



Setting the Standard for Automation™

*Automation Standards Compliance Institute*

# ISA100 Wireless Compliance Institute

*Providing Market Awareness, Technical Support, and  
Compliance for the ISA100 Family of Universal  
Industrial Wireless Standards*

## An Organizational Concept

Presented for Consideration of the Wireless Technical Community  
ISA-SP100 Meeting  
Austin, Texas  
22 May 2007

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## **Executive Summary**

The ISA100 Wireless Compliance Institute facilitates the effective implementation and understanding of the ISA100 universal family of industrial wireless standards through:

- compliance testing programs,
- associated market awareness, and
- technical support to users and developers.

The mission of the ISA100 Wireless Compliance Institute is to assure that the consensus industry standards arising from the work of ISA-SP100 Standards Committee on Wireless Systems for Automation are applied effectively and consistently. The ISA100 Wireless Compliance Institute fulfills its functions as a natural complement to the ISA100 standards development activity, and ISA marketing and training activities for the ISA100 standards.

The ISA100 Wireless Compliance Institute is constituted as an industry group within the Automation Standards Compliance Institute (ASCI), an ISA organization created to facilitate the proper use and application of automation standards through development and implementation of conformance assessment programs and related activities. It is open to participation from end users, technology suppliers, research and development, academia, and other industry consortia and standards bodies.

This document outlines a process for establishing the ISA100 Wireless Compliance Institute which entails initial funding by an industry sounding board to develop a business plan and make immediate technical contributions to the development of the initial ISA100 standards.

## **Background**

Over 400 industry professionals are engaged in the current work activity of ISA-SP100 Standards Committee on Wireless Systems for Automation. The committee is developing consensus industry standards that address wireless manufacturing and control systems in the areas of the environment in which the wireless technology is deployed, technology life cycle for wireless equipment and systems, and application of wireless technology. (See Appendix A for full scope and purpose of the Committee.)

In working to assure confidence in, and the integrity of, wireless technology, and to provide criteria for implementation in manufacturing automation and control systems, the ISA-SP100 Committee has launched a number of project teams. Each team's goal is to develop documents that will help users make the right decision on industrial wireless implementations. Among the project teams are a marketing working group and a business operations study group.

The marketing working group has been actively engaged in coordinating communications about the Committee activity to assure that the efforts are properly positioned and effectively communicated with the industrial community. The working group also is engaged in branding the work of the Committee and evaluating how best to leverage the standard to the optimal benefit of end users, developers, technology providers, and the industrial community in general.

The business operations study group was established to identify how the implementation of the ISA100 standards could best be achieved and was charged with defining possible courses of action for compliance and technical support activities.

The work of these two groups forms the basis for this document and the organizational concept for the ISA100 Wireless Compliance Institute.

### **ISA100 Wireless Compliance Institute Organizational Concept**

The ISA100 Wireless Compliance Institute facilitates the effective implementation and understanding of the ISA100 universal family of industrial wireless standards through:

- compliance testing programs,
- associated market awareness, and
- technical support to users and developers.

The mission of the ISA100 Wireless Compliance Institute is to assure that the consensus industry standards arising from the work of ISA-SP100 Standards Committee on Wireless Systems for Automation are applied effectively and consistently. The ISA100 Wireless Compliance Institute fulfills its functions as a natural complement to the ISA100 standards development activity, and ISA marketing and training activities for the ISA100 standards. It is open to participation from end users, technology suppliers, research and development, academia, and other industry consortia and standards bodies.

The ISA100 Wireless Compliance Institute is constituted as an industry group within the Automation Standards Compliance Institute (ASCI). ASCI is an ISA organization created to facilitate the proper use and application of automation standards through development and implementation of conformance assessment programs and related activities. It is operated by ISA for the benefit of industry and the profession, and provides a stable long-term entity that transcends individuals, products, and companies. ASCI provides a vital link between ISA's unbiased standards development activity and the implementation of those standards.

ASCI activities are market-driven with financial support arising from membership dues, training and technical support fees, and certification fees. A legal and organizational infrastructure is in place so quick and low-cost start up of an organization like the ISA100 Wireless Compliance Institute is possible. This established infrastructure includes considerations such as legal incorporation, bylaws, governance systems, administrative staff resources, IT infrastructure, and accounting systems.

Within ASCI, industry interest groups govern specific programs, like the ISA100 Wireless Compliance Institute. A governance structure arises from the member organizations that join and support the ISA100 Wireless Compliance Institute. The strategic scope and policies are defined by a Governing Board, the market development activities are overseen by a Marketing Committee, and the technical support and compliance activities are overseen by a Technical Steering Committee.

