

At one end of the TIGER den was a room with soft couches and chairs designed to facilitate informal meetings. It was also used for formal meetings as well as celebrations around significant project milestones or team members' birthdays.

Because up to 70 people could be working in the den at the same time, phones would have been very distracting. The administrative area had a few phones for outbound calls only, and all team members were given private voice mailboxes and pagers; their pager alerted them when a message went into their voice mailbox. A bank of phones was installed in a small hallway leading out of the den, and emergency numbers were given to family members.

The directors on the project team were used to having private offices, so working without privacy in an open arena alongside the rest of the team took some adjustment. They were told: "Here's a chance to 'live' change management."

### Final Project Plan

During the initial months of the project, the co-leads worked with the IBM project leaders to hone in on the scope, cost, and magnitude of the project in order to develop a final project plan with a realistic budget. In early December 1996, the final project scope and resource estimates were presented to the ELT and the Board, based on a Go-Live date 12 months later.

The final project budget was estimated to be \$17 million, which was 30 percent higher than the mid-summer estimate. One of the major reasons for the significant increase was the inclusion of change management costs (including training) that had been missing from the summer budget. About one-third of the final budget was for technology infrastructure costs, including the R/3 software. Another third was for team costs and the education of NIBCO associates. The final third was for third-party consulting.

The December plan also addressed two major changes in project scope. One was a recommendation to include North America only. For example, sales offices outside of the United States (such as operations in Poland) would not be included in the big bang implementation.

A second scope change was driven by technology issues. At the end of 1996, NIBCO had 17 distribution centers, but its long-term strategy was to consolidate to at least half that number. An R/3 project involving 17 distribution centers would have high technology installation and operations costs as well as high project complexity due to the sheer number of locations. A distribution center consolidation prior to the ERP Go-Live date would therefore reduce both technology costs and implementation complexity.

Although the detailed planning for the distribution center (DC) consolidation was not complete when the final

project plan was presented to the Board, by March 1997 the company had committed to consolidate from seventeen small DCs to four large ones: One existing facility would be enlarged, and new managers and associates would be hired to run the three new DC facilities. The goal was to complete the consolidation by September 1997 to allow time to prepare for the cutover to the ERP system.

SAP provides opportunities for consolidation, so it's not uncommon for companies to decide on a certain amount of consolidation for something . . . The original timing had the warehouse consolidation getting done ahead of SAP by a couple of months.

—Gary Wilson, *Project Co-Lead, Technology*

There were several major business risks associated with the project that also would have to be managed. First, the integration really had to work, because otherwise any one part of the organization could claim that they were no better off, or even less well off, than before the project. This meant the team would have to make decisions focused on the integration goals, which would result in killing some "sacred cows" along the way.

Second, the company could be significantly harmed during the project because most other company initiatives would basically be put on hold. The exception was the distribution center consolidation, and this would involve large-scale personnel changes and increased demands for training. At the same time, it would be important to maintain as much customer satisfaction as possible.

Management also knew that if the project ran late, it could really hurt the company. So the project had to be completed on time with a quality result.

You can't pull 27 full-time people out of a business that runs fairly lean, and then not backfill and expect business to go merrily on its way. We actually watched one competitor of ours go live with SAP during the course of our implementation, and the first 2 weeks they were live they could not take a customer order. And so we were seeing some real-life horror stories in front of us. So, the risk management from our perspective was: We're gonna deep six this company if we do this poorly or if we don't do it on time.

—Jim Davis, *Project Co-Lead, Change Management*

Because there was no backfilling of the jobs held by the project team members, NIBCO associates not on the project team had to take on extra work to sustain normal operations. This meant that the whole organization needed to be committed to the ERP project. An up-front goal of participation by one-third of NIBCO's salaried associates was established to be sure they understood



Criterion	Measures	Impact on Incentive Pay
On Time	SAP must be live on or before 12/31/97	Required for any incentive pay
Successful	1) Client/server environment measures: - available 90% of agreed-upon time - 95% of real-time response times less than 2 seconds 2) Business processes supported by SAP: - 1 day after Go Live, no transaction data entered into legacy systems - 45 days after implementation, less than 15 open data integrity problem reports 3) Core management and administrative processes supported by SAP: - close books through SAP within 15 days at first month end 4) Training of NIBCO associates in use of SAP and processes: - a minimum of 95% attendance at training classes across the organization	Executive leadership team will review the results of these four measures and make a recommendation to the board of directors as to whether or not project was a success
Within Budget	Control spending to at or below project plan approved by Board 1/28/97	Every \$1 over budget reduces the incentive pool by 50 cents

## EXHIBIT 5 Criteria for Incentive Pay

where the project was going, to promote buy-in, and to get the work done.

