelphi University and graduated June 1965 with a degree in Applied Physics. In October of 1965 Joe got married.

Towards the end of 1965, Joe joined ITT WorldComm in their downtown New York City office for a 7-month project where



he designed ship-to-shore electronics. After that project was complete, he took a permanent position in with Data Master Inc. a division of the Bristol Company in their Long Island NY facility. In 1966 he bought his first home in Long Island New York.

Joe went on to have a 29 year career with Bristol where he worked on a variety of projects. In 1983 Joe became VP of Systems Engineering. He was one of the key people involved in the development of the Bristol-Babcock RTU-3350, and RTU 3380. These RTU's were then integrated into Bristol's Network 3000 Distributed control System. (the RTU's preceded RTU-3330 that many of us are familiar with). During his time at Bristol, Joe was one of the key people who supervised many of the larger and complex system integration projects that the systems group undertook. While at Bristol, Joe also completed a Masters in Computer Science from the Pratt Institute located in Brooklyn New York in 1970.

In 1994, Joe left Bristol to take the position of General Manager with Aaron Associates, a Connecticut-based System Integration firm. As part of AA, he helped build the company from a small firm to one with over \$ 4 million/year in revenue.

In 2009, Joe left Aaron Associates and joined Process and Energy Measurement Corp. that same year. As part of PEMO, Joe moved into the role of Environmental Specialist working at the plant level in Connecticut.

Soon after he started a new firm called KPRO Engineering Services LLC. The company provided Instrumentation, and Engineering services to Contractors serving the Water and Wastewater Industry, as was active into 2022. Even up to his last days, Joe was always excited to be able to help both utilities and contractors with their various instrumentation projects. Joe was a true professional who enjoyed the work that he did.

Joe was laid to rest on October 3, 2022 at St. James Cemetery in Naugatuck, Connecticut, USA with full military honors. He was the loving husband of the late Gloria Marie (Circosta) Provenzano who passed away in 2022. Joe is survived by his two children and three grandchildren.

WWID ANNOUNCEMENTS

ISA Water/Wastewater Division wins ISA society-level 2022 Division Excellence Award

By Graham Nasby, WWID Announcements



The ISA Water/Wastewater division is pleased to share that our Division has been selected for the society-level 2022 Division Excellence Award by ISA. Our Director, Manoj Yegnaraman would thank all Division volunteers for their years of effort and involvement in supporting our Division activities to provide value to our members worldwide. We also thank ISA staff and its committees for their recognition and support. This award will be provided to us during the ISA Annual Leadership Conference at Galveston (Nov 7-9, 2022). We hope to see many of you at this conference.



WWID SCHOLARSHIPS

2023 WWID Scholarship Applications

By Kevin Patel, WWID Scholarship Chair

The ISA Water/Wastewater Industry Division (WWID) is pleased to announce our 2022 ISA WWID Michael Fedenyszen Memorial Student Scholarship. The scholarship is named to honor the contributions of long-time WWID volunteer Michael Fedenyszen who passed away in 2017.

Eligible students can win up to \$2000 USD in scholarship money to help them pursue higher education.

Students can apply by filling out the application form, accompanied by:

- 200-word essay on why they should win
- a copy of their academic transcript
- confirmation of enrollment form/letter

The application deadline is January 31, 2023

The division is pleased to continue to provide up to \$2000 of scholarship money to encourage WWID members and their sons/daughters to pursue higher education. In addition, winners will receive a complimentary 2-year student ISA membership.

Applications are due by email by January 31, 2023. Winners will be notified by February 28, 2023 via telephone and email. Winners will be required to provide a photo and short biography that can be used for publicity reasons. Scholarship money will be distributed by check and mailed after the winner is contacted and has supplied the required photo/bio.

Scholarships will be awarded at the sole discretion of the WWID scholarship committee, with preference being given to students enrolled in technical programs that lead to careers in the water/wastewater sector.

Download and view the student scholarship application form at www.isawaterwastewater.com or our online ISA Connect community at www.isa.org/wwid.

Please email completed application form, along with 200 word essay, confirmation of enrollment and copy of academic transcript to:

scholarship@isawwsymposium.com

AND

knpatel@sig-auto.com

All applications must be submitted by email (PDF scans of documents). Please do not send submissions by postal mail.



**Water/Wastewater
Industry Division**



Water & Wastewater Division

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2023 WWID Michael Fedenyszen Memorial Scholarship

APPLICATION FORM

The ISA Water & Wastewater Division (WWID) is pleased to award up to \$2000 of scholarship money to encourage WWID members and their sons/daughters to pursue higher education. Students recommended by a WWID member may also apply. Winners will also receive a complementary 2-year student ISA membership, which includes a print subscription to ISA *InTech* magazine. Applications will be accepted via email through January 31, 2023. Winners will be notified by February 28, 2023 via telephone and email, and will be required to provide a digital photo, a 3-4 sentence biography, and a 1-2 sentence "thank you note" that can be quoted for publicity purposes. Scholarships will be dispersed by check and mailed after the winners are selected and the required documentation is received. Scholarships will be awarded at the sole discretion of the WWID scholarship committee with preference being given to students enrolled in technical programs that lead to careers in the water/wastewater industry.