## **Collaborations**

While the ISA100 Wireless Compliance Institute is focused on compliance, and associated awareness and technical support, of the ISA100 standards, it is important that this activity be undertaken in coordination with other industry consortia and standards bodies. Since the ISA100 wireless standards are universal in their applicability, and facilitate interoperability and co-existence with other communication and sensing protocols, and control system architectures, it is important that open and collaborative communications occur with the organizations that oversee these other standards and protocols. For example, in the case of compliance testing it is important that any organization licensed to test and grant the ISA100 Wireless Compliant brand represent it as a universal solution and not one uniquely available in association with some other certification. Effectively collaborating with groups such as Fieldbus Foundation, Profibus, HART, OPC, and others is necessary and important in this regard.

One organization in particular with which collaborations are important is WINA. As a fellow member organization of The Automation Federation and with objectives to generally facilitate adoption of wireless technology, it will be important for the ISA100 Wireless Compliance Institute to work with WINA to communicate the ISA100 Wireless message. This includes building market awareness and compatible positioning of the ISA100 wireless standards in contrast to other wireless standards from IEEE, WiFi, ZigBee, Bluetooth, WirelessHART, to name a few.

## **ISA100 Wireless Compliance Institute - Market Awareness Development**

Central to the ultimate success of the ISA100 standards development activity is recognition among the industrial community of the existence of the standards and their value when properly applied. This requires a concerted communications campaign that properly positions the ISA100 standards in the marketplace as uniquely universal family of industrial wireless standards. The ISA100 standards transcend specific protocols and architectures currently used in automation and control systems or in consumer or general purpose wireless applications. The ISA100 standards are vendor-neutral, user-driven technology applications for the industrial market.

The ISA100 Wireless Compliance Institute serves to communicate this unique position of the standards to the community of suppliers, end users, technology providers, and others.

In so doing, it helps assure that the ISA100 standards are properly applied and the standards development work is leveraged to greatest benefit of the community.

### ***Brand Development***

A key component of the market awareness activities of the ISA100 Wireless Compliance Institute is establishing appropriate brand recognition and promulgating the value of that brand. This brand positioning encompasses both the ISA100 wireless standards brand as well as the brand associated with compliance with those standards. The brands should be simple, recognizable, memorable, logical, and reputable, as reflected in these two sample brands.



One of the characteristics of the ISA100 standards is the concept of classes. As such, the ISA100 Wireless compliance brand most likely will have multiple designations aligned with classes. While this characteristic is straight forward to test and manage from a technical perspective, brand class variants must be properly articulated to ensure clarity of the differences. With effective messaging to the industrial automation community, all participants can be clear on the meaning of the designations.

Well-conceived linkages between the standard/class, the standard/class compliance testing, through to the standard/class product logo will provide the necessary continuity to ensure that the designated compliance has consistent interpretation by the industrial automation community. Over time, the product logos should have easy recognition and provide immediate understanding of the designation's meaning. The branding and brand logos must clearly define the capabilities in devices with the ISA100 wireless logo and should meet the following objectives:

- Make the specific capabilities of the ISA100 wireless devices more visible to consumers and make the device in question more readily able to fulfill expectations.
- The functionalities of different devices can be compared at a glance, thus simplifying the purchasing and sales process.
- The logos eliminate the need for consumers to understand profiles by grouping functionalities.
- The brand logos let the supplier and consumer know at a glance that two devices with the same brand logos will interoperate for the given application
- The brand logos aid the consumers in understanding functionality
- The brand logos enhance the visibility of ISA100 wireless technology by broadening and deepening the consumer understanding of its functionality.

Successfully building the ISA100 wireless brand and brand logos is a critical success factor for industry participation in the ISA100 Wireless Compliance Institute compliance activity.

### ***Communications***

An organized continuing communications campaign is vital to assuring that the industrial community is aware of the ISA100 standards and the availability of compliant solutions. Through the efforts of the ISA100 Wireless Compliance Institute, a program entailing the following elements at a minimum can be expected to build the desired level of visibility.

- The ISA100 Wireless Compliance Institute web site provides a central resource for access to relevant information resources.
- Collateral materials, print and online, that describe the ISA100 Wireless standards applicability and value provide useful insights to suppliers and end users. This includes marketing materials that can be used by providers of compliant products and services to supplement their own promotions. This includes white papers and magazine articles that help users understand when and how to deploy ISA100 wireless solutions.
- Participation in trade shows and industry events to communicate about the ISA100 standards and the compliance program benefit both suppliers and end users.
- Advertising campaigns in relevant magazines and web sites serve to enhance general awareness and help the community locate more detailed resources about the ISA100 Wireless Compliance Institute.
- As a neutral and trusted clearing house for data on compliant products, adoptions, and case histories, the ISA100 Wireless Compliance Institute serves to facilitate more rapid and broader use of the technology.
- Public relations activities keep the media and analysts informed about ongoing standards development and compliance program activities.

