

ENGINE

**Thomas Kowalyk
and William Tibbitt:
Setting lofty goals
at Johnson & Johnson.**



ENGINEERING CUSTOMER SATISFACTION

To meet the changing needs of a highly competitive healthcare market, Johnson & Johnson develops complex facilities that will manufacture the life-saving drugs of tomorrow. Primavera has the prescription for rapid collaboration and clear, accurate communication among members of the global design and build teams.

BY CHERYL D. KRIVDA | PHOTOS BY DAN ENGONGORO

The progression from making sterile bandages and baby powder in New Jersey to manufacturing biomedicines in Ireland may seem circuitous. Yet for global healthcare giant Johnson & Johnson, the purpose is clear. In pursuit of its foundational goal – to provide scientifically sound, high-quality products and services to help heal, cure disease, and improve the quality of life for people worldwide – the company continually develops and acquires an evolving roster of goods and services to meet current and future customer needs.

With more than 200 affiliated operating companies and 116,000 employees in 57 countries, Johnson & Johnson offers healthcare products and related services for the consumer, pharmaceutical, and medical devices and diagnostics markets. For decades, the company was best known for its consumer products, such as Johnson's Baby Powder and Band-Aid brand adhesive bandages. Over the last 15 years, pharmaceutical products and medical devices have taken precedence, making up nearly 80 percent of the company's \$53 billion in 2006 sales.

In such a large enterprise, keeping pace with customer needs demands a decentralized management approach. Accordingly, each of the Johnson & Johnson operating units maintains responsibility for its own growth and leadership development while reporting to group operating committees and, ultimately, headquarters. However, the organization still offers certain centralized services to enhance efficiency and share expertise.

Johnson & Johnson's Worldwide Engineering and Real Estate (WVERE) group provides project execution competencies for major real estate and engineering projects. In addition to ensuring that real estate transactions are appropriately planned and executed, WVERE provides project management and technical support on the larger capital projects. The group is responsible for developing and maintaining engineering and design guidelines, procuring design and construction services, and partnering with preferred suppliers such as architects, engineers and construction managers on project delivery. Although WVERE routinely provides on-site representatives for large projects, it contracts for design and construction services.

With a staff of 63, including 26 project managers, the group counts as its key customers Johnson & Johnson affiliates and global operating companies. "The vastly changed markets that Johnson & Johnson now serves require different skill sets from our group to support business growth," says William P. Tibbitt, executive director of WVERE and a 30-year veteran of the company. "When we work on a project, we do so as a cross-functional team. Our task is to identify a full range of good project business practices, organize them sequentially into project delivery processes, and hire people who understand the construction business and know how to put a project together. Our work is not centered on the project per se – although that is the center of our activity – but on putting the right people together. In doing so, we try to blend individual skills with group needs, creating a service organization that is greater than the sum of its parts."

For 2007, the group will manage a projected \$800 million in capital expenditures across the corporation, primarily on projects of \$25 million or more. Nearly 85 percent of these projects are new manufacturing facilities in locations such as the United States, China, Holland, and Belgium. Other projects include research and development and laboratory facilities, as well as office and warehouse space, each developed to meet the needs of a Johnson & Johnson affiliate.

MAKING HISTORY IN IRELAND

One of WVERE's biggest internal customers is Centocor, a 25-year-old, \$3 billion biomedicine company that became a subsidiary in 1999. Pursuing its goal to create treatments

for cancer and immune-related diseases such as rheumatoid arthritis and psoriasis, Centocor has a robust pipeline of new products and an aggressive R&D schedule. To support these efforts, WVERE has been responsible for developing several new Centocor facilities, the latest of which is a 250,000 sq. ft. building in Cork, Ireland. The facility is the largest capital

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project in Johnson & Johnson's history.

The Centocor project, which will include a production building, a central utilities plant, a warehouse, quality control laboratories, and administration space, broke ground in 2004. It is scheduled to open in 2010, just as the U.S. Food and Drug Administration is expected to approve the medicines that will be produced there. When fully operational, the facility will employ more than 300 full-time staff members.

IMPROVED COLLABORATION

A few years ago, WVERE recognized a need for more efficient information sharing and collaboration among its staff, internal customers and partners. "Our business model depends on creating good working relationships with the builders and designers that we've chosen to do business with," says Tibbitt. As increasingly complex, international projects like the Cork facility emerge, "sharing information and collaborating faster and more accurately became a real need. In addition, we wanted to duplicate our best practices, so they could be shared from project to project," he explains.

After reviewing and piloting several technologies, WVERE chose Primavera PrimeContract. "Other tools were either vaporware or they offered limited capabilities,

with no option to expand them,” explains Thomas W. Kowalyk, director of project controls for WWERE. “From the beginning, Primavera’s commitment to listen and develop tools based on user requirements has been impressive. What sold us was the robustness of the product as well as the flexibility to customize workflows to match the way we do business.”

PrimeContract was rolled out in several pilot projects in 2001 as a hosted solution; WWERE quickly began expanding its use in the following years. Kowalyk used the tool to formalize the group’s project delivery processes, helping to complete the transition from a limited focus on construction management to its current role of handling processes ranging from business development through operational support.