Eligibility (check one)

- ☐ WWID member, ISA Member # _____
- ☐ WWID student member, ISA Member # _____
- ☐ Parent/Guardian is a WWID member, Parent Name: _____ & ISA Member # _____
- ☐ WWID member recommendation (letter attached), Member Name: _____ & ISA Member # _____

Other criteria (check off each one)

- ☐ Currently attending 2-4 year university/college curriculum
- ☐ Confirmation of enrollment letter (or scan of student card) attached
- ☐ 200 word essay about "Why I should win the scholarship" attached
- ☐ Copy of previous year's academic transcript attached

Applicant's Name: _____
Program of Study: _____
Institute Name: _____
Institute Address: _____
Dean of Admissions Name: _____
Institute Phone: _____

Address While At School
Street: _____ Apt. _____
City: _____
State: _____
Zip Code: _____ Country: _____
Phone: _____
eMail: _____

Home Address
Street: _____ Apt. _____
City: _____
State: _____
Zip Code: _____ Country: _____
Phone: _____
eMail: _____

Applications must be submitted as scanned PDFs and emailed to the scholarship committee at:
scholarship@isawaterwastewater.com AND knpatel@sig-auto.com

APPLICATIONS MUST BE RECEIVED BY JANUARY 31, 2023

www.isa.org/wwid

UPCOMING WEBINARS

ISA & WWID Technical Webinars in 2022

From the WWID Program Committee

ISA virtual and in-person conferences, webinars, and ISA Connect Live sessions cover a variety of topics in industrial automation by providing attendees with insight into key operational and business topics through online sessions, panels with live Q&A, virtual exhibits, as well as networking and chat opportunities.

Benefit from experiences with renowned experts and presenters, hear firsthand about the latest technologies and trends, and gain the high-value, peer-reviewed technical content that will keep you and your skills on the cutting edge. Plus, take advantage of great exposure opportunities for yourself and/or your company's products and services.

Register at www.isa.org/events/

Upcoming Conferences

Registration will be opening soon for these upcoming ISA virtual conferences

[ISA Cybersecurity Standards Implementation Conference](#)

26 October | 8:00 a.m. – 5:00 p.m. CT | Houston, TX, USA

[ISA Automation & Leadership Conference](#)

7-9 November 2022 | Galveston, Texas, USA

ISA Connect Live

Technical discussion and networking in a live, virtual setting

[Connect Live with YPs](#)

26 October 2022 | 9:00 a.m. ET

Virtual Networking

[Connect Live with YPs](#)

7 December 2022 | 9:00 a.m. ET

Planning Your Year

WWID WEBINARS

ISA & WWID Continue to Provide Virtual Events and Plan for 2023 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 provide online events. Both the WWID and ISA as a whole, have 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 organized 4 webinars in 2020, 3 days of multiple webinars in 2021, and have already started planning our 2023 events. 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 of 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.

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- Get involved in hands-on active leadership roles in ISA's 30,000-member society

Visit www.isa.org/leadershipadvantage to learn more





ISA112 SCADA STANDARDS COMMITTEE NEWS**The Importance of having a strong SCADA Governance policy framework and work process for SCADA Systems**

By Graham Nasby, ISA112 committee co-chair

One of the topics currently being discussed by the ISA112 SCADA systems management committee is how we can more effectively manage SCADA systems in terms of not just funding/staffing, but also in terms of ensuring that decision-making processes associated with the design, building and maintenance of SCADA system continue to meet the functional and business needs of the organization. Thus, the topic of effective SCADA governance is something that is built into the ISA112 SCADA systems standard.

Any SCADA system, to be effective, must have a clearly defined purpose, owner, and ongoing resources assigned to the system to be able to maintain its functionality, availability, and effectiveness over time. Thus, it is imperative for any SCADA system that a strong governance structure be put in place by the end user who owns the system. To do otherwise, can create significant problems when it comes to maintaining functionality, ensuring the system meets business needs, and achieving the required system availability.

SCADA governance is a conceptual structure and set of rules that outline how an end-user's SCADA program is to be managed and controlled. The structure of an effective SCADA governance program will be defined in a written policy document that has been endorsed by executives at the organization.

SCADA Governance Policy Document

As a minimum, a SCADA Governance Policy document needs to be developed by the system owner that clearly defines key governance characteristics of the system. As a high-level steering document, the governance policy provides a framework of how the SCADA system will be developed, built, and maintained over time, and a work process for how decisions regarding the SCADA system will be made over time. Also, as a steering document, it requires executive endorsement and support in the organization so the role of SCADA is clearly defined in terms of what it needs to do and the resources to be allocated to it.