### **ISA100 Wireless Compliance Institute - Technical Support**

Beyond general awareness, there also is an important role for the ISA100 Wireless Compliance Institute to provide technical support to the industrial community in understanding and deploying the ISA100 solution set. Technology providers in some instances need development tools and access to competent technical staff. Systems integrators and engineering contractors benefit from technical resources that supplement their own experiences with the implementation of the standards. End users require technical assistance in identifying the right technical solution for their specific application.

Technical support is provided in many forms.

- Full time technical staff employed by the ISA100 Wireless Compliance Institute provide an independent, vendor-neutral trusted source of technical advice about ISA100 standards and compliance to both technology providers and end users.



- An ISA100 Wireless Professional certificate obtained through testing (and optional training) provides an objective assessment of knowledge that allows the marketplace to obtain technical services with a higher degree of confidence.
- Training programs, both on the web for quick tutorials and hands-on classroom courses for more detailed coverage, afford a means for technology providers to develop their staff expertise and for end users to develop their desired level of in-house expertise about ISA100 standards and compliance.

Technical staff employed or contracted by the ISA100 Wireless Compliance Institute can further the understanding and adoption of ISA100 standards through contributions to the ongoing development and maintenance of the standards. In addition, technical staff can contribute to the development of technology solutions that facilitate the implementation of the standards, and facilitate the organization and conduct of field trials and demonstrations to promulgate critical concepts like product interoperability and coexistence.

### **ISA100 Wireless Compliance Institute- Compliance**

At the core of efforts to promulgate the understanding and implementation of the ISA100 wireless standards is a compliance program that certifies that products or systems comply with the strictures of the ISA100 standards. This entails activities such as

- Applying and maintaining suitable compliance assessment methodologies
- Managing the compliance testing program(s) and associated license program(s), including partnering with other organizations to deliver compliance testing as appropriate
- Marketing the value of ISA100 compliant wireless solutions and brand
- Acting as a clearinghouse for information about compliant products

The compliance program entails an initial step of defining the test methodology and verifying that conformance metrics exist for all critical parameters. Since the ISA100 standards are being developed with the recognition that conformance testing is desired, it is likely that the standards will be fully suitable for testing. However, if there are any required quantitative metrics that are not suitably specified within the standard, then the Technical Steering Committee facilitates rapid consensus development of the needed supplemental test parameters.

The definition of the certification program for ISA100 standards is established by consensus agreement among the members of the ISA100 Wireless Compliance Institute under the direction of the Technical Steering Committee. A possible model for the program is a proven methodology used by The Open Group ([http://www.opengroup.org/consortia\\_services/certification.htm](http://www.opengroup.org/consortia_services/certification.htm)) with which ISA is partnering in a security compliance program. The methodology is summarized here.

*Certification provides formal recognition of a product's conformance to an industry standard specification with advantages to suppliers and buyers:*

- *Suppliers are able to make and substantiate clear claims of conformance to a standard*
- *Buyers are able to specify and successfully procure conforming products that interoperate*

*Certification programs are based on a supplier's claim of conformance, which may (depending on the certification program that is defined and approved by the members) use testing as an indicator of conformance. Suppliers often use test suites to establish confidence that their product conforms, and to achieve certification, the supplier must provide a warranty of conformance, indicating that their product is conformant.*

*This warranty ensures that:*

- *Products conform to an industry standard specification*
- *Products remain conformant throughout the life of the product*
- *If there is a non-conformance, the product will be fixed in a timely manner*

*This warranty of conformance by suppliers is usually based on the use of a trademark in connection with certified products. The terms under which the trademark is licensed include a strong legal representation by the supplier that the product registered in the program fully conforms to the relevant specification(s). The warranty is made by suppliers, not the owner of the specification, owner of the trademark, or the certification authority.*

*A certification program is tailored to fit the needs of consortia, and depending on the definition of the program, could include but is not limited to some or all of the following options:*

- *Certification of conformant products by validating the indicators of conformance, which may or may not include test suites, along with a supplier's warranty of conformance*
- *Certification of test suites developed by third parties, which may then be used as tools or as indicators of compliance for suppliers when certifying conformant products*
- *Certification of test agency authorities, who may do the testing for applicants and validate the results for submission to the certification authority as an indicator of conformance when certifying products*

*The methodology for testing, if it becomes part of the Certification Program will be modeled after existing practice*

*(<http://www.opengroup.org/testing/testprocs/process.html>).*

- *The Certification Process*  
*The certification process must be clearly defined, including any pre-requisites that must be met prior to registering a product or procedure for certification. The steps required to achieve certification must be clearly described along with the expected timeframes for the process.*
- *The Indicators of Conformance*  
*The policies must define the appropriate steps to be taken to validate that a product or procedure is conformant. In this step, the alternatives will be*

*discussed to determine what validation steps make sense and policies will be established for any necessary validation procedures, tools, or test suites.*

