Samsung Uses Project Management Solution to Streamline Research and Development

Overview

Country or Region: Korea
Industry: Manufacturing

Customer Profile
Based in Seoul, Korea, Samsung is a global leader in semiconductor, telecommunications, and digital convergence technology, employing 70,000 people throughout 47 countries.

Business Situation
The Device Solution Network Division at Samsung wanted to be able to view information for its research and development projects, which were run by project managers throughout the company.

Solution
Working with CubeTech, Samsung deployed the Microsoft® Office Enterprise Project Management Solution to 1,000 project team members, project leaders, project managers, and executives.

Benefits
- Reduces communication time with team members by 20 percent
- Increases R&D efficiency by 50 percent
- Enhances business analysis
- Aligns resources with strategic R&D initiatives

"The Microsoft Office Enterprise Project Management Solution is much more flexible than the other alternatives on the market. We were able to make adaptations so that it meets our needs."

Joon Mo Son, Director, Project Management Organization, Samsung

As a major world provider of semiconductors, LCD screens, and mobile technologies, Samsung must deliver its products in a timely and cost-effective manner. Both research and development of new products play a pivotal role in the company's strategic focus. Although Samsung formerly used an internal project management system throughout the company, that system did not adequately meet all of the company's needs because of issues with project scheduling and resource allocation. After evaluating several project management tools, Samsung deployed the Microsoft® Office Enterprise Project Management (EPM) Solution to 1,000 employees in the Device Solution Network Division. Samsung management forecasts that the Microsoft Office EPM Solution will increase the efficiency of its research-related project management by nearly 50 percent and cut company costs substantially in the years to come.

Microsoft Office
Project
Enterprise Project
Management Solution

Situation

For companies that produce new electronic products, it is imperative to remain on the cutting edge of technology. Although companies release new products to consumers continually, development of these products requires years of planning, testing, and development before they reach the marketplace. As one of the world's largest providers of electronic components and devices, Samsung has found that research and development (R&D) plays a key role in the company's ability to produce high-quality, innovative electronic solutions.

Founded in Korea in 1938, Samsung has evolved from a small producer of electronics to a global consumer powerhouse by providing products such as advanced semiconductors, LCD screens, digital cellular phones, and VCRs. The company's high-quality, competitively priced electronics have helped Samsung become the fastest-growing brand in the world, rated by *BusinessWeek* as number 21 on its list of Top 100 Global Brands. In the next few years, Samsung plans to continue to refine its existing products. However, to retain its position as a global leader in consumer electronics, Samsung

also plans to introduce more than 20 new products by 2010, including digital TVs, advanced wireless communications products, and computer peripherals. (See Figure 1.)

Meeting these rapid product development goals—and making sure that each product released is of the highest quality—will be an ambitious undertaking. Samsung runs an average of 45 to 50 concurrent research projects each year, most of which take nearly two years to complete. Its larger projects often span several years, involve thousands of tasks, and require as many as 200 project managers, project leaders, and team members, all of whom work full-time on a single project for its duration.

Previously, Samsung used an internally developed product data management solution called Samsung Product Data Management (sPDM), which included limited project management capabilities throughout the company's four network divisions:

- Device Solution Network
- Digital Media Network
- Telecommunication Network
- Digital Appliance Network

Figure 1. Samsung is currently the number-one global producer of memory chips, TFT-LCD products, CDMA mobile phones, and color monitors. By 2010, Samsung plans to introduce more than 20 new products.

As of 2003 → 2010

Memory Chips   TFT-LCD

CDMA Mobile Phone   Color Monitor

Introduce more than 20 new products

Although the sPDM system worked well for several divisions, it did not meet the needs of the Device Solution Network Division in terms of scheduling, resource allocation, and high-level business analysis.

With more than 1,000 team members working on various R&D projects and storing data in numerous locations, the employees in the Device Solution Network Division could not access crucial project information in a timely manner. "We didn't have any one person in charge of assigning resources," says Joon Mo Son, Director of Samsung's Project Management Organization. "We have 100 project managers who are great at their jobs. But at the time, we lacked a standard model for project management, which resulted in inefficiencies in our R&D efforts."

All project maintenance was the responsibility of the individual manager dedicated to a research initiative. "Without a standardized process, the quality and timeliness of our deliverables were determined by the skill levels of the project managers involved," says Joon. Each of the division's project managers had his or her own method for organizing project schedules, tasks, and deliverables. Some supervisors used Microsoft® Word to administer project schedules, while others used Microsoft Excel. "There was no consistent format for project information or tools to share information easily with others throughout the company," says Joon. "As a result, scheduling and resource allocation proved quite difficult for our project and resource managers."

