

Overview



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Futue Factory for Supporting Information Networks in Social Infrastructure

The role of every factory is changing dramatically. Future factories are shifting from the typical independent and closed competitive organization to an open hub structure that shares information with society as an information network in social infrastructure. Some examples include the manufacturing and usage data about electric vehicles used to manage traffic and regulate power provided to social information networks. The use of this data is expected to eliminate wasteful use of resources and improve resource productivity in revolutionary ways. To succeed in these breakthroughs, factories must experience a comprehensive digital transformation. The foundations of this transformation are reforms to the designs and models of every factory process based on a “To-Be” perspective, which requires information about processes and product be converted as much as possible into digital data. This means fully implementing model-based engineering and digital twin concepts. Modularization and interoperability are essential aspects in leveraging this data as information for social infrastructure and will enable standardization as well as the use of this data outside of industrial domains. It is vital to sort intellectual properties into core technologies which act as a source of corporate competitiveness and collaborative technologies to share with society, which requires information management frameworks. People can use the factory assets in a variety of ways from social information networks with this kind of digital transformation. These new high-added value industrial activities contribute to greater global sustainability and resilience while realizing a quality of life that permits human diversity.

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