- *The Obligations and Rights of Certification Customers*  
*The program must clearly identify any obligations on customers who either wish to certify or have certified a product or procedure in the program, as well as any rights the customer may have as a result of participating in the program.*
- *The Problem Reporting and Interpretations Process*  
*An effective certification program must be able to provide applicants with a responsive service through which they can get answers to questions of interpretation about the standard or best practices guide, or report problems with any test suites, validation procedures or the certification system.*
- *The Renewal and Appeals processes and Confidentiality policy*  
*The renewal process covers identification of the period of time for which a certification registration is valid, requirements for maintaining the certification, and the process for renewal.*
- *The Certification Requirements for modifications of a Certified Product or Procedure*  
*The policy must define the requirements for maintaining certification when making modifications to a certified product or practice. This involves defining the types of modifications that could be made and identifying the re-certification requirements in each case.*
- *Agree on logo and trademark to be used in conjunction with the certification program and register with PTO.*

*Once the overarching policies have been defined for each of the areas described above, they will be incorporated into a Certification Policy document. Once agreement on the overarching program definition has been reached within the Working Group(s), the Certification Policy will be submitted to the formal review and approval process.*

*As technical standards and profiles are approved, the following specific areas will be defined for each of the technical standards/profiles and will together with the General Policy described above, comprise the definition of the supplemental certification program for a particular standard/profile:*

- *Conformance Requirements*  
*The conformance requirements for a technical standard or profile certification are specified in a Conformance Requirements Document. A Conformance Requirements Document is a precisely defined and documented set of requirements against which Certifiable Entities may be certified.*
- *Conformance Statement Questionnaire*  
*A Conformance Statement is the Organization's documented set of claims describing precisely the way in which the Certifiable Entity meets the Conformance Requirements, including which optional requirements are implemented. It provides a precise characterization of the Certified Entity. A Conformance Statement is produced by completing the relevant Conformance Statement Questionnaire.*
- *Supplemental Certification Policy*  
*A supplemental policy will only be necessary if any of the general policy requirements need to be altered to accommodate the specific standard/profile that is being developed.*



The scheme for testing and the granting of compliance certificates is the most critical role for the ISA100 Wireless Compliance Institute and requires careful consideration of market needs and technical realities. The program(s) need careful continuing oversight from the members to assure that it serves the collective needs of the community and is a credible reference for suppliers and end users alike. The approach that is adopted will represent the consensus agreement and support of the members of the ISA100 Wireless Compliance Institute.

### **ISA100 Wireless Compliance Institute – Benefits**

The ISA100 Wireless Compliance Institute facilitates the effective implementation and understanding of the ISA100 family of industrial wireless standards through three interrelated components of

- compliance testing programs,
- associated market awareness, and
- technical support to users and developers.

The mission of the ISA100 Wireless Compliance Institute is to assure that the consensus industry standards arising from the work of ISA-SP100 Standards Committee on Wireless Systems for Automation are applied effectively and consistently. The ISA100 Wireless Compliance Institute fulfills its functions as a natural complement to the ISA100 standards development activity, and ISA marketing and training activities for the ISA100 standards.

In fulfilling this mission, the ISA100 Wireless Compliance Institute:

- facilitates the integrated application of the ISA100 family of standards,
- positions the ISA100 wireless standards as universal across all protocols,
- positions the ISA100 wireless standards as uniquely suited for a broad range of industrial applications,
- reinforces that the standards and their implementation arise from an open process with end user input via ISA and other Automation Federation member organizations, and
- contributes to the continuing development and evolution of future ISA100 wireless standards

The benefits directly accruing to members of the ISA100 Wireless Compliance Institute are unique to the driving force or motivation for each member to join. In the case of suppliers, it may be to establish market credibility for a product line through the affiliation with a reputable organization or to publicize standards-based interoperability. In the case of an end user, it may be to gain access to a network of wireless subject matter experts to facilitate more effective business and technology decisions or to simplify purchasing decisions using ISA standards-based interoperability as key decision criteria. For a systems integrator, it may be to market credibility through affiliation and to gain recognition through participation in a professional certificate of competence program. A

list of potential benefits is shown in Appendix B.

## **ISA100 Wireless Compliance Institute - Next Steps**

To progress this concept to reality, it is proposed that there are some logical next steps that are appropriate. These include the following actions:

1. ISA, through the ASCI, will prepare a comprehensive business plan to launch the ISA100 Wireless Compliance Institute based on the principles embodied in this concept document, and reflecting feedback received on initial reviews of this document by the professional community. The business plan will further develop the scope and objectives, the action plan and milestones (based on the current ISA-SP100 development schedule), and a proposed budget for launching the Institute and for its continued operations.
2. An industry sounding board will be recruited to review the ISA100 Wireless Compliance Institute business plan.
3. An initial group of 25 Founding Strategic Members will be recruited to contribute \$10,000 each to fund immediate technical support activities that will facilitate the further rapid development of the ISA100 wireless standards and compliance program. The Founding Strategic Member contributions will be applied to the first year's membership fees should the company decide to subsequently join the ISA100 Wireless Compliance Institute if it is established. The contributions in the immediate time frame will be used to retain technical staff who will:
  - a. provide technical inputs into the development of the initial ISA100 standards,
  - b. contribute to the development of generic software stack, and
  - c. coordinate the development and deployment of proof-of-concept demonstrations, including an initial demonstration at ISA EXPO 2007.

