

*Free Guide*

# ISA-95: International Society of Automation Standard 95



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# What is ISA-95?

ISA-95 provides a framework for communication between business and manufacturing systems, enabling seamless information exchange and interoperability in industrial automation environments. It ensures that production plans, inventory, and order fulfillment align efficiently, streamlining the entire process from product request to product delivery.

The standard focuses on the following areas:

- **Hierarchical structure.** ISA-95 defines a hierarchical structure for manufacturing operations, categorizing systems into different levels such as enterprise, site, area, and control.
- **Data exchange models.** ISA-95 establishes standardized data exchange models, ensuring consistent communication between business systems (Level 4) and control systems (Level 1).
- **Business-to-manufacturing transactions.** ISA-95 outlines standard business-to-manufacturing transactions, facilitating the exchange of information related to production orders, material specifications, and resource allocation.
- **Integration of enterprise and control systems.** The ISA-95 standard focuses on integration, providing guidelines for seamless communication and interoperability between enterprise resource planning (ERP) systems and manufacturing execution systems (MES) at various levels.
- **Support for Industry 4.0.** ISA-95 is designed to align with contemporary trends such as Industry 4.0, supporting the integration of advanced technologies like IoT, cloud computing, and data analytics into industrial automation processes.

## **Who needs to comply with ISA-95?**

ISA-95 compliance is relevant for companies in manufacturing and industrial sectors. Industries such as automotive, pharmaceuticals, and food and beverage, and more often adhere to the standard.

While not mandatory, compliance benefits those seeking streamlined operations, improved data exchange, and better coordination between different levels of their enterprise, ultimately contributing to increased efficiency and productivity.

## **How to comply with ISA-95**

The ISA-95 framework is not a certification, but a set of standards to which organizations can comply. As such, there is no set path for certification. However, the ISA runs conformity assessment programs for the ISA-95 standard, which ensure that an organization “meets expectations in terms of performance, security, safety, and other criteria.”

## **Renewal requirements for ISA-95**

Because ISA-95 is not a certification, there are no renewal requirements. Instead, organizations must regularly review and update their systems to align with the latest ISA-95 standards and industry best practices to ensure continued effectiveness and relevance in evolving industrial environments.

## The benefits of implementing ISA-95

Implementing ISA-95 offers several benefits to organizations. Some key advantages include the following.



### **Improved efficiency**

ISA-95 streamlines communication between business and manufacturing systems, reducing manual interventions. This leads to increased operational efficiency, optimized production processes, and faster response times to market demands.



## **Enhanced interoperability**

Adoption of ISA-95 facilitates better integration between disparate systems, fostering interoperability. This results in seamless data exchange across various levels of an organization, promoting a more cohesive and collaborative operational environment.



## **Data accuracy and consistency**

ISA-95 implementation promotes standardized data models and communication protocols, minimizing errors and ensuring consistent information exchange. This enhances the accuracy of data across different systems, supporting better decision-making and reducing the risk of operational discrepancies.

## **Challenges in implementing ISA-95**

Implementing ISA-95 may pose several challenges to organizations. They include the following:



## **Complex integration processes**

Implementing ISA-95 often involves integrating diverse systems across different levels, which can be complex and challenging. Ensuring seamless communication between business and manufacturing systems requires careful planning and execution, potentially requiring significant investments in technology and resources.



## **Organizational resistance**

Resistance to change within organizations can impede ISA-95 implementation. Employees and stakeholders may resist adapting to new processes and technologies, requiring effective change management strategies to address concerns and foster collaboration.



## **Customization and flexibility**

Organizations may find it challenging to balance the need for standardized processes with the requirement for customization. Achieving the right level of flexibility to accommodate unique business processes while adhering to ISA-95 standards requires careful consideration.

# Tips and strategies for preparing for ISA-95 compliance

Here are a few tips for preparing for ISA-95 compliance:

- Invest in training for your team to ensure they understand ISA-95 principles, fostering a comprehensive understanding of the framework and its application in your organization.
- Facilitate collaboration between IT, operations, and management teams to align goals and perspectives, promoting a cohesive approach to ISA-95 compliance.
- Conduct a detailed assessment of existing systems and processes to identify areas that need adjustment to comply with ISA-95 standards.
- Implement pilot programs to test ISA-95 compliance in specific areas, allowing for adjustments and improvements before full-scale deployment.
- Establish mechanisms for ongoing review and improvement, ensuring that systems remain aligned with evolving ISA-95 standards and industry best practices.

## Resources for ISA-95 compliance

For more information and guidance on ISA-95 certification, you can refer to the following resources.

**International Society of Automation (ISA).** The ISA offers a [wealth of resources for ISA-95 compliance](#). These include classroom training, FAQs and purchasable texts. It should be the first stop for any organization that seeks to comply with the standard.

**Manufacturing skills matrix.** AG5 offers a [free manufacturing skills matrix](#). You can use it to identify, track, and manage skills and certifications related to ISA-95 compliance in your organization.

**MES skills matrix template.** AG5's [free MES skills matrix template](#) will also prove valuable in managing skills and certifications related to ISA-95 compliance.

## Skills management for ISA-95

[AG5](#) stores all certifications in the cloud, providing all authorized personnel with access to the right version of approved certifications. This helps you easily keep track of all data and documentation related to an ISA-95 compliance across your organization.

Using AG5's skills management software, you can monitor the status of any type of certification that is relevant to your workforce, leveraging intuitive dashboards that provide you with a clear understanding of exactly what is needed to keep your employees skilled and safe.

# Frequently asked questions about ISA-95

## **What is the scope of ISA-95?**

ISA-95 focuses on integrating business and manufacturing systems in industrial automation, providing a framework for communication, data exchange, and interoperability across different levels of an enterprise.

## **Is ISA-95 compliance mandatory?**

ISA-95 compliance is not mandatory. Organizations choose compliance voluntarily to improve efficiency and communication in manufacturing processes.

## **How long does it take to become compliant with ISA-95?**

The time to become ISA-95 compliant varies based on the complexity of systems. It typically involves a phased approach, with implementation ranging from months to years.

## **What are the cost considerations for ISA-95 compliance?**

Costs for ISA-95 compliance include training, system adjustments, and potential technology investments. Exact costs depend on the organization's size, existing infrastructure, and goals.

## **What is the validity period of ISA-95 compliance?**

ISA-95 compliance doesn't have a fixed validity period. It's an ongoing process, and organizations should continuously update systems to align with evolving standards and technologies.

## **Can ISA-95 be integrated with other management systems?**

Yes, ISA-95 can be integrated with other management systems like ISO 9001 or ISO 14001, fostering a comprehensive approach to quality, environmental, and manufacturing process management.

## **How can you learn more about ISA-95 certification?**

Visit the [ISA's website](#).

## **Resources**

[International Society of Automation \(ISA\)](#)

## **Author**



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## Revisions

Original version | November 22, 2023

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