Required SCAD Governance Policy Document Topics

As a minimum, a SCADA Governance Policy document needs to clearly define the following characteristics of the system:

1. The purpose of the SCADA system
2. The scope and boundaries of the SCADA system (e.g., who owns IEDs vs. SCADA system)
3. The business functions/needs of the SCADA system must meet or exceed
4. The business criticality of the SCADA system and the required overall uptime/availability
5. Known regulatory/compliance requirements the SCADA system must meet or exceed
6. Known technical standards that the SCADA system must meet or exceed (e.g., ISA112)
7. The primary users of the SCADA system and their high-level requirements
8. Who in the organization (or department) is the owner of the system, and if there are if there specific components that are to be owned by specific departments/groups in the organization
9. Who in the organization is responsible for providing the funding to operate and maintain the system in a state of good repair
10. How is the annual budget for operating and maintaining the system determined, approved and administered
11. Who in the organization is responsible for the upkeep and maintenance of the system
12. Who carries out system maintenance and upgrade work to keep it in a state of good repair
13. Who provides support as needed to the users of the system
14. Who is responsible for providing emergency support/repairs for the system
15. Who must be consulted, in terms of being informed, consulted and for approvals, before changes are made to the system
16. For major changes to the system, what change management procedures must be used
17. For changes to the system, what criteria are to be used for classifying very minor, minor and major changes to the system
18. For proposed major upgrades, what is the process to be used for approving major upgrades, determining who pays for them, and then carrying them out
19. Any known business risks if the SCADA system is not available for use or does not work properly, and if there are any agreed-upon mitigations or controls
20. An agreed set of high-level overall SCADA system performance metrics for measuring system performance on at least an annual basis
21. Policy on what the expected lifespan of SCADA system components should be, to guide the design, procurement, and maintenance of system components.

Recommended Additional Policy Document Topics

The following topics are also recommended for inclusion in the SCADA Governance Policy document:

1. Any other high-level requirements specific to the end-user/industry that the SCADA system must meet
2. Any secondary users of the SCADA system and their high-level requirements
3. Other stakeholders impacted by the SCADA system and their high-level requirements
4. What staffing is required for the ongoing of the system and who is responsible for providing that staffing.
5. Who classifies the SCADA systems data and ensures its security and confidentiality
6. Policy and procedures for testing SCADA system changes before they are put into production.
7. For highly regulated industries, who is responsible for carrying out SCADA system validation and compliance testing activities.
8. Who provides (and decides which) minor feature requests from users are to be implemented
9. What is the change control process/workflow for making minor changes to the system?
10. Minimum requirements for periodic system backup/restore, ongoing revision control, and capabilities for disaster recovery
11. In the event of a catastrophic failure, the agreed expected minimum time for a return to system availability
12. High-level plans of how the organization has agreed to respond to SCADA outages.
13. What type of vendor and service provider support must be in place for the SCADA system
14. Policy on how SCADA system component warranties and support agreements should be managed.
15. Policy on the use of open-systems (can be modified by end-user or any integrator) versus closed-systems (can only be modified by the original vendor) for both in-warranty and out-of-warranty support
16. Policy on procurement of SCADA equipment when there are unique requirements. This should include a framework defining when/if the use of pre-approved, pre-qualified, single-source, and/or sole-source providers are appropriate.
17. Policy on procurement of SCADA system integration work when there are unique requirements. Should include a framework for defining when/if the use of pre-approved, pre-qualified, single source and/or sole source providers are appropriate.

Additional Policy Document Guidance

Depending on the organization type, industry, and role of the specific SCADA system, there may be additional characteristics or details that may need to be outlined in the SCADA Governance Policy Document. This will be up to the end-user to determine as needed.

The SCADA Governance Policy document should be written at a very high level and contain no more than one to four short paragraphs in each section. It is meant to act as a high-level steering document only. Further details about how various aspects of the SCADA system are to be designed, implemented and operated/maintained are to be detailed in the SCADA Systems Standards documents.

The SCADA Governance Policy Document shall be reviewed periodically to ensure that it continues to meet the organization's needs. To be effective, the document should be endorsed by a sponsor at the executive level of the end-user organization each time it is reviewed (for example, at the board of directors, CEO or COO level in a traditional corporation).

Note: It is recommended that the SCADA Governance Policy Document be reviewed, edited, and approved annually.

SCADA Strategy Documents

For large systems, it is sometimes advisable to develop a set of strategic documents that outlines a high-level road map in terms of how the SCADA system will be funded, staffed, and developed over time to meet long-term business needs. These high-level strategy documents can be used in conjunction with the more technical "SCADA Long Term Planning" documents to develop a comprehensive long-term plan for capital investment and upgrades to the SCADA system over time. If used, any SCADA strategy documents should be reviewed and updated on a regular basis. Depending on the type of organization, these documents may be treated as confidential to the end user.

