

Preface Special Issue on Fujitsu Group's Activities for Systems Engineers' Manufacturing Innovation

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Now that we are in the golden age of the Internet, the success or failure of our customers' businesses has come to depend on whether or not and how quickly they can use high-quality IT systems. Users of such systems have expanded to include general customers (customers of our customers) and they need to speedily adopt higher-quality and user-friendly systems. The traditional techniques and methods of developing systems are now unable to sufficiently meet such needs.

Fujitsu has been building a comprehensive systems development methodology called "SDAS" to offer development support tools and development frameworks, thereby helping to improve the quality and reduce the development periods of systems for customers. This SDAS methodology, which has been offered since the days of mainframes, was restructured in 2003 into open system development technologies such as Web systems, and it evolved along with TRIOLE, a platform framework.

However, while trying to meet the recent needs for speedy adoption of high-quality systems described above, some new challenges have appeared that cannot be solved with SDAS system development technology alone. The habitual practices peculiar to Japan, such as the culture of proceeding to the next development phase before the system requirements have been made clear, leaving responsibilities unclear, and the lack of thoroughness and low permeation of development techniques and methods because of a team organization with frequent subcontracting are a large obstacle, and this often means that customers' expectations go unmet. These challenges cannot be solved simply by trying to thoroughly develop technologies for individual development processes; a complete change from the conventional perspective, or *innovation*, is needed such as conducting cross-sectional examinations on all processes and investigating how work is divided between them. In view of the situation in which system operation and maintenance (O&M) costs account for 70 percent of customers' IT investment, we have reacknowledged the importance of the O&M phase and included it in our activities. In this way, in 2007 we started working on Fujitsu Group's activities for systems engineers' manufacturing innovation, focusing on the Four Innovations: Design, Production, Maintenance and Way of Working for systems engineers.

Since April 2009, we have been carrying the Four Innovations forward to the second stage by organically combining the Design, Production and Maintenance innovations to drive them forward in a coherent manner and adding Human Resource Innovation and Way of Working for systems engineers to provide Five Innovations and further increase value and improve quality.

This special issue presents the overall picture of manufacturing innovation and gives specific descriptions of the Five Innovations, together with some of the approaches we will take in the future.