JOHN DEERE WERKE MANNHEIM

SAP® ENVIRONMENT, HEALTH, AND SAFETY MANAGEMENT STANDARDIZES DANGEROUS GOODS HANDLING

"SAP helped us ensure that all shipments along the complete supply chain comply with the applicable dangerous goods laws."

Jörn Fries, Environmental Control, John Deere Werke Mannheim

QUICK FACTS

Company
- Name: John Deere Werke Mannheim
- Location: Mannheim, Germany
- Industry: Industrial machinery and components
- Products and services: Agricultural, commercial, residential, and construction equipment
- Employees: 47,500
- Web site: www.johndeere.com
- Implementation partner: TechniData AG

Challenges and Opportunities
- Fragmented applications and manual processes supporting dangerous goods management
- Inconsistent processes across factories, making it difficult to ensure compliance with regulations governing dangerous goods

Objectives
- Standardize and automate processes using a single, integrated solution
- Centralize data for greater visibility
- Ensure that all shipments along the supply chain comply with the applicable dangerous goods laws

SAP® Solutions and Services

SAP® Environment, Health, and Safety Management application – part of SAP solutions for sustainability

Implementation Highlights
- Created a business blueprint analyzing existing processes across all affected business areas
- Rolled out to 60 users

Why SAP
- Smooth integration with existing SAP software for enterprise resource planning
- Ability to maximize process automation
- Trusted partner

Benefits
- Assurance that all shipments across the supply chain comply with dangerous goods regulations
- Heightened employee efficiency via process automation and integration that reduces administrative overhead
- Greater visibility into processes and compliance activities, enabling reduced risk and greater business confidence
- Faster time to compliance when regulations change
- Greater confidence in compliance and regulated substance data

Existing Environment
- SAP ERP application
- Heterogeneous, disconnected software supporting dangerous substance management

JOHN DEERE

"SAP helped us ensure that all shipments along the complete supply chain comply with the applicable dangerous goods laws," states Jörn Fries of environmental control at John Deere Werke Mannheim. One of the oldest manufacturing companies in the United States, Deere & Company specializes in agricultural, commercial, residential, and construction equipment and employs over 47,500 people worldwide. Deere & Company's factory in Mannheim, Germany, is among the company's largest. It employs about 3,000 people and caters to the mid- to high-range tractor market. To get products to market, the factory uses river, rail, road, and air freight to transport goods.

But ensuring compliance with regulations governing the transport of dangerous goods is becoming increasingly complicated. Explains Fries, "When we send goods such as tractor engines and batteries by air freight, we must declare them as dangerous goods and handle them accordingly." To minimize the costs involved and help ensure legal compliance, the company controls its dangerous goods management using SAP® Environment, Health, and Safety Management (SAP EHS Management) application – part of SAP solutions for sustainability – which has been integrated with all of the company's processes.

Navigating a Complex Web of Regulations

Deere & Company's gas springs, magnets, and other products are subject to the multitude of regulations governing dangerous goods because regulated substances are used during the manufacturing process. The company currently handles around 200 dangerous goods, including the non-chemical dangerous goods and components – just a fraction of the tens of thousands of materials it uses in its production and spare-parts distribution.

Proper handling of these dangerous goods is essential to safeguarding Deere & Company's long-term access to all global markets. Failure to comply can cause significant delays or even bring their supply chain processes to a grinding halt.

The Need for a Single, Standardized Solution

But the company's existing processes and applications made it difficult – if not impossible – to secure the absolute legal compliance of its shipments. Managers at the plants in Mannheim and Bruchsal, which is part of the Mannheim factory, were using five different – and disconnected – control systems, each mapping only partial aspects of the dangerous goods process. Integrated management of the dangerous goods entries was not possible. The company – and in particular the environment department – had to implement extensive manual procedures to ensure that the goods were processed correctly. This caused administrative process costs to spiral upward. To complicate matters further, dangerous goods regulations were tightened in the wake of the September 11, 2001, attacks.

SAP Offers the Optimal Solution

To ensure complete legal compliance of its shipments, management sought to standardize how dangerous goods were managed across the company. "We had to take action and reorganize our dangerous goods management to avoid becoming bogged down," recalls Fries. "There was only one solution that was both cost-effective and would allow us to maximize process automation."

That solution was SAP EHS Management, which was developed through collaboration between SAP and TechniData AG. The companies worked together to implement the software, which is part of the SAP ERP application Deere & Company had previously deployed.