Because information was stored on 45 different servers, people in other departments could not access crucial project information. Although all project managers were responsible for reporting project status on a regular basis, executives did not have an enterprisewide view of projects throughout the company. Nor could they quickly take action when a project ran over schedule. With the sPDM system, project managers and leaders performed all of the day-to-day project administration. "Without a unified system, members of the management team could not easily see what adjustments needed to be made when problems occurred," says Joon. As a result, Samsung slipped on its research deliverables 85 percent of the time, with an average delay of two to three months.

Such setbacks postponed production planning and product marketing. These delays sometimes created opportunities for Samsung's competitors to bring similar products to market sooner and secure a large market share early on. "With extensive product slippage, we faced the possibility of revenue loss when our competitors released new products before we did," says Joon. "When we do not meet a deadline, it affects the whole company's progress, because it delays transition to manufacturing and marketing."

Solution

Samsung wanted a unified project management system that would help its employees ensure that research projects were completed on time. The company also needed a solution that offered greater business analysis and planning capabilities than the sPDM system. Working with consultants from CubeTech, Samsung evaluated several enterprise project management solutions in early 2003, including Welcom's Open Plan. After careful evaluation, Samsung decided that the Microsoft Office Enterprise Project Management (EPM) Solution would best meet its requirements for R&D. (See Figure 2.)

Samsung Device Solution Network Division's project and team member usage	
Number of total users	1,000
Maximum number of concurrent users	50-100
Average number of team members	20-100
Total number of project managers	100
Number of resource manager users	30
Number of executive users	20
Number of other users	850
Number of active projects expected	50
Average project duration	730 days
Largest project expected	3 years
Timesheet reporting	Daily
Number of standard project templates used	2

Because Samsung employees were familiar with the Microsoft Windows® operating system and Microsoft Office programs, executives believed that the solution would be easy to use, thereby decreasing the cost of training employees while providing the enterprisewide integration sought by the company. By working with CubeTech, Samsung was able to create a solution to meet the specific requirements of the Device Solution Network Division. "The Microsoft Office EPM Solution is much more flexible than the other alternatives on the market," says Joon. "We were able to make adaptations so that it meets our needs."

Solution Criteria and Planning
In September 2003, Samsung and CubeTech began customizing the solution. Six months later, after reviewing Samsung's research and development cycle, CubeTech helped Samsung set up role-based access to project information according to four roles within the company:

- Project managers
- Project leaders
- Resource managers
- Executives

Employees can now view or amend project information in accordance with these predefined roles. This role-based access is a huge boon for Samsung because it maintains security and puts pertinent project data into the hands of only those who need it. "One of the advantages of the Microsoft Office EPM Solution is that we were able to customize it so that project leaders, project managers, and researchers each had their own interface with access to information relevant to their specific roles within the organization," says Taewoo Kim, Director of the Development Division at CubeTech.

Deployment and Training
In early 2004, Samsung took approximately three months to design and deploy the EPM Solution to 1,000 users—including 100 project managers—within the Device Solution Network Division as part of a pilot program. In addition to assisting with solution deployment, CubeTech trained Samsung employees, offering an intensive training session for project managers who would use the solution most frequently and a more general session for all other employees. "Our experience working with CubeTech was great," says Joon. "CubeTech consultants created very thorough development documents, which were a huge help to us."

After completing the training and becoming familiar with the solution, Samsung employees voiced their satisfaction, especially with the added functionality that is now available to them. "The Microsoft Office EPM Solution is working very well," says Joon. "Before, everyone worked offline and had to send attachments back and forth by e-mail. But in the last few months, employees have begun to enjoy the speed and flexibility of working in an online environment."

Focus on Project Management
Currently, Samsung uses the EPM Solution to manage the stages and functions of all its

research projects and other activities related to those projects. The solution has provided Samsung employees and executives with visual tools to monitor the progress of the company's research efforts. Now nearly 90 percent of all pilot participants use the EPM Solution every day. "By viewing projects underway in terms of size, budget, time, and resources, we can easily prioritize them," says Joon. "We find the process to be very simple, especially when users understand the overall project management skill set."

Project Reporting

Samsung project managers also enjoy enhanced project reporting. Because of the extendable nature of the EPM Solution, Samsung was able to customize the solution to include the specific reporting functionality desired by the company. Part of this customization included using a Microsoft .NET Framework–based reporting application that integrated seamlessly with other components of the solution. The custom features allow project managers to run detailed, customizable reports on a number of project-related variables such as activities completed, project costs, and overall team performance. Samsung project managers use these reports as a tool to provide weekly project information. This new capability saves immeasurable time in comparison to the previous method.