There was a team of people who were living and breathing it everyday, but it truly was a whole company effort. I had two individuals that left my organization and were full-time members of the team. We did their work; we absorbed it. That was universal throughout the company.

—Diane Krill, Director, Customer and Marketing Services

A few months after the project began, a special incentive pay bonus was established for every salaried NIBCO associate. The bonus was tied to a half-dozen criteria (see Exhibit 5). The Go-Live schedule had to be met, or no incentive pay would be distributed: A 30-day grace period, only, would be allowed from the original date set, which was the Monday after Thanksgiving (November 29th). The incentive pay pool would be reduced by 50 cents for every dollar over budget. Four overall project "success" criteria were also established, along with specific measures. The results of these measures would be available for review by the ELT within 2 months after implementation, and the Board would make the final decision as to whether or not these results collectively met the success criteria.

In the end, being that solid or fierce in holding firm on the time-line was probably one of the main things that made us successful. . . . There was never an

option. Slippage was not an option. We had to make the milestones as we went.

—Scott Beutler, Project Co-Lead, Business Process

Stock options were also granted to all core team members in April 1997 as a retention incentive.

### Achieving the Milestones

The project was conducted in four large phases: preparation, analysis, design, and implementation (see Exhibit 6).

Because few tools were available for purchase, the IS team built a number of tools to help with process scripting as well as project management. For example, Project Office was a NIBCO-developed tool for project management and project tracking that used an Access database (MS Office 95). Project Office became the repository for all project planning documents, As-Is and To-Be process scripts, tables to support the documentation for the project, testing plans and results, site visit and training schedules, issue logging, and much more. The sales order processing script, for example, consisted of more than 100 pages of detailed documentation, and was used as the basis for classroom training documentation. This tool allowed team members to access the latest project documents and to gauge where they were in relation to the project's key milestones.

Due to the time demands of the project, all team members were provided with laptops so that they could work 24 hours a day, 7 days a week, from anywhere they



Phase	Major Activities
<b>Preparation</b>	Final project plan—scope and cost. As-Is business analysis. Technical infrastructure specifications. Project management and tracking tools developed.
<b>Analysis</b>	Document As-Is processes as To-Be processes. Analyze gap between To-Be processes and R/3 processes. Identify process improvements and changes to fit R/3. Documentation of inputs, outputs, triggers, business activities, (process) roles, change categories, training requirements.
<b>Design</b>	Configure R/3. Develop training materials. Develop and document specifications (master data, external systems interfaces, reports). Develop prototypes: <ol style="list-style-type: none"> <li>1. Operational: module-oriented; prototyping and testing of business processes; reviewed by business review team.</li> <li>2. Management: module-oriented; demonstrated functionality needed to run business.</li> <li>3. Business: integrated; all key deliverables configured.</li> </ol>
<b>Implementation</b>	Some overlap with design phase. New tactical teams formed with directors heading up risky areas: <ol style="list-style-type: none"> <li>1. Master data teams: data cleanup.</li> <li>2. Customization team: determine customization needed across plants.</li> <li>3. Implementation infrastructure team: address outstanding hardware issues; plan transition to new system.</li> <li>4. Help desk team: develop post-live support processes.</li> </ol>

#### EXHIBIT 6 Implementation Phases

wanted. Because there was no support for mobile (remote access) computing prior to the TIGER project, providing anytime/anywhere support was also symbolic of NIBCO's new commitment to helping its employees leverage their time better using information technology.

There wasn't much of an e-mail culture before this...but before this project was over, we basically had pulled the whole company into this way of life.

—Gary Wilson, *Project Co-Lead, Technology*

#### Business Responsibilities

##### Finance and Controlling Team

The business review lead for the controlling function was Steve Swartzberg, who had spent more than five years in different plant positions, starting as an industrial engineer and working his way up through plant administration; he had recently been promoted to product manager. During the project Swartzberg worked not only with his current boss, the VP of marketing, but also with the CFO—because the tactical managers of the new controlling module would be controllers within the accounting/finance group.