While some further work is necessary to finalize an organizational structure for the ISA100 Wireless Compliance Institute, some initial concepts are presented in Appendix C.

ISA is uniquely positioned to advance this activity within the Automation Standards Compliance Institute because of ISA's organizational credibility, the connectivity to the standards development work, financial and corporate stability, and compatibility with existing missions of ISA and ASCI. Appendix D enumerates the combined ASCI and ISA value proposition for launching and operating the ISA100 Wireless Compliance Institute.

Should the initial reception of this concept be favorable, ASCI, through ISA staff management, will immediately proceed with the necessary efforts to recruit the initial 25 Founding Strategic Members and develop the business plan to launch the ISA100 Wireless Compliance Institute.

## **Appendix A**

### **Scope and Purpose of ISA-SP100 Wireless Systems for Automation**

The ISA-SP100 Standards Committee on Wireless Systems for Automation addresses wireless manufacturing and control systems in the areas of the environment in which the wireless technology is deployed, technology life cycle for wireless equipment and systems, and application of wireless technology. The wireless environment includes the definition of wireless, radio frequencies (starting point), vibration, temperature, humidity, EMC, interoperability, coexistence with existing systems, and physical equipment location. Global short-, medium-, and long-term technology needs are incorporated on a non-exclusive technology basis with no bias towards or against a particular wireless technology. The standards themselves may influence the allocation and use of resources and spectrum.

Application of the technology includes:

- Field sensors used for monitoring, control, alarm, and shutdown that can be vertically integrated from field to business systems.
- Wireless technology whose uses include real time field-to-business systems (e.g. wireless equipment interfacing work order systems, control LAN, business LAN, voice)
- Coverage across all industries – fluid processing, material processing, and discrete parts manufacturing environments

The ISA-SP100 Committee is establishing standards, recommended practices, technical reports, and related information that define procedures for implementing wireless systems in the automation and control environment with a focus on the field level (Level 0). Guidance is directed towards those responsible for the complete life cycle including the designing, implementing, on-going maintenance, scalability or managing manufacturing and control systems, and shall apply to users, system integrators, practitioners, and control systems manufacturers and vendors.

The Committee's focus is to improve the confidence, integrity, and availability of components or systems used for manufacturing or control, and provide criteria for procuring and implementing wireless technology in the control system environment. Compliance with the Committee's guidance will improve manufacturing and control system deployment, and will help identify vulnerabilities and address them, thereby reducing the risk of compromising or causing manufacturing control systems degradation or failure.

In working to assure confidence in, and the integrity of, wireless technology, and to provide criteria for implementation in manufacturing automation and control systems, the ISA-SP100 Committee has launched a number of project teams. Each team's goal is to develop documents that will help users make the right decision on industrial wireless implementations.

## **Appendix B**

### **Possible Member Benefits of the ISA100 Wireless Compliance Institute**

Possible benefits for members of the ISA100 Wireless Compliance Institute include:

- **ISA100 Wireless Product Guide:** Members can list descriptions of their ISA100 Wireless compliant products and services in the online product guide. This is free of charge.
- **Manufacturer ID code assignment:** ISA100 Wireless products are assigned an ID Code which is managed by the ISA100 Wireless Compliance Institute.
- **Hotlinks from Members List:** All members are listed on the ISA100 Wireless Compliance Institute website establishing recognition of involvement and participation with ISA100 with a link to the member company's website.
- **Reduced prices for device registration and certificates:** A reduced members' price is granted for the registration of devices and for the issuing of certificates.
- **Participation in ISA100 Wireless Compliance Institute Technical Working Groups:** The ISA100 Wireless compliance testing technologies are maintained and updated in the Technical Steering Committee and associated working groups of the ISA100 Wireless Compliance Institute. Participation in these groups is reserved for members of the ISA100 Wireless Compliance Institute.
- **Participation in marketing activities all over the world:** Marketing activities are executed by the ISA100 Wireless Compliance Institute globally, including seminars, conferences, and education. Members of the ISA100 Wireless Compliance Institute have the opportunity to participate in marketing activities like joint trade show exhibits, interoperability demonstrations, advertising campaigns, special publications, and ongoing promotional programs that include representation in ads, articles, and email newsletters.
- **Preferential access to profiles, guidelines, and email lists:** With your member password, you can access and download ISA100 Wireless Compliance Institute documents, and gain access to an exclusive online community providing user/developer forums for discussion items such as technical issues, improvement ideas, and much more.
- **Banner advertising:** Advertising at the ISA100 Wireless Compliance Institute website is possible for members at favorable prices.
- **Use of ISA100 Wireless logos:** The brand logos for ISA100 Wireless are registered trademarks. Members of the ISA100 Wireless Compliance Institute are entitled to use the logos in their written or electronic publications and promotional



material. Members are issued a style guide that describes the guidelines behind the use of the ISA100 Wireless logos.

