

Editor's note: This department features Six Sigma related content excerpted from the annual reports and other communications produced by a variety of the world's most successful companies.



Samsung's headquarters building in Seoul, Korea.

From Samsung Electronics Co. Ltd. 2001 Annual Report

ALSO FROM WWW.SAIT.SAMSUNG.CO.KR/NEWSAIT/ABOUT/E4.HTML, AUG. 30, 2002

FEATURED COMPANY:

Samsung Electronics

In 2000, we embarked on a Six Sigma initiative to deliver the highest product quality and customer satisfaction. During our second year, we added 680 new Black Belts (BBs), including our first 75 executives, and 15 Master Black Belts (MBBs) as we saw the number of development and manufacturing projects grow more than fivefold from 650 to 3,300, generating \$770 billion in savings.

In 2002, we will continue to expand Six Sigma across all functional areas, adding some 750 BBs—approximately one-third at the executive level—as we more than double our MBB ranks to 80. The adoption of the design for Six Sigma (DFSS) methodology in our development process will also continue as we lay the foundation for top-tier quality at all levels of our organization.

Technology Institute

At Samsung Advanced Institute of Technology (SAIT), all research and development activities are geared to the customer's needs. To enhance R&D efficiency, the institute has adopted the Six Sigma program.

Since early 1999, SAIT has used technology roadmaps and trees for selected projects. Now it is expanding the application of quality function deployment, design of experiments, TRIZ (a Russian acronym for "theory of inventive problem solving") and DFSS to all the projects.

SAIT has been particularly interested in DFSS because it is an integrated tool in which various research

methodologies can be systematically included. Among the Samsung affiliates, a DFSS research community has been formed that meets every month for information exchange. Further, a DFSS research team has been organized within SAIT and has been carrying out DFSS related research with senior researchers.

New R&D Approach

DFSS at SAIT is aimed at achieving Six Sigma standards in product quality, reliability, manufacturability and cost. Since the conventional R&D approach started from a developer's perspective and proceeded to design and prototype through build and test iterations, it later caused numerous design changes and wasteful rework and thus incurred losses in terms of the cost of poor quality.

DFSS is a clear departure from such a conventional approach. Design is initiated from a customer's perspective. And design analysis is carried out through modeling and simulation prior to prototype building and testing.

The goal is to achieve Six Sigma quality from design to prototype without extensive build and test iterations, so the R&D output from SAIT can flow flawlessly to the Samsung affiliates for early commercialization.

SAIT aggressively applies DFSS and aims at a paradigm shift and breakthroughs in R&D activities to reach the ultimate goal of the Six Sigma level in research and technology development. 