MachineDesign

SIEMENS
Ingenuity for life

FAQ

How Low-Code Apps Speed Up Industrial IoT Implementations

The industrial Internet of Things (IoT) has the power to transform manufacturing by providing insights into market opportunities and potential operational improvements. But fully implementing the industrial IoT can be a long process.

Manufacturers can ease the implementation process by using low-code apps to satisfy business needs. The use of low-code development platforms, such as Mendix™, which is integrated with MindSphere®, the industrial IoT as a service solution from Siemens, can reduce deployment times, minimize barriers to entry and lead to faster results.

Here's a closer look at how these platforms can help manufacturers launch industrial IoT initiatives in less time, with fewer resources.

What exactly is a low-code app?

Unlike traditional approaches, low-code provides organizations with a truly visual approach to application development. Because it is visual in nature, it enables developers of varied experience levels to create, test and deploy applications for both web and mobile use.

By leveraging model-driven logic—including drop-and-drag functions and components, as well as reusable templates—business and IT developers alike gain access to a graphic user interface. This approach empowers business and IT to work together collaboratively and without the typical communication barriers to quickly create, iterate and release applications. Low-code also enables multiple app types for disparate use cases, including upgrading legacy applications to IoT-enabled smart apps.

Low-code platforms provide the easiest path to developing and deploying apps that can easily evolve with changing customer experience expectations.

How can embracing low-code app development help advance industrial IoT?

Manufacturers can leverage low-code app development to create and iterate a wide array of applications that play an instrumental role within the industrial IoT.

For instance, making the most of IoT, artificial intelligence or machine learning depends heavily on an organization's ability to develop innovative apps that bring ideas to life. Of course, not all ideas work. Yet, because of the quick development process, low-code makes it possible to build, test, deploy and ultimately iterate (if it's a good idea) or abandon (if the idea fails to address a real need).

Low-code apps also can present a seamless connection between the user-focused interfaces IoT users expect and legacy environments that still serve as the backbone within most organizations. Low-code accomplishes this task by providing business and IT developers with prebuilt sequences or microservices that bridge the gap—essentially "modernizing" legacy environments that can otherwise be difficult to use.

How does a manufacturer get started with low-code apps?

Platform selection is the most important step to getting started with the low-code app development process.

Some key components to consider include:

- Openness for fast integration.
- Built-in testing capabilities.
- Access to the latest smart technologies, including blockchain, machine learning and the IoT.
- Reusability to take advantage of sequences that make sense across the organization.
- Simple deployment to public and private cloud environments.

For instance, using Mendix with MindSphere provides manufacturers with an integrated rapid application development approach to increase the productivity of app developers and reduce time to market. Using an established, low-code development community will act as a catalyst for a fast-growing ecosystem with rich content.

What tangible benefits do low-code apps offer manufacturers?

By nature, low-code apps empower a manufacturer's lines of business to quickly and efficiently develop industrial IoT apps. The benefit is that business units no longer need to rely entirely on IT development teams to build apps to accomplish necessary tasks.

In the digital economy, time to market is often the most significant differentiator as organizations jockey for position in increasingly competitive environments. Because of the visual nature and the prebuilt processes, the overall development cycle times and the amount of time until the business unit in need realizes any value are both considerably shorter.

Additionally, low-code apps help manufacturers keep pace with increased demand for industrial IoT capabilities. Departmental leaders face increasing pressure to create more apps to address a wide range of business needs, which stresses personnel beyond their inherent capabilities. Low-code apps free people within the organization to focus on their core skills so they can contribute in a more meaningful way.

Finally, low-code development leverages a collaborative environment where those developing apps fully understand business expectations because they will be working hand-in-hand with business units requiring the new apps. It brings the user closer to the creation process than any other methodology. Again, the visual nature simplifies the process because there is no need for developers to explain the app logic to the business stakeholder who does not understand code.

How can low-code apps build on current data assets?

Low-code adds a visual layer to the entire process. As a result, manufacturers can use this new approach to tap into legacy equipment or access existing data assets by simply dragging and dropping. It essentially serves as a bridge.

Bottom line: Traditional development time frames can stifle an organization's ability to capitalize on a wealth of industrial IoT data. Having access to low-code development opens the door to quick app development and deployment.

How advanced can you get with low-code applications?

Low-code can be as simple or advanced as desired. For the experienced developer, low-code's building-block approach simplifies the creation of a highly functional app framework. And, if a developer wants to customize the application beyond the prebuilt drop-and-drag features and functions, there is nothing prohibiting them from taking a deeper dive into the code.

This content was developed together with Siemens Digital Industries Software.