State of Low-Code Report 2022:
Manufacturing Industries

Market research firm Reputation Leaders conducted a survey in July 2022, commissioned by Mendix, a Siemens business and global leader in low-code application development for the enterprise, to ascertain the state of low-code use in four verticals including financial services and insurance (FSI), industrial manufacturing, public sector, and retail. The respondents included senior business leaders who make software and app purchasing decisions.

The manufacturing industry is unique because manufacturers were hard-hit by the pandemic. With COVID infections and mandatory social distancing, producing output was no longer possible because there were not enough people at the machines and workstations. Meanwhile, the demand for goods was also unusually high or low as consumers reassessed their priorities. There were also supply chain issues, which included the Suez Canal blockage fiasco and staff shortages on docks and among transportation drivers. At the time, manufacturers were using low-code to connect to peripheral devices. They also used it to support logistics and quality assessment. Now, the understanding of low-code value has become clearer. Low-code is rapidly finding consensus in all core domains of manufacturing including engineering, product design, and quality control.

Low-code enables digital transformation

Low-code is increasingly viewed as a digital transformation enabler because it can be used on the backend to improve manufacturing and supply chain efficiencies, and on the frontend to connect to customers, e.g., to understand the status of an order.

Most manufacturers have already adopted low code and are commonly using it to improve internal communication across multiple domains, disciplines, and geos and to connect with transportation suppliers. Some are using it to replace home-grown legacy systems around quality or manufacturing processes, and many are using it to mitigate supply chain issues.

Low-code priorities are evolving

As a result of the above, in past years, low-code was still considered an independent layer on top of the engineering, production, and quality systems, typically deployed to rapidly solve problems and increase efficiency in departments like HR and finance.

In 2022, most manufacturers (63%) believe low-code is extremely important to the future of manufacturing and about a third plan to integrate IoT devices so they can be controlled from anywhere. Slowly but surely, low-code is moving from the outside in, to the manufacturing core, which includes product engineering, product design, and quality control. Meanwhile, more types of technologies are being integrated using low-code. One of the biggest challenges manufacturers have is the inclusion of millions of legacy systems for which are costly to deploy, extend, and maintain. The longer-term goal is to provide real-time visibility, not only into manufacturing processes but also the larger ecosystem, including customers' customers and partners so important data can flow more quickly.

Essentially, low-code has evolved from a crisis management technology during the pandemic to a core technology in 2022 and beyond.

Top 2 low-code benefits
Improved RT process visibility (39%)
Improved RT data visibility (38%)

Top 2 challenges
Modernizing legacy IT (32%)
Production monitoring & execution (32%)

Top 3 future scenarios
Manufacturing app-specific templates(43%)
Make legacy systems accessible on-the-go (32%)
Low-code with IoT for smart manufacturing (31%)

Top 3 benefits of data integration
Data sharing outside engineering (42%)
Create mobile and workflow applications (67%)
Improve contract bidding (41%)

Top 3 production use cases
Connectivity to shop floor devices (41%)
Connectivity to existing commercial software (39%)
Peer-to-peer sharing apps (36%)