Additional SCADA Governance Policy Documents

Depending on the size and complexity of the SCADA system and/or the organization that it serves, some organizations may decide to have additional high-level policy documents to supplement the overall SCADA Governance Policy document. This is, of course, keeping in mind that the intent is that the specific technical requirements, policies, procedures, guidelines and templates or the end user are meant to reside within the SCADA Standards package as outlined in this standard. Two examples of this are developing RACI tables and SCADA Risk registers.

Using RACI Tables

The use of a RACI (responsible, accountable, consulted, informed) tables can often be an effective visual tool to use in a SCADA Governance Policy document to further illustrate the

content of the policy document's statements. An example is shown in Table 1.

Table 1 - Example of a RACI Matrix Table

		Senior Management	SCADA Team	Operations	Compliance	Accounting
SCADA Governance Document	Governance	A	R,A	C	C	I
SCADA Cybersecurity Program	Cybersecurity	C	R	I	I	--
SCADA backup systems		I	A,R	I	I	--

SCADA Risks Register

It is recommended that a risk assessment for the SCADA system is undertaken on a regular interval to document potential risks to the SCADA systems and what controls can be applied to mitigate risks. Many organizations do this on an annual or semi-annual basis. Risks should be classified as mitigated, transferred, or accepted. The SCADA risk register document should be periodically reviewed at a set interval.

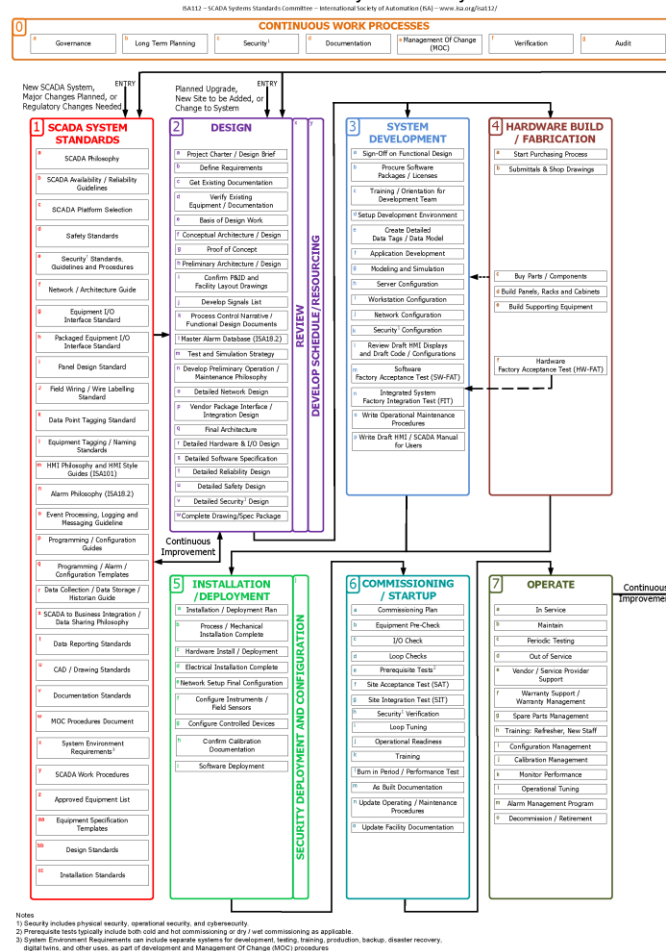
A mitigated risk is a risk for which compensating measures have been put in place to reduce the chance of the risk occurring (e.g., having periodic automatic backups and maintaining a hardware spares inventory reduces the risk of downtime resulting for a significant hardware failure.). An example of transferred risk is using a third party to reduce the likelihood of a risk's impact or occurrence (e.g., having a 4-hour response vendor support contract in place to replace hardware if it fails). An accepted risk is a risk that cannot be mitigated, but the system has clearly defined what the risk is, documented it, and accepted it as part of normal operations (e.g., the risk has been identified and documented, and the organization knows what to do if it occurs).

It is important that any SCADA risks be evaluated from both a management/operational level and a technical level. This includes looking at risks from a perspective of an operational impact but also by looking at impacts on the technical integrity of the SCADA system itself. Both perspectives are needed in order to properly assess potential risks and associated mitigations for the SCADA system.

SCADA Long-Term Planning

To be effective, a strong SCADA governance program also needs to be accompanied by an equally effective long-term planning process for any SCADA system. Well-managed SCADA systems will have a long-term operational and capital plan that outlines the expected investments and operational improvements to the system from the perspective of the next 5, 10, 15, 20 and 25 years and beyond. Part of effective long-term planning is by looking at system components and engineering investments from a lifecycle approach, realizing that all parts of the system will need ongoing investments and upgrades in order to continue to meet business needs and be maintainable in the long term.

