

ASCEND PERFORMANCE MATERIALS

Ascend Performance Materials
www.ascendmaterials.com

INDUSTRY
Manufacturing

Goals

- Eliminate manual input of data
- Visualise the overall manufacturing process
- Accurately record all manufacturing data

Challenges

- The business was not tracking data to ensure production efficiency and product quality
- There was a lack of process consistency throughout the plants

Solution

- Ascend Performance Materials implements Mobile Operator Rounds combined with AVEVA Intelligence and Workflow to create "Visual Factory" to improve its manufacturing operations in the production of Nylon 6,6
- Ascend created "Visual Factory" by combining Intelligence and Workflow, along with IntelTrac to leverage key information data from multiple sources

Results

- The company achieved a savings of \$500,000 in utilities and materials costs
- More than \$1 million in savings was achieved in maintenance costs
- Avoided potential plant shutdowns which equates to a savings of \$2 million

Background

Pensacola, Florida – What does carpet, tennis balls and radiators have in common? They are all manufactured using Nylon 6,6, a type of nylon which is used in the production of textiles, carpet, and molded plastics, with worldwide production of this material growing every year. With four integrated manufacturing facilities located throughout the southeast region of the U.S., Ascend Performance materials is the global leader in the production of Nylon 6,6.

Visual Factory and AVEVA

While maintaining its leadership position in production, Ascend was behind the times in the implementation and use of modern technology to optimise its operations.

"I was brought on board to help Ascend transform from a '1950s' era plant, into a modern manufacturing facility with the implementation of advanced technology to more effectively run the business," said S. Melissa Scheppele, CIO and vice president of IT at Ascend. "We looked at a number of companies and solutions from both hardware and software perspectives, and found the AVEVA solution was the best match for our operation."

"Visual Factory keeps tabs on the 'big picture,'" said John Johannemann, Ascend plant manager for the Pensacola facility. "It basically tells us whether or not we were straying from the middle of the road and getting close to a ditch. We are able to see the warning signs."

Turning Operations Data into Actionable Information

Ascend operations must access multiple software systems to manage day-to-day operations in an effective and secure manner. These systems generate large sets of data which contain critical information pertaining to management systems, planning and cost information in business systems and energy consumption. As a result, Ascend management was challenged with creating relevant reports reflecting performance measures in overall context of their operational process.

The company's previous process entailed collecting and analysing data manually which was not effective, since the information collected was generated after the fact, and was too complex for collaborative use across the organisation.





Intelligence software addresses the challenges faced by Ascend to leverage the hidden insights in industrial data.

The software automates the transformation of time series and transactional data across multiple sources and turns large amounts of industrial "big data" into actionable metrics and key performance indicator (KPI) information. Metrics and context data is kept in an open information model, providing a single version of the current data. This is stored in data warehouses and enterprise business intelligence tools enabling Ascend management to make strategic sense out of the production data.

"Prior to implementing AVEVA software, the data was collected manually on pieces of paper that stayed on a clipboard until the clipboard was full," said Bert Penegar, maintenance coordinator at Ascend. "Now that data is recorded and we can see who did the round and track down what they posted in the system."

Workflow Enables Organisational Collaboration

"Previously, someone had to constantly monitor the data to make sure we were able to see the trigger points we wanted during the production process," said H. Walt Woodfin, Maintenance Reliability at Ascend. "Prior to AVEVA, we didn't have the proper tools to enable our teams to be successful in the overall management of the manufacturing facilities."

Not only has AVEVA solutions automated the Ascend overall process, but they have improved the job satisfaction of its employees.

With Workflow, companies can institutionalise processes that manage normal, unscheduled, or disruptive events within their environment.

AVEVA Workflow software is an advanced workflow application that enables companies to digitise manual and automated processes that include people, equipment, and/or systems.

Based on a sophisticated Business Process Management (BPM) foundation, AVEVA Workflow enables companies to model, execute, analyse, and improve processes inside and outside of their organisation to drive higher levels of collaboration, productivity, and innovation.

With AVEVA Workflow, companies can institutionalise work processes that manage normal, unscheduled, or disruptive events within their operations environment. This industrial workflow application benefits operations, maintenance, engineering, quality, environmental and safety departments within an organisation.

"We've found a great benefit in being able to maintain a core user group and consistency throughout the plants," said Terry Unruh, PE production and maintenance process leader for Ascend. "Our operators now immediately view key data generated during the manufacturing processes at each plant, which enables us to operate more efficiently."

Data Accessibility Key to Success for Field Workforce

Connecting a mobile workforce with the company's plant automation system keeps them up-to-date on current operational conditions making them more productive in the field.

The combination of the AVEVA technologies has helped the company both from an employee retention perspective, as well as from a business growth and development perspective.

Ascend has achieved this through the use of IntelTrac, a mobile workforce and decision support system that features configurable software and ruggedized mobile hardware solutions. IntelTrac enables workflow, data collection, and general task management for plant operations, maintenance management, production tracking, and compliance applications.

"We went from having no servers and no technology set up, to having connected operators in the field in just 90 days," Unruh said.

Ascend field workers can now transmit field data collected using IntelTrac handheld hardware back to the automation system so it can be viewed by operator on their displays in the control room, or by engineers and managers utilising plant information portals.

“We found that the overall AVEVA solution was the best match for our requirement of handheld technology scanners,” Scheppelle said. “IntelTrac brings our field operators into the automation loop by giving them a powerful tool to successfully complete their job.”

The combination of IntelTrac workforce management software, mobile handheld computers, monitoring devices, and radio frequency identification (RFID) equipment tags or bar codes, results in a significantly improved decision support system for Ascend mobile workers to manage plant assets.

Not only has AVEVA solutions automated the Ascend overall process, but they have improved the job satisfaction of its employees. The combination of the AVEVA technologies has helped the company both from an employee retention perspective, as well as from a business growth and development perspective.

“The business case itself is great,” Scheppelle said. “We’ve successfully met as well as beat expectations. The company has managed to collect a number of unintended benefits that are paying off in ways no one could have calculated when we started the technology implementation process.

About AVEVA

AVEVA is a global leader in engineering and industrial software driving digital transformation across the entire asset and operational life cycle of capital-intensive industries. The company's engineering, planning and operations, asset performance, and monitoring and control solutions deliver proven results to over 16,000 customers across the globe. Its customers are supported by the largest industrial software ecosystem, including 4,200 partners and 5,700 certified developers. AVEVA is headquartered in Cambridge, UK, with over 4,400 employees at 80 locations in over 40 countries.

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