

US Synthetic cuts the scrap with QlikView business analysis

“ QlikView has made my team look like heroes. With it, we are able to give everyone – from top management to line managers on the plant floor – the tools and ability to make decisions based on data, not hunches. And we do so within days, sometimes hours. ”

Todd Graham, IT Business Analyst, US Synthetic Corporation

US Synthetic (www.ussynthetic.com) is the leading provider of polycrystalline diamond cutters (PDCs) for oil and gas exploration. Thanks to constant innovation, proven quality, and superior customer service, more of the world's energy suppliers rely on US Synthetic than any other PDC manufacturer. US Synthetic has spent more than a decade perfecting its products to drill faster and last longer – especially in tough conditions that test the limits of the most durable drilling equipment. The company employs over 600 people, and is located in Orem, Utah. US Synthetic is part of Dover Corporation (www.dovercorporation.com).



Need for speed and more efficient reporting

In 1997, US Synthetic became the industry's leading supplier of diamond products. Over 10 years later, US Syn-

thetic continues to actively expand this leadership position – not only by developing innovative new diamond solutions, but also by ensuring process efficiency within internal operations. To empower employees with the business intelligence necessary to improve operational performance, the US Synthetic Production Management team created a new IT Business Analyst position to develop and implement solutions that would provide real, accessible and useful information at all levels within the organization.

The IT Business Analyst would help address some of the key reporting and analysis challenges that US Synthetic faced. Although the company's Made2Manage ERP system and internally developed custom tables contained large amounts of detailed data, employees were not able to utilize that data in a meaningful way. Even the generic reports within Made2Manage were difficult to access, and creating ad hoc reports was even more time-consuming and inefficient.

Why QlikView?

Building on his background in business and production, the newly appointed IT Business Analyst, Todd Graham, recognized the value that QlikView could bring to US Synthetic operations the very first time he saw the application. Because the accounting department had already been using QlikView for margin analysis, the CFO was able to demonstrate a live application that was tracking and

Solution Overview

US Synthetic

Industry leader in the development and production of polycrystalline diamond cutters (PDCs) for oil and gas exploration and a subsidiary of Dover Corporation

Industry

Industrial Machinery

Function

Operations, Finance, HR

Geography

USA

Challenges

- Increase flexibility for new reporting demands and ad hoc analysis
- Develop and/or implement solutions that provide valid, accessible and useful information at all levels within the organization
- Integrate and analyze large amounts of data from ERP systems

Solution

Driven by a need to provide business information and analysis capabilities to employees at all levels within the company, US Synthetic deployed QlikView to 50 employees for operational analysis in only one week. Through QlikView, US Synthetic now analyzes yields and production, lead time, customer profitability, and safety rates. With QlikView Server and Publisher, US Synthetic easily supports analysis and visibility while handling the large data volume of millions of records.

Benefits

- Significantly lowered scrap rate
- Enabled real-time access to yields and production data that once took five days of prep time each month
- Empowered end users to perform their own changes and customizations
- Avoided need to hire approximately one or two additional employees for data analysis and eliminated two full time data entry/clerical positions

Data Source Systems

Application: Made2Manage ERP and internally developed custom tables
Database: Excel, SQL Server 2000, SQL Server 2005
Hardware: Dell Poweredge Server



demonstrating US Synthetic ROI based on sales, cost of goods, EBIT and net income.

“The selection and deployment of QlikView was actually driven by the accounting department,” said Graham. “When the Production Manager and I saw the CFO’s QlikView application, we were so impressed that we didn’t even evaluate or seek out other BI software.” With QlikView’s simplicity and ease of use, new users could observe a quick demonstration and begin using the system in less than five minutes – which would offer a tremendous improvement in existing reporting processes.

Five days to production floor visibility

During the course of a five-day engagement with a QlikView consultant, US Synthetic developers were fully trained and able to build the first application – a production floor dashboard. The Yields & Production application was an important priority for US Synthetic, as the company’s non-linear floor makes it challenging for managers to follow the product from work order to delivery. Because products may backtrack in the process flow and ultimately take a different route to completion, production

managers were losing visibility of those products and their status.

