FOREWORD

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In this advanced information age, the progress of information technology is remarkable in every aspect of the Japanese industry. In sophisticated applications of information technology led by computer and telecommunications, marked progress has been made, promoting industrial efficiency and advancing the level of high technology across a broad range of industries. As we see it, information technology will advance in more breadth and depth, not merely in industrial sector but in every corner of society.

The Japanese steel industry has already a 30-year history of computer application. In the field of production control, in particular, systems have advanced to the point where mass-production equipment can now be applied smoothly and efficiently to the custom-manufacture of a large variety of products. Moreover, developments in computer control have made possible not only process automation, but the manufacture of sophisticated quality products.

In the light of recent drastic changes in the economic environment, however, securing a better cost-competitive position in the international market scene became increasingly important, as was reinforcing customer services related to the manufacture of higher-grade products in a greater variety, as well as to the guaranteeing of on-time product delivery under a very tight lead time.

To meet these challenges, Kawasaki Steel Corporation (KSC) began to develop a new corporate information system in 1983 with the twin goals of:

(1) building a comprehensive integrated system for marketing, production, and physical distribution based on the synchronization and continuation of iron-making, steel-making, and rolling processes, and
(2) upgrading administrative work efficiency at all levels.

After five years of concerted efforts, KSC and Kawasaki Steel Systems R&D Corporation (KSD) were able to renovate the then-existing systems, drawing fully on the latest information-related technologies, including computer hardware and software as well as telecommunications technology.

In this connection, I would like to refer to three important projects so far undertaken to develop a number of large-scale systems. The first was an upgrading of functional structure for planning, coordinating, and reviewing corporate systems development programs. In production control sector, an effective systems development program was realized in close tie-up with equipment planning and technology development. In administrative improvement in the non-production sector, a number of plant and office functions were consolidated for centralized control, thus attaining a standardization of the corporate business administration system.

The second was a drastic improvement program for information system development productivity based on the establishment of a systems development design methodology and the upgrading of information resource management. This program is now advancing toward the development and application of computer aided system engineering (CASE).

The third was an improvement of information infrastructure, meaning the structuring of a large-scale database, a corporate level network system, LANs for each operating area, and the introduction of super-computer for R & D support. All this has greatly contributed to effective utilization of information for end-user computation.

In the autumn of 1983, KSD was established with an aim of enhancing software development and advancing into the information industry. Based on KSC's technological buildup, KSD attained smooth growth, and in the autumn of 1988 with virtualy entire information systems function transferred from KSC's Systems Department, is now progressing toward playing a supporting role in the information service industry. Meanwhile, the installation of System Laboratory in KSC in 1986 stepped up a structure to promote high-tech technology such as AI and software engineering.

Today there is a growing need for structuring advanced strategic information systems. In actively promoting restructuring efforts, KSC is also cognizant of the need of upgrading value-added products by grasping user's real needs in advance and further improving customer services. To this end, technical and systems developments must continue toward establishing a flexible manufacturing system (FMS), which steel requires as a capital-intensive industry.

As the KSC group's activities mark a milestone in the field of information systems and signal the start of another development program, we are especially pleased to see this special issue on information systems published by KSC, which outlines the past five-year performances in systems renovation. It is my hope that the reader will find this issue useful and informative.

Last but not least, I would like to take this opportunity to express our sincere thanks and appreciation to all customers in the information industry for their inspiring guidance and kind cooperation which have helped make our progress possible, and look forward to a closer association in coming years.