“Today we act as a group of industry experts on the process of how to design, construct, and qualify a facility,” says

capital projects worth \$20 million or more as well as for many smaller projects. More than 3,500 users from more than 250 companies rely on Primavera to store documents, exchange information, track progress and collaborate.

WWERE uses PrimeContract to handle several key tasks. Bids for professional services and product vendors are fielded online through the e-procurement capabilities. This feature distributes comprehensive information to all bidders faster than could be done with traditional methods, with the added benefit of an audit trail. The system also compiles the bids and stores the information for later use by the corporation to benchmark construction data.

PrimeContract also helps WWERE handle change management through both the request for information (RFI) process as well as later in the project. With all changes available online, partners can quickly ascertain that their documents are current. The solution stores thousands of documents for each project; some large projects can accumulate more than 60,000 files. Automatic workflows ensure that they are routed for approval and signoff.

PRINTING LOCALLY

For the Cork project, WWERE also engaged online print shops near Memphis and Cork, which allowed reviewers from the internationally distributed team to print documents from the PrimeContract site as needed – without the cost of engaging overnight delivery services or the delays that frequently occur when documents pass

through customs. At the peak of the design phase, more than 1,000 design packages were circulating each month.

“We couldn’t have handled this volume of documentation if we were still paper-based,” says Kowalyk. “When the documents are transmitted electronically, we don’t have to worry about them clearing customs, so they get to reviewers faster. Without this speed, we would have had longer review cycles, which would have slowed design and, ultimately, impacted construction.”

FAST TRACK TO PROJECT COMPLETION

The benefits delivered by PrimeContract have been significant. “From procurement to communication in the field, to



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Kowalyk. “We are responsible for handling the alliance relationships with major design firms, we issue requests for proposals, and hire designers and contractors. We take the vision of what a company wants to do and turn that into a scope document. Then we procure and manage to that, so our customer gets what they need.”

AGENT FOR CHANGE

The Primavera solution provides an online, centralized location for all documents related to the project, which authorized partners of WWERE can access in real time. The solution acts as the storehouse for approximately 40 active and 20 archived WWERE projects; it is used for all

shop drawings and submittals, Primavera delivers improvements in speed and accuracy by leaps and bounds,” states Kowalyk. “Cumulative improvements in cycle times have had significant benefits in time to market.” The tool increases transparency, eliminating email and telephone communication about bids, and creating an audit trail of questions and comments.

RFI turnarounds were slashed 70 percent, from two weeks to less than three days. And bid times have been cut by as much as 20 percent. Design errors were cut by 2 to 4 percent, decreasing the associated cost of revisions and rework. Hard dollar construction savings are difficult to quantify, but even conservative estimates of 1 to 2 percent of the \$800 million capital budget constitute enormous payback to WWERE.

Softer benefits are also prevalent. Best practices, design guidelines, and project delivery processes are all available on



The new Centocor facility under construction in Cork, Ireland, is the largest capital project in Johnson & Johnson's history.

the PrimeContract site, ensuring that partners build to the most current specifications. Change management processes built into automated workflows ensure that major revisions are reviewed by WWERE team members and redistributed to affected partners in a timely fashion. Causation codes for changes can be recorded and analyzed, creating a foundation for improving quality over time.

Having the information online and widely available at the click of a mouse has supported Johnson & Johnson's "Fast Track" building initiative, in which early stages of a construction project – such as site clearing, building envelope and utility requirements – can begin while final details of later stages are still being refined.

“Using Fast Track shortens our project delivery timeframes by 25 percent or more,” Kowalyk states. “Although there is some risk of rework when we do this, when you look at the cost/benefit analysis, it's well worth it. Time-to-market is very critical for our line of business. More than that, getting products to market quickly is part of the Johnson & Johnson credo. We feel we have a moral obligation to deliver life-saving drugs as soon as we possibly can.”

BUILDING FOR TOMORROW'S SUCCESS

With these successes, Primavera has come to be viewed as the tool of choice for large, complex engineering projects at Johnson & Johnson. Jim Breen, vice president of Global Biologic Supply Chain for the company, is a customer of WWERE who understands Primavera's value to the organization. “When we start a new job, there's no discussion: we do our work on PrimeContract,” he says. “The more people from outside of Johnson & Johnson who are involved, the more we need PrimeContract to act as a central repository of information.”

In the coming year, WWERE has even loftier goals for improving efficiencies and cost effectiveness. By improving alignment among headquarters and international offices, the group expects to use its personnel more effectively and consistently support capital projects in all regions. Extensive cost analysis will allow the group to enhance business planning support and detailed scope package development on corporate capital projects. The group will also develop and use more standardized approaches during planning, design, construction, commissioning and qualification of new facilities. Primavera will act as a foundation for these changes.

The organization will continue rolling out PrimeContract across the enterprise to support Johnson & Johnson capital projects around the world. In doing so, WWERE strives to continue improving its service to the enterprise. “The client satisfaction that we have developed as a result of using Primavera has helped us to become a more efficient organization within the extended Johnson & Johnson family of companies,” says Kowalyk. •

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