ISA112 SCADA System Lifecycle



Note: This is an interim working draft from the ISA112 SCADA Systems standards committee, as of 2022-07-08. (A previous version was released on 2020-08-15.) This diagram is still subject to change.

Figure 1- ISA112 SCADA System Lifecycle (source: www.isa.org/isa112)

Summary

Governance is an area where SCADA systems have traditionally struggled. To be able to build and maintain a well-functioning SCADA system that continues to meet business needs, a strong written policy framework must be established, endorsed and maintained by the owner of the system. This includes defining who is responsible for staffing/funding the system, how decisions are made and keeping it safe from threats such as cybersecurity and obsolescence. It is time we up our SCADA game to include effective governance, just like enterprise IT and CSIO professions have begun doing in recent years. The upcoming ISA112 SCADA systems management standard emphasizes the need for effective governance of SCADA systems

About the Author



Graham Nasby, P.Eng, PMP, CAP, CISM, CISSP is a licensed professional engineer with more than 15 years with automatic control systems. Located in Guelph, Ontario, Canada he holds a B.Sc.(Eng.) from the University of Guelph a certificate in Project Management from the University of Waterloo. He is senior member of the International Society of Automation (ISA) and co-chair of the ISA112 SCADA System Standards Committee. Contact: graham.nasby@grahamnashby.com

WWID TECHNICAL ARTICLE

From Confusion to Fusion: Creating a Single Version of Truth for Utility Operations.

By Omer Bin Abdul Aziz, CEng, PMP, FS Eng (TUV)

In most utility organizations, manual systems have been replaced by computer-aided systems. Some examples of these systems would be Asset management, customer relationship management (service complaints, new house connections, work permits), geographic asset and network information, fleet management, billing building management, documentation management and last but not least, industrial control system. Not every utility would have all these (or other) systems computerized, but there is an increasing trend of letting go of manual systems.

Parallel to this, advancements (both technological and best practices related) are taking place in the integration of IT (Information Technology) and IACS (Industrial Automation and Control System). There is enhanced use of IT best practices seeping into the IACS domain and vice versa.

IT systems are often referred to as business systems. Examples of IT systems include email servers, word processors, enterprise resource management software, etc. IACS includes control systems used in manufacturing and processing plants, building management, utilities, etc. (ISA 62443-1-1)

The progressive computerization of manual systems and IT/IACS convergence provide exciting fusion opportunities. Utilities have just started exploring this fusion's new rhythms and vibes. While some may be fads, a real opportunity exists to develop a single version of the truth across the entire operations by carrying out a meaningful integration of all systems.

This article explores the benefits and challenges that such integrations entail. Towards the end, we will explore some lessons from recent similar integrations. The intent of this article is not to prescribe use cases and integration methods. Instead, this article is meant to seed discussion and further exchange of ideas on the benefits such integrated systems can achieve.

Benefits

In the IACS world, we talk more about control strategies while explaining the logical relationship of various components. People usually discuss "use cases" in the IT domain while describing similar relationships. Let's start with a typical "use case" limited to the control system and then build on it by adding integration layers. For our explanation, we will use the environment of a central control room, where data from various remote sites (such as pump stations, pipeline RTUs, and pre and post-treatment facilities are already available). The explanation is simplified for the benefit of highlighting the concerns.

Use case example: Pump corrective maintenance.

The central operator receives a pump-fail-to-start alarm on his SCADA (Supervisory Control and Data Acquisition) screen. After initial checks, he ascertains that a maintenance crew must be dispatched to the site for further troubleshooting. So he notes down the "SCADA tag" of the pump. He then calls the maintenance crew and asks them to drive to the location and perform further troubleshooting (let's mark this as time-T0 hrs). The operator could not generate a corrective maintenance work order in Enterprise Asset Management System (EAMS) as EAMS does not work with SCADA tags. The location is a 2-hour drive from where the maintenance crew is usually located. The maintenance crew reaches the site after five hours (Let's mark this as time -T5 hrs). They find out the pump's AMS asset number at the site and initiate a corrective maintenance work order in the EAMS system. It takes them roughly 2 hours to troubleshoot and put the pump back in operation (let's mark this as time T7 hrs). They update the status of the work order in EAMS.

At the end of the week, the operator and the maintenance crew generate separate reports from their respective systems – one from SCADA and the other from the AMS system. The SCADA report shows that it took seven hours (T0 hrs till T7 hrs) to put the pump back in service. The EAMS report shows it took 2 hours (T5 hrs till T7 hrs) to put the pump back in service. Both reports are so-called "System Generated" and not "tampered" by any human. However, both reports provide a different resolution duration to the same issue.