- **Discount on training and seminars:** Members of the ISA100 Wireless Compliance Institute enjoy discounts on ISA100 seminar fees of many member companies and of the ISA Training Institute.
- **Involvement with emerging ISA100 standards:** ISA-SP100 standards development activities are open to all companies that are willing to contribute and to commit to the technology. By actively participating in the ISA100 Wireless Compliance Institute, members have access to, and are able to influence, the development of standards by providing strategic guidance on design information, development details, and interoperability specifications.
- **Networking opportunities:** Members also benefit from networking with other market leaders committed to providing interoperable wireless products and networks. This provides an opportunity to interact with other individuals whose complementary skills and capabilities may enhance the efficiency and effectiveness of their own products.
- **Marketplace confidence:** Being a part of the ISA100 Wireless Compliance Institute and participating in interoperability programs and market development efforts means that you and your customers can be assured of the very best experience of wireless technology and services.
- **ISA100 Wireless Compliance Institute meetings:** Members benefit from participation in the meetings of the ISA100 Wireless Compliance Institute members where topics such as implementation guidelines, interpretation of new standards, industry issues, and marketing are discussed.
- **Board Elections:** Voting members can vote for leaders in the ISA Wireless Compliance Institute, impacting the strategic direction of the organization.

## **Appendix C**

### **Conceptual Organizational Structure and Membership for the ISA100 Wireless Compliance Institute**

#### **1. Organization**

The ISA Wireless Compliance Institute is formed as an industry group within the legal entity of the Automation Standards Compliance Institute (ASCI). ISA, through ASCI, provides management services. The ISA Wireless Compliance Institute members sign membership agreements (incorporating certain Terms & Conditions) and pay fees to ASCI.

The ISA Wireless Compliance Institute consists of a Governing Board, a Technical Steering Committee, and other Working Groups as needed. These are made up of representatives of the ISA Wireless Compliance Institute members. The Governing Board is responsible for the overall direction of the ISA Wireless Compliance Institute.

Working Groups are chartered by the Governing Board and are responsible for the detailed work of the ISA Wireless Compliance Institute. They are formed to carry out technical, business, marketing, or any other activity as determined by the Governing Board.

#### **2. Governing Board**

The Governing Board consists of one representative of each Strategic Member. If a company ceases to be a Strategic Member, but continues in a different class of membership, it immediately ceases to have a representative on the Governing Board.

In the event that there are more Governing Board representatives than twenty-five, the Governing Board will consider creating a mechanism by which fair representation from the Strategic Members is afforded while managing the overall size of the Board.

The Governing Board elects a Chair and Vice Chair annually for a 1-year term.

The Governing Board is responsible for the overall guidance of the ISA Wireless Compliance Institute, including the following:

- a. Set the policies and procedures of the ISA Wireless Compliance Institute
- b. Direct all activities of the ISA Wireless Compliance Institute, including approval of operating budgets
- c. Approve the publication of appropriate work products
- d. Approve the creation and dissolution of Working Groups
- e. Approve the charter of each Working Group and any subsequent changes
- f. Elect the Chair and Vice-Chair of the Working Groups

- g. Any additional responsibility as determined by the Governing Board

### **3. Program Director**

The Program Director acts as the neutral, non-voting Secretary of the Governing Board. The Program Director is appointed by ISA management.

### **4. Working Groups**

Working Groups are created and dissolved by decision of the Governing Board. The Governing Board approves the charter of each Working Group and any subsequent changes.

Any member of the ISA Wireless Compliance Institute may participate in a Working Group. If a representative's company ceases to be a member of the ISA Wireless Compliance Institute, the representative immediately ceases to be a member of all Working Groups.

The Governing Board elects a Chair and Vice-Chair of each Working Group from among the eligible participants at the first meeting of each year. Representatives of Strategic Members are eligible for election.

Working Groups may choose to appoint a permanent Secretary, or rotate the post among the membership on a meeting-by-meeting basis. The Secretary is responsible for producing the minutes of the meeting.

One key Working Group, the Technical Steering Committee, coordinates the technical activities of the ISA Wireless Compliance Institute, including overseeing development of compliance testing specifications and associated compliance methodologies.

## **5. Membership Levels and Entitlements**

### **General**

All member entitlements are dependent on the Member remaining in good standing.

