2021 saw COVID-19 continue to impact ISA and the world. Once again, ISA responded to the situation with agility and determination. Our members continued to look to ISA for support through standards, education, certification, and networking.

Having adapted to the reality of a virtual world, ISA was able to expand event and training programs, with our training programs attracting more than 4,000 students this year.

Our virtual events delivered content on digital transformation, IIoT and smart manufacturing, process industry, and cybersecurity topics to a diverse global audience. We successfully held our first virtual conference tailored to a non-North American market. Digital Transformation Malaysia was an instant success in putting ISA in front of a new group of people. Overall, our event registration numbers grew by 93% and our sponsorship dollars increased by 429% in 2021.

Technical Divisions and Geographic Sections also continued to meet virtually. ISA’s Connect infrastructure helped support many of our members in keeping in touch through virtual and online topical discussion. I suspect this will continue to be a key element for ISA going forward.

In September, ISA launched a new certificate for automation project managers. Automation professionals moving into project management, as well as project management specialists taking on automation projects will benefit greatly from the combined knowledge of the subject matter experts who developed the content based on decades of experience. ISA also began development on a digital engineer education program to provide automation professionals with the skills needed in the Industry 4.0-focused world.

And if the continuing global pandemic was not enough for ISA, we also sorted through several important changes. With a functioning, remote workforce, ISA sold its headquarters building and relocated into a smaller, leased space offering training and collaboration facilities. The staff will continue remote work, allowing ISA to hire for talent versus location. Mary Ramsey also announced her retirement, offering the Board ample time for an executive search and transition. Mary successfully navigated ISA through many challenges during her tenure, and I believe all members wish her well in retirement. Through a rigorous process, the Executive Board selected Claire Ramspeck as the new Executive Director. Joining ISA in November, Claire brings with her a wealth of experience in engineering standards and associations.

Whatever 2022 brings us, we look to the future with enthusiasm and optimism. ISA is ready to respond and continue building a better world through automation.

Steve Mustard,
P.E., Eur Ing, C.Eng, CAP, FIET, GICSP, CMCP
2021 ISA President
2021 Executive Board

President
Steve Mustard, P.E., B.Eng., C.Eng., CAP, GCISP
National Automation, Inc.

President-elect
Carlos Mandolesi
Trinity College Dublin

Past President
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OIT Concepts, LLC

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ISA

Ashley Weckwerth, P.E.
Burns & McDonnell

R. Donald Bartusiak, PhD
Collaborative Systems Integration

Dr. Maurice Wilkins
Yokogawa Global Marketing Headquarters

Ken Belteau, P.E.
Belith Consulting Services

Dr. Shari Worthington
Telesian Technology, Inc.

Marty Bince
Schneider Electric

Ana Rodrigues
Schneider Electric

Claudio Makarovsky
Microsoft

Debashis Sadhukhan
NASA Glenn Research Center

Prabhu Soundararajan
Republic Services

Jim Garrison, P.E., CAP, CFSE
aeSolutions

Leadership
Vision:
Create a better world through automation

Mission:
Advance technical competence by connecting the automation community to achieve operational excellence

Values:

**Excellence**
We provide industry-leading, unbiased content developed and vetted by a community of experts

**Diversity and Inclusion**
We are committed to being a global, diverse, and inclusive organization

**Professionalism**
We uphold the highest standard of competence and skill in everything we do

**Integrity**
We act with honesty, integrity, and trust, respecting others in all that we do

**Collaboration**
We seek out opportunities to work together for the benefit of the Society, its members, and our profession
Strategic Objectives

Industry Reach and Awareness
Establish and advance ISA’s relevance and credibility as the home of automation by anticipating industry needs, collaborating with stakeholders, and developing and delivering pertinent technical content.

Technical Education and Certification
Become the recognized leader in automation and control education, providing training, certifications, and publications to prepare the workforce to address technology challenges in the most flexible and relevant ways.

Member Development and Engagement
Enhance member value and expand engagement opportunities to nurture and grow a more diverse and global community to advance the automation profession.

Leadership and Business Skill Development
Create opportunities for members to improve critical leadership skills, to build a network of industry professionals, and to develop the next generation of automation professionals.

Member Development and Engagement
Enhance member value and expand engagement opportunities to nurture and grow a more diverse and global community to advance the automation profession.
**Events**

- **Cybersecurity**
  - 1 Webinar
  - 2 Conferences
  - **2,221** Registrants

- **Digital Transformation**
  - 2 Webinars
  - 3 Conferences
  - **3,694** Registrants

- **IIoT and Smart Manufacturing**
  - 3 Webinars
  - 1 Conference
  - **1,582** Registrants

- **Process Control and Instrumentation**
  - 11 Webinars
  - 3 Conferences
  - **4,573** Registrants

**Attendees by region**

- **NORTH AMERICA**
  - 35.7%

- **MIDDLE EAST and AFRICA**
  - 19.5%

- **LATIN AMERICA and the CARIBBEAN**
  - 10.4%

- **EUROPE**
  - 10.1%

- **ASIA and the PACIFIC**
  - 24.2%

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**HIGHLIGHTS**

First virtual events focused on markets outside the US:

- **Middle East Cybersecurity**
- **Digital Transformation Malaysia**

**Registrations**

- **93%** Registrations
- **429%** Sponsorships
InTech

6 Issues Published (print and digital)
38,000 subscribers
170,427 website users
549,652 page views

InTech Plus

22 newsletters

InTech FOCUS

3 Ebooks

Publications

Books

3 New books

Process Control Basics
By George Buckbee, PE

By Gregory K. McMillan, Christopher Stuart, Rehman Fazeem, Zachary Sample, and Timothy Schieffer

Ciberseguridad en el Análisis de Riesgos de Proceso: Ciberseguridad Basada en las Consecuencias
Edward M. Marszal and Jim McGlone; Translated by Gonzalo Curiel Fernández

Bestsellers


Advanced Control Foundation: Tools, Techniques, and Applications

The Condensed Handbook of Measurement and Control, Fourth Edition

Control Systems Engineer Technical Reference Handbook

Flow Measurement, Second Edition

Practical Project Management, Second Edition


Industrial Data Communications, Fifth Edition
Newsletters

26 Automation Insights
17 Factory Automation
14 Process Automation

16 Connectivity & Cybersecurity
16 IIoT & Smart Manufacturing

Webinars

Cybersecurity
4 Webinars
1,062 registrants

IIoT and Smart Manufacturing
5 Webinars
1,172 registrants

Process Control and Instrumentation
6 Webinars
1,323 registrants

Website

1,430,547 site users
3,274,581 page views
132,000 subscribers
2,600+ news, products, and feature articles

Ebooks

6 Ebooks
5 Sponsored Ebooks

IIoT & Industry 4.0
OT/ICS Cybersecurity
IIoT & Industry 4.0
Control Systems
IIoT & Industry 4.0
Cybersecurity & ICS Modernization
Standards

3,500+ Volunteers  14 Standards committees  137 Published standards  20 Recommended practices  61 Technical reports

Published in 2021

- ISA-84.91.01, Identification and Mechanical Integrity of Process Safety Controls, Alarms, and Interlocks in the Process Industry Sector
- ISA-TR84.00.02, Safety Integrity Level (SIL) Verification of Safety Instrumented Functions
- ISA-67.02.01, Nuclear Safety-Related Instrument-Sensing Line Piping and Tubing Standard for Use in Nuclear Power Plants
- ISA-TR96.07.02, Framework for Defining Service Conditions and Identifying Related Hazards and Hazard Mitigation of Actuators and Their Accessories

17,000
Online views of ISA standards (free to all ISA members)

Most viewed standard
ISA-5.1, Instrumentation Symbols and Identification

ISA Standards are the Foundations of Major International Electrotechnical Commission (IEC) Standards


HIGHLIGHTS

- The ISA/IEC 62443 standards, developed primarily by ISA99, were designated as horizontal standards by the IEC, establishing priority across all IEC standards projects on matters pertaining to cybersecurity.
- A letter of intent for cooperation in information exchange and possible collaboration was established between ISA99 and the NATO Energy Security Center.
- The ISA/IEC 62443 standards were recognized in the “Compilation of Cyber Security Regulations, Standards, and Guidance Applicable to Civil Aviation” by the International Air Transport Association.
- New projects were launched on digital information management as it pertains to alarm management (ISA18) and functional safety (ISA84).
- ISA88 and IEC 65A began joint work on updating the widely used Batch Control Standards originally developed by ISA88.
Top 5 Training Courses by revenue and attendance

1. Using the ISA/IEC 62443 Standards to Secure Your Control Systems
2. Assessing the Cybersecurity of New or Existing IACS Systems
3. Cybersecurity Design, Implementation & Testing
4. IACS Cybersecurity Operations & Maintenance
5. Safety Instrumented Systems—A Life-Cycle Approach

Now Available Digitally (self-paced modules)

- Automation Project Management
- Control Systems Technician Associate Exam Review Course

4,034 trainees

NORTH AMERICA: 33%
EUROPE: 14%
MIDDLE EAST and AFRICA: 6%
LATIN AMERICA and the CARIBBEAN: 9%
ASIA and the PACIFIC: 20%
UNKNOWN (hey, it was virtual!): 18%
ISA Certified Automation Professional® (CAP®)

Certified Automation Professionals: 665 New: 73
Certified Automation Professional Associate: 54 New: 4

ISA Certified Control Systems

ISA Certified Control Systems Technician® (CCST®) Level 1 1,346 New: 78
ISA Certified Control Systems Technician® (CCST®) Level 2 - Specialist 409 New: 38
ISA Certified Control Systems Technician® (CCST®) Level 3 - Master 370 New: 13
 ISA Control Systems Technician® (CST®) Associate 132 New: 3

Automation Project Management Specialist

Launched in 2021
7

ISA/IEC 61511 Safety Instrumented Systems Certificate Program

ISA/IEC 61511 Process Safety Fundamentals Specialist 215 New: 35
ISA/IEC 61511 Process Safety Selection Specialist 56 New: 14
ISA/IEC 61511 Process Safety Verification Specialist 48 New: 13
ISA/IEC 61511 Process Safety SIL Expert 113 New: 11