Benefits

Samsung employees have been using the EPM Solution since late in 2003, and company executives expect it to substantially improve R&D project management. Not only have employees found that the new system helps them work more efficiently, but they also appreciate the solution's added features, such as the ability to view all aspects of a given project and not just the portion for which they are responsible. In addition, the solution has improved business processes throughout the organization.

Better-Informed Business Decisions

Samsung research endeavors are measured by the number of research-related deliverables that the company completes each year. Executives at Samsung forecast that the EPM Solution will increase the efficiencies of its R&D deliverables by 50 percent over the next year and a half, helping Samsung achieve its goal of releasing 20 new electronics products by 2010. Joon attributes this growth to the ability to more accurately manage project schedules and eliminate the slippage of deliverables. "The Microsoft Office EPM Solution is exceptional for project tracking," says Joon. "Before we implemented it, members of the executive team never knew the reason for project delays and were at a loss as to what action to take. But now they can see red flags when there are problems and quickly take action."

The ability to view project information throughout the enterprise has contributed in other ways as well. "The Microsoft Office EPM Solution drastically improves our resource allocation and scheduling," says Joon. "In addition, because the solution provides team members with quick and appropriate access to project information, it helps our employees be more productive."

Streamlined Communications

Along with offering increased visibility into project status, Samsung has improved the quality of its documentation and processes. With document versioning, e-mail alerts, and notifications, Samsung employees are able not only to find the information they need quickly, but also to resolve problems in less time. According to Project Manager Jeong Yup Shin, Samsung has reduced the amount of time needed to report on projects and communicate with other team members by more than 20 percent. "As a project manager, I find that sort of time savings to be significant, because it allows us to focus on

> "In the months that we have used the Microsoft Office EPM Solution, it has significantly improved our project management."

Joon Mo Son, Director, Project Management Organization, Samsung

our jobs and the research we are doing," says Jeong.

Enhanced Business Analysis

Because Samsung executives have accurate, up-to-date information on what is happening with all projects throughout the enterprise, they are able to make well-informed business decisions and adjust their overall strategy for the best possible results. "The Microsoft Office EPM Solution helps us to plan and evaluate our R&D portfolio and prioritize projects according to specific market and technical demands," says Joon. "Over time, that will aid us in producing better products, while also helping us to maintain our position in the electronics market."

Anticipated Expansion

Samsung has already begun planning for the second stage of deployment. Management is looking to first extend the EPM Solution to members of the Digital Media Network Division. The company also plans to use the document management tools to manage all completed projects throughout the enterprise. "We have received feedback from teams outside of research that would like to be able to see our results, designs, and other related documents," says Joon.

"In the months that we have used the Microsoft Office EPM Solution, it has significantly improved our project management," adds Joon. "It's already helped us streamline our research projects, and I can only believe that it will continue to improve our research processes over time."

For More Information

For more information about Microsoft products and services, call the Microsoft Sales Information Center at (800) 426-9400. In Canada, call the Microsoft Canada Information Centre at (877) 568-2495. Customers who are deaf or hard-of-hearing can reach Microsoft text telephone (TTY/TDD) services at (800) 892-5234 in the United States or (905) 568-9641 in Canada. Outside the 50 United States and Canada, please contact your local Microsoft subsidiary. To access information using the World Wide Web, go to:
www.microsoft.com

For more information about CubeTech products and services, call (82) (032) 552-0051 or visit the Web site at:
www.cubetech.co.kr

For more information about Samsung products and services, call (82) (331) 279-3037 or visit the Web site at:
www.samsung.com

Microsoft Office System

Microsoft Office System is the business world's chosen environment for information work that provides the software, servers, and services that help you succeed by transforming information into impact.

For more information about Microsoft Office System, go to:
www.microsoft.com/office

Document published September 2004

Software and Services
- Microsoft Office Enterprise Project Management Solution
  - Microsoft Office Professional Edition 2003
  - Microsoft Office Outlook 2003
  - Microsoft Office Project Professional 2003
  - Microsoft Office Project Server 2003
  - Microsoft Office Project Web Access 2003
- Microsoft Windows Server System
  - Microsoft SQL Server 2000
  - Microsoft Windows Server 2003, Enterprise Edition

Hardware
- Samsung Electronics Smart Server Series SS3440/SS3840

Partner
- CubeTech