My business review role responsibility was to make sure that the functional organizations who would be

taking ownership for the controlling module, once we turned it on, were pulling for it. I kept them up to speed on how we were doing on the issues, on the things they needed to help with along the way, so that they knew that their role was to hit each of these critical milestones. None of us wanted to *not* make it, so we knew how it had to knit together—we knew our job was to hit the milestone.

—Steve Swartzberg, *Business Review Lead*

There were two IBM consultants on the controlling team. One helped with the controlling (CO) module functions of product costing, cost center accounting, and internal orders; team members relied on this consultant to answer detailed questions about what the package could and could not do. The second consultant supported the team on its profitability analysis (PA) and profit center accounting (PCA) sub-modules. When the second consultant left the project, Swartzberg helped select a replacement who not only understood R/3 details, but also had a strong financial background.

Not coming from accounting, I kind of used him as my accounting consultant—as a kind of sanity check....The controlling module in SAP really is the



spot where it all comes together. What you find out is no part of the organization is disconnected from another. It's all connected; the processes are all integrated. If one part falls out, it doesn't link up.

—Steve Swartzenberg, *Business Review Lead*

A major business process change would be to centralize all accounts payable entries that had been decentralized to the plants in the past. Swartzenberg spent extra time developing documentation that included flow charts and other tools to help with the transition. For example, a check-and-balance process was designed for looking at transactions in specific areas where problems would first be visible. The accounting group did these checks every day for the first month after Go Live so that problems could be fixed as they happened, and to avoid snags at the time of the first financial close.

An extended team member from marketing helped develop profitability reporting (P&Ls) for each of the product lines—copper fittings, cast fittings, plumbing, heating valves, and so on—information that was not available under the old systems.

#### Materials Management/Production Planning Team

The business review lead for the manufacturing production planning (PP) module was John Hall, a NIBCO veteran of 20 years. Hall had been a member of the BCG study team and was involved in the decision to take the big bang approach. Six months prior to the TIGER project kickoff, Hall had become director of plastics manufacturing.

The business review teams had 100 percent support from Rex Martin and the ELT. They allowed us to only go to them for major issues. We had the freedom to make decisions.

—John Hall, *Business Review Lead*

One of the two power users on the PP team was Jan Bleile, a 25-year NIBCO veteran in production control who had worked on the manufacturing legacy system (Man-Man) and its predecessors. He also had a good rapport with all the old-timers in the plants.

I was a supply chain master scheduler at that time and the position I was recruited for on the TIGER project was as a power user for the MM/PP team. One of the reasons that I was chosen was that I had been in on all the manufacturing systems implementations that have happened here at NIBCO since we've been computerized....So it really was a natural for me to accept this, when offered, because of the three other implementations that I was on. This one was different in that it was 100 percent dedicated.

—Jan Bleile, *Power User*

From the outset, there were concerns about all the changes that would need to take place to implement both new processes and new systems at the plants. Hall worked with other manufacturing directors, the VP of manufacturing, and Scott Beutler to set up 3- to 4-day meetings with TIGER team members at every plant during December 1996. At these meetings the core project team emphasized that R/3 was the system that would be used at all plants, and that all data would reside in it. In turn, the team learned how things were done in each of the plants, including what each plant thought it did that was unique.

Although it was not initially clear whether common processes could be implemented across all NIBCO plants, the project team was able to reframe each plant's tasks into high-level generic processes. The idea was to keep things relatively simple at first. Then, as people became comfortable in using the system, the number of complex features and functionality could be increased. The project team then gained consensus for this common way of doing things, plant by plant—whether the manufacturing process was for plastics, copper, foundry materials, and so on.

We kept pounding the message home that you don't have to believe us, but just give it a try, and do it with an open mind. Every time someone would call and say, "We can't do this, we're different, we need this, we need that" we would say "you're not going to get it, so you've got to give this a try."...Just having the CEO as the major champion helps overcome any and all obstacles you can think of.

—Jan Bleile, *Power User*

Extended team members for the PP module were formally designated early on. Although they resided at the plants, they also spent time in the TIGER den at headquarters learning about the master data plans and the impacts of real-time online processing. Through these in-person interactions, the project team members learned what process changes would need to be emphasized the most when the plant workers were trained. During the final months of the project, many of these extended team members dedicated 100 percent of their time to conducting training classes at different facilities. Every NIBCO associate who would need an R/3 license was signed up for a certain number of classroom training hours.

The business review lead for the materials management module left the company in May 1997. Although this event was viewed as positive overall (due to internal team conflicts), it also left a major gap. Because this happened so late in the project, John Hall took on this role as well, with help from Beutler.