ISA/IEC 62443 Cybersecurity Certificate Program

ISA/IEC 62443 Cybersecurity Fundamentals Specialist 1,375 New: 576
ISA/IEC 62443 Cybersecurity Risk Assessment Specialist 608 New: 272
ISA/IEC 62443 Cybersecurity Design Specialist 370 New: 134
ISA/IEC 62443 Cybersecurity Maintenance Specialist 303 New: 111
ISA/IEC 62443 Cybersecurity Expert 322 New: 101

Launched in 2021
Membership

Professional members

12,445
Total
-2.17%
Growth Rate

Student members

2,405
Total
-7.92%
Growth Rate

HIGHLIGHT
In understanding that many members may be experiencing lay-offs, furloughs, and salary reductions, ISA offers a hardship waiver by request.

* This denotes the shift in the percentage of members by area from the previous year.
Sections and Divisions

Geographic Sections
113 Professional Sections

Technical Divisions
102 Student Sections
16 Divisions

Education Foundation

Scholarships
USD 33,320 scholarships awarded
17 recipients

ISA Sections awarded
USD 72,595
Honors and Awards

Fellows

Peter Fuhr
Oak Ridge National Laboratory

David Strohbar
Beville Operator Performance Specialists, Inc.

Jagan Mohan Reddy Yeturu
Honeywell Technology Solutions Labs

Excellence in Leadership
Jack Nehlig
Phoenix Contact

Excellence in Technical Innovation
Endowed by Honeywell UOP
Fawaz Saleh Al-Hadlaq
Saudi Aramco

Omar Zayed Al-Zayed
Saudi Aramco

Excellence in Corporate Technical Innovation
Automation Excellence Private Limited

Excellence in Technical Innovation
Endowed by Honeywell UOP
Ashish Garg
Tata Steel Limited

E.J. Daigle
Dunwoody College of Technology

Excellence in Education

Mentoring Excellence
Maria José Raposo Rodriguez

Excellence in Technical Presentation

Division Leader Excellence
Sujata Tilak
Director of the Smart Manufacturing and IIoT Division

Excellence in Enduring Service
Chandrashekhar Limaye
Supertech Instrumentation (I) Pvt. Ltd

Excellence in Enduring Service
Joseph Provenzano

Dawn T. Schweitzer
Eastman Kodak

Excellence in Society Service

Volunteer Leader of the Year
Jacqueline Buskup

Section Leader Excellence
Archit Kohli
President of Mukesh Patel School of Technology Management & Engineering Student Section

Standards Excellence
Graham Nasby
City of Guelph Water Services

Excellence in Volunteer Leader of the Year

Celebrating Excellence
Followers by platform

- Facebook: 382,293 (5.5%)
- LinkedIn: 107,797 (8.6%)
- Twitter: 22,951 (3.85%)
- Instagram: 9,869 (13.5%)
- YouTube: 8,989 (12.6%)
- Pinterest: 4,134 (42.5%)

Most Active Discussions
- ISA Digital Twin
- Examples of Local/Remote Control
- Including 62443 Layer 0 and 1 (Purdue Model Layer 1 & 2) nodes on network diagrams
- The problem with troubleshooting is that trouble shoots back.
- ANSI/ISA-5.1-2009 (Instrumentation Symbols and Identification)

Most Recommended Discussions
- Safety topics for automation professionals to share at start of meetings
- The hardest thing for new operators to get used to in a control room
- Automation Competency Model (ACM)
- Template and Standards on Process Control Narrative (PCN)
- Discrete Manufacturing & ISA

ISACoNnect 1,700+ posts

A mechanism for automation professionals to virtually meet and engage in dialogue

- 6 hosted by ISA Officers
- 9 hosted by Young Professionals
- 66 hosted by Technical Divisions
ISA Global Cybersecurity Alliance (ISAGCA)

- **52** member companies representing **31** different industries
- **80+** blog posts averaging **4,000** views per month
- **764** individuals supporting workgroups
- **24** meetings with government officials
- **3** bills proposed
- **9** Virtual events
- **10,000+** website views
- **3,000+** articles about ISA/IEC 62443
- **6** whitepapers downloaded
- **13,000** times covering topics such as security lifecycles, risk assessment, and standards implementation
- **450+** articles about ISAGCA
2021 Operational Net

Actual: USD -278,156  
Budget: USD -939,005

Assets

USD 9,696,680  
Current Assets

USD 39,759,799  
Marketable Securities

USD 2,098,135  
Fixed Assets

USD 1,365,330  
Subsidiary and Other Assets

USD 52,919,944  
Total Assets

Liabilities and Net Assets

USD 9,215,064  
Total Liabilities

USD 33,822,343  
Net Assets

USD 9,882,537  
YTD Surplus

USD 52,919,944  
Total Liabilities and Net Assets

Revenue by Strategic Initiative

Industry Reach and Awareness  
USD 3,662,063

Technical Education and Certification  
USD 6,729,743

Membership Development and Engagement  
USD 952,021

Leadership and Professional Skill Development  
USD 129,268