

SAP Customer Success Story



NOVA Chemicals' vision is to be the best commodity chemicals company in the world. The company is using mySAP™ Product Lifecycle Management to increase runtime, reduce downtime, and eliminate unplanned outages of mission-critical equipment. To date, the company has achieved a cumulative savings of U.S.\$22 million. Benefits include low-cost manufacturing, lower direct-maintenance costs, reduced inventories, cycle-time excellence, higher yields, increased capacity, and greater customer confidence and satisfaction.



NOVA CHEMICALS

NOVA CHEMICALS ESTIMATES CUMULATIVE SAVINGS OF U.S.\$22 MILLION WITH RELIABILITY PROGRAM ENABLED BY mySAP™ PRODUCT LIFECYCLE MANAGEMENT

NOVA Chemicals Corporation has a clear mission statement: to be the best commodity chemicals company in the world. mySAP™ Product Lifecycle Management (mySAP™ PLM) is helping NOVA Chemicals realize that vision.

“One of the strategies supporting our vision is to be the low-cost provider,” says Deb Watson, program manager for NOVA Chemicals’ World Class Reliability (WCR) program. “Our WCR program is directly aligned to this low-cost provider strategy and is focused on the reliability of our manufacturing operations. It is an integrated enterprise initiative, enabled by asset life-cycle management and other capabilities of mySAP PLM, that is designed to achieve and sustain best-in-class performance.”

The World Class Reliability program is aimed at “doing the basics extremely well,” states the sponsor Larry MacDonald, CFO of NOVA Chemicals. The program will increase runtime, reduce downtime, and eliminate unplanned outages of mission-critical equipment. Benefits will contribute to low-cost manufacturing, lower direct maintenance costs, reduced inventories, cycle-time excellence, higher yields, increased capacity, increased customer confidence, and a transition from reactive to proactive maintenance.

The asset life-cycle management capabilities of mySAP PLM enable NOVA Chemicals to monitor and maintain its equipment assets, plan and schedule routine and preventative repairs, purchase maintenance and repair operations (MRO) parts and services, and track costs.

NOVA Chemicals manufactures styrenic polymers, olefins, and polyolefins and has implemented mySAP PLM to support its 23 plants, which operate 24 hours a day, 7 days a week in the United States, Canada, France, the Netherlands, and the United Kingdom. “We are looking at lowering direct maintenance fixed costs. We benchmarked our sites and established a cumulative potential savings of U.S. \$22 million, representing approximately 15% of maintenance costs,” Watson says.

STANDARDIZED PROCESSES AND METRICS DRIVE THE BUSINESS

NOVA Chemicals relies on the asset life-cycle management, program and project management, and quality management capabilities of mySAP PLM – along with the materials management and human resources capabilities of mySAP™ Business Suite – to institute a powerful set of reengineered, standardized business processes to achieve these numbers and to drive continuous improvement and future cost reductions. “The competition doesn’t stand still,” Watson says. “We now have a comprehensive set of metrics and integrated business process standards for maintenance, purchasing, and MRO inventory management, which are all strongly aligned to SAP as the enterprise information tool. We use these metrics to manage and monitor the progress and effectiveness of our WCR improvement activities.”

UNIFIED BUSINESS PROCESSES

The WCR program consists of 12 key projects at NOVA Chemicals. Six focus on common business processes: maintenance work management, materials, purchasing, reliability systems, design reliability, and turnaround management. To ensure data integrity, the company is also focusing on material, plant maintenance, and vendor master data. Projects

directed at setting goals and measuring performance include purchasing and supply reporting and reliability performance indicators. Implementation and continuous improvement are managed through collaboration with other key functional areas through the Aligning Enabling Partners standard.

The projects are all driving toward the same goal: standardization of companywide business processes, measured performance indicators, and accurate data. Watson explains, “For example, maintenance work management is the business process we use at all sites to identify that maintenance must be performed. We now have a standard maintenance work manage-

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Deb Watson, Program Manager for NOVA Chemicals' World Class Reliability (WCR) program

ment process – a consistent methodology to identify, plan, schedule, execute, and record what we did and to look at how we performed to see where we can improve.” mySAP PLM is the basis for this standardization.

“When we started, a companywide team of 13 maintenance representatives met to collaborate, brainstorm, and set a standard of measurement,” Watson continues. “Each one of them said, ‘We’re different, we’re unique, we will never have a standard maintenance work management process.’ We found that each plant was very much the same and thus, were able to design our maintenance work management standard. mySAP PLM enabled us to implement the same business process across all the maintenance functions throughout the company.”

Similar, standardized processes were instituted for other business operations, including turnaround management and purchasing and materials management. “Turnarounds are the planned shutdown of equipment, production lines or process units to clean, change catalyst, and make repairs. Duration is usually in days or weeks.” Watson says. “We also standardized our purchasing and materials business processes, where we determine the need for MRO spare parts or services or goods and go about the process of procuring them.”

MATCHING EQUIPMENT CRITICALITY WITH MAINTENANCE PLAN

NOVA Chemicals also uses mySAP PLM to determine when to perform maintenance. The company established standards for equipment criticality based on the relative measure of the consequences of failure mode and its frequency of occurrences. Each piece of equipment has been assigned a criticality rank of A, B, C, or D. This rank determines the maintenance strategy and plan for a specific piece of equipment. NOVA Chemicals also takes advantage of mySAP PLM performance-, time-, and condition-based maintenance strategies, as well as predictive algorithms. The resulting plan includes all the task lists and bills of material required to complete the maintenance. This helps NOVA Chemicals manage its spare parts inventory more effectively and more efficiently.

“We have done a lot of work on our MRO master data, material lead times, and inventory management indicators,” Watson says. “As a result, we are now able to link equipment criticality to spare parts. Where we have A-critical equipment, we want our parts on site. In other instances, where we can get parts from the supplier within the lead time that’s required, we no longer stock those parts.” This detailed view into spare parts leads to further cost reductions.

“Visibility of MRO requirements across the supply base not only helps minimize our inventory, it also enables our suppliers to manage their inventories,” Watson says. “If we can help these suppliers by more accurately predicting our requirements, they are more willing to share in the cost of doing business.”

SUPPORTING TOP EXECUTIVE GOALS

The inventory reduction savings go beyond spare parts. “WCR has contributed to managing our business with lower inventories,” Watson says. “Our plants are continuous operations and not designed to be shut down and started up on a daily basis. Our reliability program contributes to lower inventories by ensuring that equipment is available when production wants it.”

“Things are beginning to feed on each other, and the benefits gained from the mySAP PLM initiative are leading to other areas of opportunity, each enabled by SAP solutions.”

Craig Lahtinen, IT Business Consultant for Plant Management

mySAP PLM also helps executives keep the pulse of the business. “Our CEO uses WCR metrics to look at past, as well as future maintenance performance in terms of how to continue to reduce maintenance fixed costs,” says Watson. “Year after year, we plan to achieve a 5% reduction in our budget. We measure this very carefully, and manufacturing is a key contributor to this cost-reduction effort. WCR enables us to be the faster fixers of fewer failures.”

The success of the WCR program is driving other, similar initiatives within the company. Craig Lahtinen, IT business consultant for plant management says, “We can see the impact of WCR in a new initiative in the finance organization called World Class Financial Optimization. Our leadership team, particularly the manufacturing VPs, are also adopting programs based on WCR. Things are beginning to feed on each other, and the benefits gained from the mySAP PLM initiative are leading to other areas of opportunity, each enabled by SAP solutions.”

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