



# Remarks on Special Issue on Digital Transformation

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*People say that the volume of global digital data has increased almost 1 000-fold within the recent 20 years. The spread of COVID-19, in particular, accelerated the way of working from home remotely using digital technologies, which contributed to the increase in the data volume. In addition, digital technologies have also been significantly advancing. Nowadays, the computation performance of commercially available personal computers is equal to that of supercomputers available 20 years ago. This increase in opportunities for using data and remarkable advancement of digital technologies have brought a trend toward digital transformation (DX) to the whole of society.*

*Nippon Steel Corporation started working to introduce leading-edge information and communication technology (ICT) in the 1960s ahead of other industries, aiming at data-driven business management. As a result, we have an enormous volume of useful data at the front line of manufacturing sites. Such data includes production process data of each manufacturing site and business process data related to financial affairs, production plans, and sales, etc. This is our strong point. Meanwhile, due to restrictions by digital technologies used when the data was collected and the integration of the companies, the data assets are separately stored in individual systems that are independent for each site or process, and this makes it difficult to link the data organically. Our big challenge is to link the data throughout the company in the future to produce higher added values and manage the whole company as one body. The environment surrounding Nippon Steel is sharply changing and the global competition is also getting fiercer. Under such circumstances, to realize carbon neutrality, address new issues appropriately, and make high-level decisions promptly so as to provide customers with the best products and best services, data-driven business/operation management is becoming increasingly important.*

*As we understand our tasks as described above, we have been working to establish platforms to link data regardless of manufacturing sites and processes (strength in connecting) and to renovate company-wide production and business processes by using such linked data (strength in maneuvering). This special issue, within the limited space, introduces our variety of efforts from initiatives at the front line of manufacturing sites involving the Internet of Things (IoT) and artificial intelligence (AI) technologies to business process renovation including optimization of production plans. We offer various measures and techniques to the outside. I hope that you find our efforts for DX in our steelmaking interesting.*