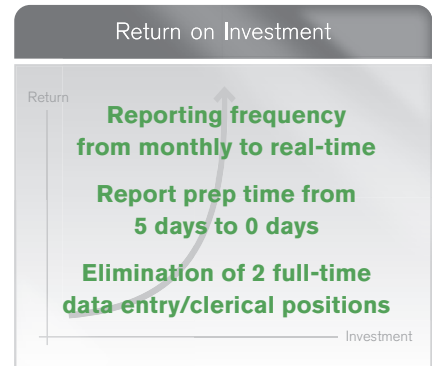
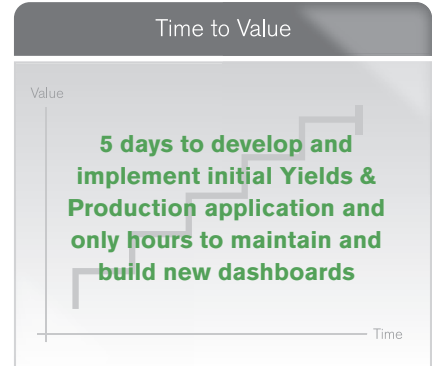
By utilizing QlikView to track and compare yields and problems across days, factories and shifts, US Synthetic is now able to determine which factories are performing best against standard cost/yield. Product line and floor managers are able to identify trends in product quality and performance and proactively make adjustments at any factory that may be underperforming. QlikView allows the user to track a product at any time, regardless of where it is in the lifecycle. Instead of waiting until a week after each month’s close to receive reports, management can now review up-to-date information at any time. By eliminating the five-day preparation time for those monthly reports, QlikView has enabled employees to free up some time and undertake additional responsibilities.

The rollout of the Production & Yields application was met with the highest demand for an application that US Synthetic IT had ever experienced. Because the information that the CEO needs differs greatly from the data that a product line manager wants to see, the team has built a number of dashboards to empower users at all levels of the organization. With the right information at their fingertips, users at all levels can drill-down and slice-and-dice to their own specifications, and no longer have to wait for a programmer to deliver a requested query.

Production analysis has given US Synthetic management a new view into the breakdown of scrap for each operation and the dominant causes of scrap. “Based on our access to this information, we have been able to significantly lower our scrap rate,” said Graham. “With this application alone, QlikView has exceeded our ROI expectations.”

Clamoring to Qlik

Once word spread about the success of the initial application, IT was inundated with additional QlikView application requests from all areas of the organization. Because the development process is ex-



tremely intuitive and does not require the linking of specific criteria or cubes, the team was able to deliver on such requests in a matter of days, and sometimes even hours. The second application developed, Timecard Reporting, helps managers enforce timely, accurate reporting by employees. With QlikView, US Synthetic is tracking key metrics related to payroll and employee performance, such as time clock data, average lunchtimes, tardy incidents, absences and overtime. In addition to adopting more efficient reporting and payroll processes, the company is now able to analyze trends to help optimize employee management and performance.

US Synthetic is also streamlining and simplifying OSHA compliance reporting with a QlikView Safety Dashboard. The ability to drill-down to detailed documentation regarding accident rates, types of accidents, and OSHA reportable events and violations enables users to compare and analyze trends in safety metrics and performance between various plants. “Before QlikView, the majority of US



Synthetic employees weren't aware of the company's safety status and compliance," said Graham. "Now, anyone can find out immediately where accidents are occurring, how safe each plant is, and whether a specific accident is OSHA reportable."

From frustration to collaboration: Transparency today throughout order-to-delivery cycle

In addition to the scrap rate reduction and associated cost savings, QlikView has enabled US Synthetic to provide employees with the business intelligence necessary to contribute to the company's bottom line and improve business performance. For example, a QlikView lead time application allows employees to recognize and respond to any outliers that are lengthening a specific lead time. Management is able to fully evaluate product orders and lead times to synchronize purchasing and supply chain with manufacturing.

Utilization of QlikView what-if analysis makes it possible for employees to

choose from a menu of criteria and easily understand the likely result of different decisions and ultimately determine the best course of action.

US Synthetic was also able to avoid the need to hire approximately one or two additional employees for data analysis and eliminate two full time data entry/clerical positions, since QlikView allows the end users to perform their own changes and customizations and analyze data from multiple source systems. Because there is no training required, IT employees are spending less time educating others on a complex reporting system and more time working on strategic projects. Even the development of new applications has not warranted new hires, as the average development time is one week and some new applications are up and running in only a few hours.

"One unexpected benefit was an increase in employee morale and collaborative decision-making," said Graham. "Employees are no longer frustrated when looking



for up-to-date data and trends because it is all available in QlikView. And the fact that everyone is seeing the exact same information makes it possible for everyone to come up with the same answer."

“ I can't even count the number of benefits that US Synthetic has realized with QlikView. We're still learning and discovering new ways the software can help us solve our business challenges. ”

Todd Graham, IT Business Analyst, US Synthetic Corporation

