

Supply Chain Security and the Business Benefits

The Manufacturing Institute: "Innovators in Supply Chain Security:
Better Security Drives Business Value" Forum
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Thank you to Stanford University for conducting this study and to IBM and the Manufacturing Institute for their sponsorship. We are glad to have been able to represent The Dow Chemical Company by participating in this landmark effort and honored to be listed as one of the Innovators in Supply Chain Security. Security is good business.

That's why Dow takes a comprehensive view of security including Supply Chain, Site and Information Systems. Supply Chain Security is absolutely critical to maintaining and continuing to grow our business. The chemical industry is dependent on its ability to operate and deliver chemical products reliably, safely, securely and in a sustainable manner. Further, a chemical company's public image is directly affected by its supply chain safety and security performance.

Dow has annual sales of \$46 billion to customers in 175 countries. Each year, Dow arranges for 2.5 million product shipments. 75 percent of Dow shipments and 90 percent of the volume shipped are in North America and Europe. About 20 percent of Dow shipments involve an international border crossing where customs clearance is required.

While Dow is the largest bulk chemical shipper in North America by truck and by rail, the Company takes a multi-mode approach to shipping, diversifying its distribution across highway, rail, and marine modes of transportation. This diversified multi-mode distribution approach allows Dow more supply chain flexibility, but also adds complexity. More than 80 percent of Dow product shipments are not regulated as hazardous materials or dangerous goods and another 10 percent are classified as low hazard materials for transportation. Less than 1 percent of Dow's shipments involve the transportation of highly hazardous materials.

To ensure the safe and secure distribution of its raw materials, intermediates and products, worldwide, Dow has developed a comprehensive risk management system. The system includes baseline requirements such as: Compliance with transportation safety and security regulations; Global implementation of the principles and practices of Responsible Care; Development and implementation of uniform Dow supply chain standards including the use of Most Effective Technology (MET) and Loss Prevention Principles (LPP) which go beyond government requirements and industry practices; and a process for conducting reviews, audits and assessments of Dow and supply chain partner operations.

For 18 years, Dow has embraced and advocated Responsible Care® -- a voluntary industry-wide commitment to safely handling chemicals from inception in the laboratory to disposal. Over 99.97 percent of Dow hazardous material shipments reach their destination without incident and there have been no major incidents involving a highly hazardous material in over 25 years. As a result, Dow has attained an outstanding reputation. However, Dow's ultimate objective is to achieve zero incidents, and in that regard, the company continues to work towards eliminating concerns and alleviating risks associated with the safe and secure transportation of its products. Dow is committed to provide leadership within the industry, and to continually improve its safety and security practices.

As part of Dow's commitment to continuous improvement, the Company proactively embarked on an aggressive initiative to develop the next generation tank car for hazardous materials in collaboration with Union Pacific and the Union Tank Car company. This project is to design and implement a "breakthrough" next generation rail car that provides a 5 to 10 fold improvement in safety and security performance.

In addition, we expect our security efforts to deliver real business results and value. Over time Dow expects Radio Frequency Identification (RFID) systems to help the company improve labor efficiencies, data quality, supply chain visibility and reliability, safety and security, as well as regulatory compliance.

For example, Dow's experience to date indicates that we can achieve the following benefits:

- 50% improvement in response time to identify and resolve in-transit problems
- 20% reduction in excess product/safety stock inventory
- 20% container fleet reduction
- Up to 90% improvement in reliability of delivery time windows
- Elimination/early detection of product theft
- Elimination of historical 10-15% human error rate associated with manual work processes to capture and enter data

So, how do we get there.... We continue to reduce the miles we ship hazardous materials. We have set a target of 2008 for a next generation of tank cars, beyond Dow's current leading designs for highly hazardous materials. We track our rail shipments while in-transit and are piloting some of the latest technologies to continue to improve real time information on our shipments. We are expanding our commitment to Responsible Care® and TRANSCAER to educate and train emergency responders and we continue to build on our excellent relationship with the railroads to address safety and security issues to promote better operational safety and security to improve rail infrastructure.

Thank you for the opportunity to join you today. Back to you Jerry.....

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