

Remarks on Special Issue on Solution Development by Electronics Technologies



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Despite the lack of attractive news in today's severe environment which includes such serious issues as the war in Iraq and low stock values, we are happy to use this opportunity to issue a special edition on the field of electronics. This exciting field holds the promise of great developments in the future. Thus, it is my privilege to introduce with a focus on solution developments, the current status of new electronic technologies and to outline the important efforts being taken today by Nippon Steel Corporation.

In recent years, there have been many dramatic achievements made in the electronics field. The following outlines the status of this field as presented in this special issue.

1. In the computer industry, there has been a wide trend to move toward general use of hardware and the possibility for users to create their own software. These are the result of rapid developments achieved in open system technologies as evidenced by the greater application of general use OS and general networks and the use of general software applications. This situation has led to lower software manufacturing costs due to improved production that centers on lower cost systems and software reusability. The flow for open systems has become apparent because now controllers for electrical and monitoring apparatuses and software manufacturing tools are being developed on general PC systems.

2. In the measuring technology field, there have been shifts from conventional hardware processes to software processes by combining high precision detection apparatuses with high speed CPU. Through this, sensing systems that comprise complex functions are now a reality and form an environment that allows users to manufacture their own systems.

3. In the fields of analysis and simulation, costs have been reduced through higher computer performance and applicability. Now, three dimensional limited element analyses are possible at the server level. Furthermore, the accuracy of models has been dramatically improved by being able to handle the results of analyses of compound models of electromagnetic and hydraulic fields for steel and the enormous amounts of development data. There has also been a rapid expansion in the fields of electromagnetic force application. Also, in the real-time control field, general control simulator functions have also been dramatically improved. Full use of these functions makes the verification of real-time control capacity simpler. This has become a key technology to the improvement of steel product quality.

To embrace these advancements in the electronics field, steel electronics engineers have established dedicated groups for each of the technologies of open system technology, special measurement technology, magneto-hydro-dynamic simulation, and control simulation technologies with an aim for the early deployment of beneficial, new technologies in our plants. To handle the needs of the electronics engineers in each of the steel manufacturing plants, the operating departments and related departments, consistent solutions from the viewpoint of clarification and analysis of development to setting up of equipment. This special issue relating to solution development through the application of electronic technologies outlines a variety of such examples. Your assistance in the introduction and application of new technologies will be highly appreciated. We look forward to serving you better with improved products through the feedback and support of our many partners.