### **A. Strategic Member**

This membership level appeals to companies who wish to set the strategic objectives of the ISA Wireless Compliance Institute. Strategic Members that join by 1 July 2007 are also designated as Founding Members. The Founding Strategic Member position affords extra visibility for the Member in the ISA Wireless Compliance Institute marketing materials plus allows participation in establishing the initial strategies and policies of the ISA Wireless Compliance Institute. The annual fee for this level of membership is a fixed amount that is not dependent on the size or type of company. Strategic Members are eligible to sit on the Governing Board. Strategic Members enjoy all privileges of lower categories of membership.



**B. Technical Member**

This level appeals to companies who wish to influence compliance testing specifications and associated compliance methodologies. This fee for this membership level is variable based on the size of the company. Technical Committee Members receive full, voting participation in all compliance technical processes and enjoy all privileges of lower categories of membership. Representatives from these Members may be elected as officers of any Working Group.

**C. Advisory Member**

This membership level appeals to companies wishing to have the most-timely information regarding technical direction and results. The annual fee for this level of membership is a fixed amount that is not dependent on the size or type of company. Advisory Members may participate in selected Working Group meetings without voting privileges.

**D. Informational Member**

This level appeals to academics, consultants, and analysts who wish to support the objectives of The ISA Wireless Compliance Institute and receive status reports on activities. The annual fee for this level of membership is a fixed amount. Informational Members receive periodic information regarding technical and other programs, as well as standards as they are made public.

## **Appendix D**

### **The ISA100 Wireless Compliance Institute – The Case for ASCI and ISA**

#### *ASCI*

The Automation Standards Compliance Institute (ASCI) was established by ISA in 2006 as a separately incorporated non-profit organizational entity to facilitate programs that assess automation-related standards compliance. The institute's charter includes a wide range of standards compliance assessments including software or hardware products, implementation methods, solutions, companies and individuals.

ASCI provides a vital link between the standards ISA develops and the implementation of those standards. ASCI also offers the opportunity to partner with other organizations and assess conformity of their standards. A feasibility study, market study, and legal assessment performed in 2005 and 2006 indicated that a standards conformity program was needed to provide a useful link between automation standards and the products, services, processes and systems that use them. The studies revealed that automation users are increasingly recognizing the value of adopting true industry standards and that the next step in this evolution was to ensure that the solutions selected in fact adhere to these standards. ASCI is chartered to educate users and help suppliers transform standards into real interoperable products.

ASCI is governed by a Board of Directors that includes senior ISA officers and staff, and “outside” directors appointed for their business experience with standards conformity programs. Within ASCI, groups are formed to address specific interest areas for standards conformance. Each such Interest Area Group establishes its own membership and governance structure.

Initial Interest Area Groups are in development in the areas of security, safety and wireless, where asset owners, consultants, contractors, and suppliers are all striving to reduce risks and optimize performance. All of these topics are critical to industry where assistance on how best to implement industry standards in an effective and efficient manner is critical. ASCI is in a unique position to evaluate compliance in these areas and facilitate development of ancillary services that assist asset owners, integrators and consultants, and suppliers in understanding and implementing standards.

ASCI is financially capitalized by ISA to facilitate cost-effective development of compliance program activities. This includes professional staff management of the programs from a full time managing director as well as allocation of professional staff resources from the 75-member ISA staff. The necessary legal and administrative costs to launch ASCI and facilitate the initial development of Interest Area Groups is being underwritten by ISA.

#### *ISA*

Founded in 1945, ISA ([www.isa.org](http://www.isa.org)) is a leading, global, nonprofit organization that is setting the standard for automation by helping over 30,000 worldwide members and another **150,000 automation** professionals solve difficult technical problems, while enhancing their leadership and personal career capabilities. ISA has a strong end-user focus - over 80% of ISA members are affiliated with non-supplier organizations. While ISA has its roots in the process industries, over 20% of ISA members are affiliated with discrete manufacturing industries and over 35% of InTech readers have that affiliation. ISA's mission is to facilitate automation and control technology solutions that are open, interoperable, and accessible. Most notably, ISA's consensus industry standards work reflects this commitment, as do the numerous conferences, training, certification, and publications programs.

Based in Research Triangle Park, North Carolina, ISA has a proven track record of success as an established professional society with a solid financial, legal, governance, and staff infrastructure. ISA has:

- very solid finances with over \$30 million in reserves
- established and audited accounting practices to assure continuing financial integrity of the organization
- an established legal framework as a non-profit, tax-exempt organization
- a very effective communications network through a membership of 30,000, an active customer base of 150,000, a web site that attracts about 175,000 visitors each month, and InTech magazine that reaches 80,000 people each month
- an ANSI-accredited standards development process
- a leadership role in IEC as administrator of five US technical advisory groups, secretariat for three IEC committees, and a Class D liaison to IEC 65A on Industrial Measurement and Control - System Aspects (which allows ISA standards to be submitted direct to IEC for adoption)
- a comprehensive series of conferences and trade shows that provide forums for physical meetings and information exchanges
- an established continuing education program that reaches over 15,000 professionals annually with the latest technology and application developments
- professional certification programs that establish the industry standards of knowledge and skills expected of automation professionals and practitioners
- a book publishing program that publishes over 100 reference works and distributes in excess of 20,000 units annually around the world
- a professional staff of about 75 with expertise in non-profit association management, business development, marketing and communications, standards development, publishing, training, meeting management, and more.

