

Overview



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Challenges and Future Prospects for Realizing Smart Factories from Perspective of Social Trends

“Industry 4.0” was announced in 2011, and various discussions are taking place worldwide to realize its embodiment, the “Smart Factory.” In this issue, we would like to consider directions for production sites from the perspective of “monozukuri” (manufacturing) and “mono” (things manufactured).

As the percentage of generation Z and younger population increases, values are becoming increasingly diverse. In response, the manufacturing industry is compelled more than ever before to market many individually customized products within shorter cycles.

There are two ways to respond to this: through product design, or through production methods.

One way of way of employing product design is using software to realize a base for customized features. The approach of broadening product feature variations through software allows for shorter time frames to deliver products to the market and enables speedy and flexible response to individual customization and feature upgrades even after a product’s release. Another possible approach is combining customization components with platform products that ensure performance, safety, and fulfillment of basic functions.

For an approach based on production methods, on the other hand, one way is to form an ecosystem. This is the approach of separating into factories that make the previously-mentioned platform products, and factories that manufacture the previously-mentioned customization components and make finished products.

In the manufacturing industry, it is crucial to always advance technology development with a balanced focus on both “monozukuri” (manufacturing) at production sites and information technology.