

Foreword

Revolution in Manufacturing

Kazunori Kuromoto
Executive Officer
President, ICT Business
Division
Construction & Mining
Equipment Marketing
Division, Komatsu Ltd.



“Manufacturing” in the manufacturing industry once meant activities to build added values in “products”, but the way “Manufacturing” used to be has been drastically changing as the ICT technology and its social infrastructure are enhanced. Traditionally, polishing the values of functions and performances efficiently in manufacturing plants into a form of “products” were corporate efforts. It is now possible, however, to obtain information from “products” introduced to the market by ICT technology, and corporates can demonstrate their technological competence in creating new value-added to the periphery of such “products” introduced to the market as a medium. For example, it is possible as business not only to supply high-performance products but also to realize together with customers higher productivity through the best use of the products working in various environment and circumstances after they are put on the market. It is also possible to prevent failures predictably by monitoring and analyzing the usage and improve products’ service life effectively by locating and replacing the damaged parts.

Until now, this kind of activities was called after-sales service for products and regarded as an additional part of corporate function in the manufacturing industry. If differentiated service is considered more effective than differentiated “products” themselves, the manufacturing industry should immediately be called an industrialized service business and high-quality service itself could be a leading product. Product development, for this purpose, is to design and realize an ideal way of servicing from the view points of the market and customers rather than the development of mere products. For this purpose, it would be important to have a standpoint of understanding the customers and social nature they are involved in at the same time as you understand the technologies that constitute products. Customers too are required to make harmonious coexistence with society and participate in social activities through “products” under social constraints. Therefore, engineers involved in “Manufacturing” are required to have in-depth market knowledge including client environments in the market, possibility of collaboration and fusion with other company’s systems in addition to their product technologies.

Technologies mean intelligence for human survival. Corporate have been boosting their social impact by producing potent technologies and products. Meanwhile, they are “living organizations” in society and cannot survive without adapting to environmental changes. Proved reserves of copper, oil and iron are said to be 30 years, 40 years and 60 years respectively, which are now shorter than the life of a man. Adaption to the environment which is regarded as the most critical issue for corporate today is to contribute to the resource-saving and recycling-oriented. To assume a broader range of responsibilities surrounding “products” instead of simple “Manufacturing products” is to recognize changes in social needs that the corporate is facing. And this “Revolution in Manufacturing” is most critical for the adaptation to the survival.