In the above example, we can note:

1. There were multiple systems involved that were not connected to each other. This lead to incompatibility of information across systems. The most common incompatibility in the above example is using different tag schemas to identify assets.
2. Several human-human interactions were involved in reporting the issue and providing updates.
3. The KPI definition for report generation was not harmonized among departments.

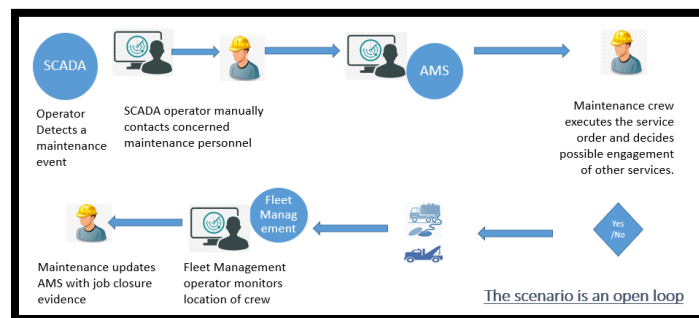


Figure 1 An open loop system with multiple human touchpoints

Now imagine if the SCADA operator could:

1. Generate a corrective work order from the SCADA application
2. Geographically visualize the latest location of maintenance crews and the asset where the service is required
3. Get information on the current maintenance work orders assigned to these crews
4. Assess the nearest available free crew and dispatch it to the site.
5. See the stages through which the work order is progressing (When is a crew member assigned, when have they started the work when they finished the work, and any snapshots they took before and after resolving the issue)
6. Generate a single set of BI(Business Intelligence) dashboards accessible to the maintenance team and operations showing the response and resolution times and other metrics.

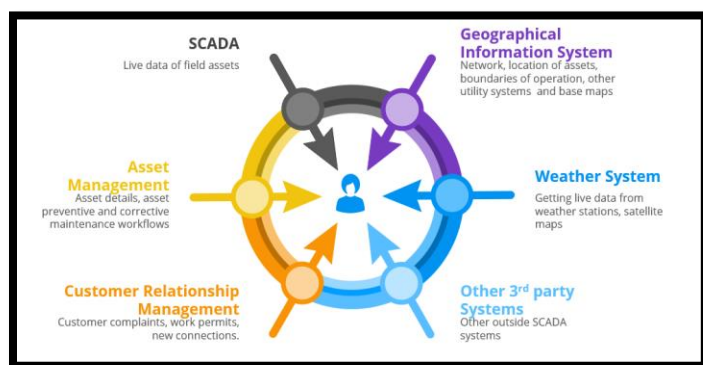


Figure 2 Integrated system providing a high level of situational awareness to operators

This would represent a highly integrated environment in which organization's systems can exchange transaction-level information with each other in next to real-time, can share the live and historical data from their domains, and an organization-wide data warehouse can be setup. This warehouse can then be used to generate BI analytics and reports, which all departments and stakeholders can agree upon as a single version of the truth.

The live and historical data mentioned also includes the GIS data. The networks and assets maintained by a specific utility often span across the city and, in some cases, the entire country. The ability to have The GIS layered view of the networks, assets installed on these networks, their current health status, the status of any ongoing or upcoming maintenance jobs and last but not least, the live information being provided for these assets – all in a linear view would offer an unprecedented situational awareness to operators and stakeholders. Such situational awareness can prove very helpful when handling emergency conditions.

Challenges & Lessons learned.

One of the biggest challenges in developing such integrated environments is cyber security – not just the technology in terms of firewalls. Equipment is one part of the challenge, albeit a small one. The more significant part is the culture, policies, procedures and standards. A robust cyber security program is a must before endeavouring such projects. Many chapters can be written in praise of this, but for brevity, it should suffice to say that someone in your team with a sound understanding of standards such as IEC 62443 can prove highly beneficial.

SCADA and business systems are maintained and owned by separate teams. Finding a common means to exchange data can prove challenging. While as SCADA engineers, we may always prefer to get the data on Open Platform Communications (OPC), but OPC can not come to the rescue every time! The quantum of data and its frequency may require other means less familiar to SCADA engineers.

Connectivity to other (e.g. business) databases can be through direct database connectivity with source system production, through web APIs or using a carbon copy of the production data in a separate “staging database.” If later is the case, problems may arise in data integrity between the production and staging database itself. Scripts that run to copy data may not always run; the production database and staging may get out of sync if any out-of-turn administration updates are done on the production database. In all cases, there may be times in a month/day when the primary database is occupied with housekeeping or other tasks. This may delay processing the information. This aspect should be kept while designing the response time and behaviour for connectivity. An integration design document focusing on non-functional requirements can help communicate the message to the counterpart teams.

When people are used to getting reports from “their own” sub-systems, it can be challenging to convince them to get the reports and KPIs from a single system. They may feel they are less in control of reality that way. When they use “their own” sub-systems, they have the freedom to redefine the logic on the fly. No formal approvals may be required. As a result, comparing the reports generated from the “sub-system” and the single system can be challenging.