A Smooth Implementation

"SAP EHS Management supports the dangerous goods management that we need today – and also gives us additional functionality that we'll need in the future," states Fries. By standardizing on SAP software, Deere & Company can leverage existing IT resources to keep deploy-

> "Because SAP EHS Management is also integrated into the logistics functions in SAP ERP, it can automatically set the corresponding indicator in the stock withdrawal document so that employees can see at a glance which parts must be picked and packaged separately."
>
> **Jörn Fries,** Environmental Control, John Deere Werke Mannheim

ment, maintenance, and operation costs low and provide a familiar working environment for the 60 employees who handle dangerous goods.

Creating a Business Blueprint for Standardized Processes

Before implementing the software, TechniData worked closely with Deere & Company to develop a business blueprint that outlined how the company had been handling dangerous goods to date. TechniData also documented new processes that would leverage SAP EHS Management. Explains Fries, "We only had manual processes, many of which were not documented and increased the potential for human error." Representatives from each business area were brought on board at an early stage to help develop the blueprint. As a result of this collaboration, the different business areas concurred that the processes should be standardized. "Everyone felt that their requirements were taken seriously, which increased their acceptance of the new software," adds Fries.

Guided by the blueprint, the project team designed and rolled out standardized factory processes in Mannheim and Bruchsal for everything from product development, buying, and warehousing to packaging, picking, and shipping. The blueprint not only helped to ensure the optimal configuration of SAP EHS Management, but it also increased transparency into processes so that the team could identify ways to increase efficiency. "For example, we found that it was inefficient and a higher risk to package dangerous and nondangerous products in the same area," explains Fries. "So we set up a separate packaging area that handles only dangerous goods."

Centralizing Data and Integrating Processes

On the IT side, the project team focused initially on reducing the time it took to enter materials data and improving data quality. In the past, multiple business areas entered data into the various systems used to support dangerous goods management. "With the new SAP solution, the environment department assumes sole responsibility for maintaining dangerous goods data," explains Fries. "It's entered exclusively by the Mannheim-based environment managers, who then make it available to the rest of the company."

Now that the data is centralized, managers of the environment department can easily collaborate with external dangerous goods experts in evaluating the materials data. When necessary, materials are classified as dangerous goods. Adds Fries, "Because SAP EHS Management is also integrated into the logistics functions in SAP ERP, it can automatically set the corresponding indicator in the stock withdrawal document so that employees can see at a glance which parts must be picked and packaged separately. As part of the automated process, the delivery note also provides the shipping staff key information about the dangerous goods status of shipments."

If an order is received from a materials requirement planner, employees can use SAP EHS Management and the logistics functionality built into SAP ERP to perform an automatic dangerous goods check. For example, if a shipment of an engine is made from Mannheim, employees are sent information about the admissibility of the shipment, the required labeling and packaging, and the admissible mode of transport for the particular route. The software then creates the transportation documents and the accident procedures sheet. The shipping documents include all the dangerous goods information required to ensure legal compliance for the preferred mode of transport. If necessary, this information can be provided in different languages.

> "Now we can ensure that all shipments along the complete supply chain comply with the applicable dangerous goods laws."
>
> **Jörn Fries,** Environmental Control, John Deere Werke Mannheim

www.sap.com/contactsap

Realizing the Benefits

Today all employees in the Mannheim and Bruchsal factories use identical processes to handle dangerous goods – processes which have been extended to include external service providers used by Deere & Company to manage certain warehouses and parts of the transportation process. The software alerts employees when they are working with dangerous goods, guides them through the process of properly packaging and shipping them, and automatically maps all modes of transport and the corresponding regulations. Changes in regulations only have to be entered into the centralized solution once to have them swiftly implemented in all the factories integrated in the solution.

"Now we can ensure that all shipments along the complete supply chain comply with the applicable dangerous goods laws," comments Fries. "And by integrating dangerous goods management into our SAP logistics system, we have reduced our staff's administrative tasks to the required minimum."

Looking Ahead

Now that Deere & Company has deployed SAP EHS Management to support dangerous goods management, it can easily leverage other functions provided by the software to optimize other areas of the business. "We're in the process of implementing support for waste management right now, and in the near future, we'll be using it to manage all material safety data sheets," explains Fries. Long term, it is planning to roll out both SAP ERP and SAP EHS Management at its Zweibrücken factory.

"When we send goods such as tractor engines and batteries by air freight, we must declare them as dangerous goods and handle them accordingly."

Jörn Fries, Environmental Control, John Deere Werke Mannheim

TECHNIDATA®

50 088 005 (09/05)