The ISA100 Wireless Compliance Institute has unparalleled access to ISA programs, venues, and services that help facilitate the cost-effective success of the groups in development and communication to the marketplace.

### ***ISA EXPO***

The ISA100 Wireless Compliance Institute has preferential access to programming and related organizational visibility at ISA EXPO and other ISA events. Over 12,000 industry professionals attend ISA EXPO and hundreds of others attend other ISA technical events each year. The ISA100 Wireless Compliance Institute is able to conduct highly visible technical programs at these events and significantly enhance its image and brand.

***InTech***

The ISA100 Wireless Compliance Institute has access to designated editorial space in InTech magazine, thus being able to communicate technical developments to the 80,000 monthly readers of InTech.

***Standards***

Because of ISA's accredited standards development activity, The ISA100 Wireless Compliance Institute has ultimate flexibility in options to use and promulgate guidelines and standards. The ISA100 Wireless Compliance Institute has access to ISA published standards for open use and adaptation as necessary.

***Training***

The ISA100 Wireless Compliance Institute can take advantage of the world-renowned ISA Training Institute to develop and conduct relevant training programs using an established and accredited methodology. These training programs reach thousands of professionals annually.

***Publishing***

The ISA100 Wireless Compliance Institute can leverage its technical activities through use of the extensive ISA book publishing program. By offering topics and authors for ISA published books, The ISA100 Wireless Compliance Institute can reach thousands of automation professionals.

***Publicity***

Given ISA's significant annual investment in promotion and marketing (over \$1,000,000), The ISA100 Wireless Compliance Institute has an opportunity to benefit by an affiliation with ISA to receive attendant visibility within ISA promotions.

***Organizational Infrastructure***

ISA has management and administrative systems that facilitate

- efficient strategic planning, and development and execution of annual operating plans
- effective volunteer governance programs including leadership training and director liability insurance
- reliable financial management through annual external audits and use of well-structured and robust accounting practices via Microsoft Dynamics financial system



- robust customer database systems scaled for multiple organizational entities with hundreds of thousands records and full interactive integration to the internet so that business transactions (address updates, meeting registrations, purchases, etc.) are entered directly into the financial management system in an efficient and error-minimized way
- management of intellectual property through copyright and trademark registration expertise, and policies governing open access to intellectual property published by ISA
- access to global markets via an extensive distribution network, and associated marketing system, that achieves world-wide awareness and circulation of information products
- reliable and efficient web sites that are built on a state-of-the-art content management database with access security systems
- email communications through lists using Lyris software that is owned by ISA and hosted on ISA servers, as well as broadcast email systems that can reach ISA's extensive automation professional database
- web conferencing using Microsoft Live Meeting
- collaborative document development and teamwork using tools such as Microsoft SharePoint and wikis.

ISA fully supports the practice of engaging in collaborative relationships with other organizations and maintains about 50 such agreements with non-profit and commercial organizations around the world. These agreements include elements like shared conference programming, joint standards development, reciprocal member dues arrangements, and information exchanges. Organizational collaborations exist with groups that include ARC, OPC Foundation, MIMOSA, WBF, WINA, CSIA, MCAA, SME, VDM, INSTMC, IICA, NAMUR, UL, CSA, NIST, and ANSI to name a few. In the area of standards development, ISA has an active collaboration with UL and CSA to develop electrical safety standards, and is facilitating an Open O&M activity designed to harmonize standards arising from the work of ISA-SP95, OAGi, WBF, OMAC, and OPC Foundation.

Further evidence of ISA's commitment to facilitating collaboration among organizations operating in the automation arena is reflected in ISA's founding sponsorship of The Automation Federation ([www.automationfederation.org](http://www.automationfederation.org)). The Automation Federation is an umbrella organization under which associations and societies engaged in manufacturing and process automation activities can work more effectively to fulfill their missions. It will coordinate the work of member organizations engaged in advancement of the science and engineering of automation technologies and applications. The common objectives of the member organizations are to:

- promote the value and image of the automation profession in contributing to manufacturing effectiveness and efficiency
- facilitate the development and dissemination of educational and informational resources intended to develop new generations of automation professionals,



- enhance the effectiveness of existing professionals, and advance the automation profession
- facilitate the promulgation of industry standards that enhance the efficiency, cost effectiveness, and safety of automation technology and application.