Once the system is deployed, stakeholders see their own data differently. This raises further questions in their minds and further requests to analyze the data differently. This does not fit well with the traditional project management techniques in which you design first and then build – never to go back to the design phase till another contract is signed. Traditional waterfall project management approaches are a recipe for disaster in such projects. The contracts need to be designed to encourage principles of agile project management in the true sense. Stakeholders should have the freedom to revise and add new requirements, and contractors should have the freedom to bill for these revisions and additions!

Such integrated systems are resource intensive. Demand for computing, storage and RAM can increase beyond general expectations. The infrastructure should be sized with scalability at its heart. Cutting corners here can result in performance penalties on the system.

The concept of “maintenance” and “enhancement” is very different in such systems compared to traditional IACS systems. In an IACS system, once it is put in operation, requirements for both maintenance and enhancements are fewer and far between. In an integrated system, maintenance and enhancement are part of everyday life. Business Integrations are fragile no matter how well designed they are. As the business evolves, the definitions of KPIs and metrics also require new insights, enhancing the analytics layer. This additional burden of maintenance and enhancement should be kept in the project budget.

We often take pride in the reliability, robustness and availability of an Industrial Automation & Control System (IACS) compared to other IT applications. This is indeed a good feature of industrial software. However, there are many aspects in which IT applications and engineering excel as compared to the IACS world. I am sharing two such aspects as an example:

1. Stress testing is essential to understand how the system will behave when all users operate it. SCADA systems often lack the capability of carrying out automated stress testing. Automated testing is also minimal.
2. Certain parts of the application/functionalities do not render themselves to internal or external reporting. In IT applications, all data is kept in accessible databases. These can be used to generate reports such as user access metrics (e.g. user login/logout reports, how many times a specific user accessed each feature/graphics page, load times of individual graphics etc.).

I hope this article helps generate interest for further discussions on integrated SCADA systems – their merits and demerits. I would love to hear your thoughts on this subject. Please feel free to reach out to me at scada.heman@gmail.com

About the Author



Omer Bin Abdul Aziz, CEng, PMP, FS Eng (TUV)

In-depth experience in the field of industrial automation & control, working with both OEMs and system integrators. Capable of delivering projects including complex control system design, engineering, testing & commissioning. He has more than 8 years experience of in delivering turn-key I&C projects in the Middle East,

including site construction activities.

Having worked in almost all verticals including oil & gas, water & waste water, petrochemicals and pharmaceuticals gives him a rich flavor of automation landscape in all industries. He started his career as a trainee application engineer at Siemens, working on SIMATIC platform. Currently, he is looking after project delivery in the MEA region as an international projects manager. Contact: oaziz@avanceon.ae

ISA ANNUAL GENERAL MEETING

ISA to Hold in-person face-to-face Annual General Meeting (AGM) and Technical Conference in Nov 2022 in Galveston, TX

From the Leadership Conference Organizing Committee

Join ISA in Galveston, TX, this November for the Automation Event of the Year!

You will have the opportunity to network with ISA leaders and automation professionals from around the world—including managers, engineers, technicians, and subject matter experts.

Attend society meetings and leadership presentations

Attend vital technical sessions and access an array of technical subject matter experts from the US, Middle East, Brazil, Malaysia, Spain, and India

Interact with other conference attendees—in person or virtually

Visit exhibitor booths to gain insight and information on the latest products and technology in the industry

Attend the ISA Honors and Awards Gala

Registration Pricing

- **Non-member:** 695 USD
- **Conference + ISA Membership:** 625 USD
- **Member:** 495 USD
- **Section Delegate:** 250 USD



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AUTO-QUIZ: BACK TO BASICS

What are the Failsafe Positions for a Valve?

From the ISA Certification Program

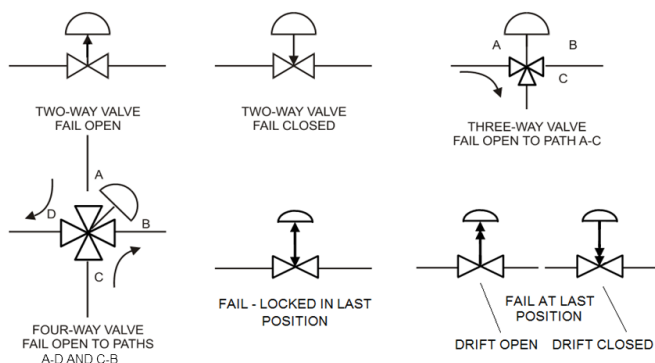
Today's automation industry quiz question comes from ISA's technical training course, Control Valve Mechanics and Operations from Analog to Digital. The course takes a deep dive into the control valve's mechanical composition, actuation and positioning accessories, including a detailed study of digital valve controllers. Training is hands-on and lab intensive, and is designed to offer a real-world, working knowledge of valve mechanical configurations, valve operations and positioner calibrations.

