



Primavera Project Planner® (P3®) at Shell UK Exploration and Production

P3 provides Shell Expro's Business Planners the Power to Model and Manage Complex Programs

The Challenge:

Deploy a project planning tool that can integrate with an enterprise resource planning (ERP) system and provide the strength and reliability required to support the management of project networks with as many as 30,000 activities taking place in extreme weather conditions in the North Sea.

The Solution:

Primavera Project Planner® (P3®) provides Shell Expro with the power and flexibility it needs to manage its complex projects.

**Primavera
Project Planner®**

Like many large companies with complex operations, Shell UK Exploration and Production (Shell Expro) relies on an enterprise resource planning (ERP) tool. Nearly all its critical financial and operational activities are captured, managed and maintained in SAP™ R/3®. SAP R/3 is a leading ERP application for controlling and managing complex organizations. Needing a best-of-breed project planning and management tool with which its R/3 system could easily exchange information, Shell Expro chose Primavera's Primavera Project Planner® (P3®). With P3 and R/3 working together, Shell Expro can manage its projects optimally—which saves money, ensures safety and maximizes effective resource deployment.

A Petrochemical Powerhouse

Shell Expro explores for hydrocarbon resources in the U.K. sector of the North Sea, where it operates on behalf of Shell, Esso and other co-venturers. Its mission is simple enough: find, extract and bring to market the natural resources buried beneath the sea in the safest and most cost-effective manner. In practice, however, the execution of that mission is complex, costly and challenging. The off-shore platforms must operate uninterrupted in a self-sustaining manner — 24 hours a day, 7 days a week, 52 weeks a year. If something breaks, equipment needs to be on the



platform in advance, as do the personnel with the skills to fix the problem. Strict platform capacity limits make coordinating personnel schedules, transportation and equipment inventories both a priority and a challenge.

Managing and maintaining these assets are among the principal tasks assigned to P3 and R/3. A given piece of machinery may need preventive maintenance at a specific point in the year, and that maintenance is anticipated and budgeted in R/3. "R/3 initially captures the information, the approved work and the approved cost," explains Jackie Whyte, SAP Plant Maintenance project manager of Shell Expro. "That information is then downloaded to P3 where it's scheduled and leveled and the resultant schedule dates go back into the SAP module."

Counting the maintenance, engineering and cost planning personnel, Shell Expro has more than 70 people using P3 to develop project networks. Some of these project plans are huge, involving more than 30,000 activities—but this is hardly surprising, given that Shell Expro uses P3 to plan activities that affect more than 50 off-shore facilities in the North Sea as well as numerous on-shore facilities.

Project plans evolve and grow as the project continues. "Our short-term plan window is normally 28 days," continues Whyte, "and those are rolling plans that we

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How the world manages projects

update every seven days. All those 28-day plans roll into a 90-day planning window. The broader window looks less at the low level activity details and focuses more on the resources we're going to need at an installation."



Whyte goes on to explain that each of the 90-day windows can display a more detailed view of a year-long plan, enabling Shell to determine how the year's budget will be managed. That year-long plan then fits into what Shell Expro calls its asset reference plan, which considers the viable lifecycle of its assets—what a given asset will produce, how much it will produce and what the projected expenditures will be throughout its lifecycle.

"Altogether, it's all one plan," says Whyte. "Before we were able to integrate P3 and R/3, the plans had been held in different databases because there were different levels of activity. Now everything is in the one integrated system."

Modeling What-If Scenarios

For Shell Expro, P3 provides a set of best-of-breed modeling and planning tools that enables its planners to explore many alternative plans and schedules quickly—even when they are planning very complex, long-range projects or the duration of a shut down. "We can download information from R/3 as a set of dates," Whyte explains. "Then, we'll take that information and use P3 to deepen the activity details. We can run alternative scenarios, consider the implications of various plans and see how they all pan out. And then we can pick a plan, load it back up into R/3, changing the R/3 dates, and get a new forecast and a new phased spending plan."

Shell Expro uses Primaplan Flint®, an integration software package, to move project data back and forth

between P3 and R/3. Flint is specifically designed as an information conduit between P3 and leading ERP systems such as SAP R/2® and R/3. It provides flexible data field-mapping features that enable Shell Expro to control the destination of the information moving between P3 and R/3. As a consequence of this precise mapping, Shell Expro's workflow is optimized and additional manipulation of the data is not necessary prior to using P3 or R/3 in its intended fashion.

"Now that we have P3 and R/3 bolted together," says Whyte, "we're in a powerful position to focus on business planning, which helps us to look at the company's objectives over the medium and longer term as well as the financial constraints within which we have to operate. We can also consider the operational constraints that arise, which is important because we're a production company that has a continuous operation off-shore to produce oil 24 hours a day, 7 days a week. One of the things that we're trying to do is to maintain the operation at a high up-time, minimizing minor disruptions. When we do have to take the platform down, we have to minimize the time that's taken in shutdown. We do some very detailed scheduling and resource leveling so that we minimize the amount of time that the platform is down, and consequently — maximize the uptime."

Ultimately, that ability to maximize uptime, make the most of its assets and optimize the deployment of resources in a safe manner is key to the profitability of these complex North Sea operations. With P3 and R/3 tightly integrated, Shell Expro can plan and manage its operations optimally, ensuring that it benefits both from the best plans and the best information management practices.



Vital Statistics

Implementation Manager:

- Jackie Whyte

Duration:

- As long as 10 years

Primavera Features Used:

- Scheduling and leveling
- Resource histograms
- Project information and organization
- Resource custom data items
- Activity custom data items
- Monte Carlo Probabilistic
- Project Information Organization
- Five business units
- On-shore/off-shore platform work package
- Plan duration



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