Failsafe positions for a valve can be:

- A) Fail Closed
- B) Fail Open
- C) Fail Last or Locked
- D) All of the above

The correct answer is D, all of the above.

The actuator action and mounting position determine the fail state of the valve package. The arrow on the stem of a two-way actuator shows if the valve/actuator package is a fail open or fail closed. On three- and four-way actuators the arrows show the failed paths. The letters "FO" (fail open) and "FC" (fail closed) are sometimes used in place of the arrows on two way valves. The letters "FIP" also are used to refer to a valve that Fails In Place.



Want to learn more about control valves? Sign up for ISA's training course, Control Valve Mechanics and Operations from Analog to Digital.

About the Editor

Joel Don is the community manager for ISA and is an independent content marketing, social media and public relations consultant. Prior to his work in marketing and PR, Joel served as an editor for regional newspapers and national

magazines throughout the U.S. He earned a master's degree from the Medill School at Northwestern University with a focus on science, engineering and biomedical marketing communications, and a bachelor of science degree from UC San Diego.

Question originally appeared in the ISA Certified Automation Professional; (CAP) program column of <https://blog.isa.org>.

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(<https://blog.isa.org/autoquiz-failsafe-positions-industrial-valves>)



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SOCIETY NEWS

The ISA Connect Challenge

By Carlos Mandolesi, 2022 ISA Society President

I wrote last March about what it means to be an ISA volunteer and shared thoughts on the benefits of getting involved. Some of the most cited benefits of volunteering are related to professional networking, such as:

- Broadening your network of global professionals
- Sharing and gaining knowledge
- Giving back to the profession
- Enhancing your influence and recognition as an expert and leader
- Achieving professional growth and personal satisfaction

ISA offers a great tool, exclusive to its members, where you can connect with the automation community and grow your professional network. It's called ISA Connect, and its purpose is to foster collaboration and technical conversations. If you have not logged in recently, you will notice that ISA Connect has a new look. I believe that it looks much nicer and is now even easier to use. We have been receiving a lot of positive feedback from our members.

However, some of you have not started connecting. Therefore, I would like to launch the following challenge to all of our members: **#ConnectWithCarlos**.

MY CHALLENGE TO YOU

Login to ISA Connect today!
Connect with me

MY GOAL

To have 100% of our members using ISA Connect before the end of the year

FOLLOW THE STEPS BELOW TO ENGAGE ON ISA CONNECT

- 1) **Access ISA Connect**
- 2) **Login using the same username and password that you use to login to ISA.org. If you have forgotten your login credentials, click here**
- 3) **If this is your first time logging in, you will need to accept the Terms of Use**
- 4) **Add me as a contact**

STILL NEED HELP?

Visit the [ISA Connect Help and Frequently Asked Questions \(FAQ\) page](#)

If you still need help, contact the Connect team



Contact Me

I love to connect with our members and listen to their opinions about automation, what ISA is doing now, and what ISA should be doing to answer their needs. Please connect with me on ISA Connect, LinkedIn, or send an email to president@isa.org.

Latest News from ISA

- **We have great news:** The execution of our Strategy continues to progress well. **Our membership growth target for the year is 2% and we have grown to more than 5% to date**, with our member retention improving. The number of people attending our courses and events is increasing in the US and around the world.
- Check out the updated Key Results on our [Strategy Dashboard](#) on the ISA Connect homepage where you can monitor our progress.
- Various conferences have registrations open, including the [Automation and Leadership Conference \(ALC\)](#). Check out the [ISA 2022 Events Calendar](#) and register today. Virtual event registrations are FREE for our members.
- Our Smart Manufacturing and IIoT Division (SM/IIoT) worked with [InTech Magazine](#) to create the first division-lead edition! The entire magazine is jam-packed with SM/IIOT topics and insights.
- Do you know that members have access to all [standards](#) developed by ISA?
- Have you read the latest [ISA Interchange blog](#) post?
- Are you using [ISA Connect](#)? There are a ton of great technical discussions happening.
- Have you invited anyone to join ISA? If you are interested in inviting your colleagues and would like to learn more about what ISA Membership has to offer, please refer to our [brochure](#).



Carlos Mandolesi
2022 ISA President

Carlos Mandolesi is an electrical engineer, graduating from the Federal University of Itajubá (UNIFEI) in 1992 and post-graduated in Business Management from the University of São Francisco in 2006. He has a career of over 25 years in the field of industrial automation and industrial networks, having worked in companies like General Electric (GE) and Sigma Automation. Carlos currently serves as Project Portfolio Manager at Trinity College Dublin in Ireland. See Carlos on ISA Connect.

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 articles.

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 Slawek Wolski at slawek.wolski@ulteig.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 Slawek Wolski at slawek.wolski@ulteig.com.



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