

## Bombardier Transportation

*It took only three months for a small team of engineers to design, develop, and implement a new process for standardizing 2.9 million inventory items using the Trillium Software System®. Now, reports that once took months to generate are created weekly, providing high-quality information for streamlining procurement, reducing inventory, increasing on-time delivery, and boosting sales.*



### Project Type

Supply Chain Integration

### Industry

Railway Manufacturing

### Environment

8 Legacy Systems  
70 Databases  
SAP BW

### Challenges

Large Data Volume: 2.8 Million  
Inventory Items, 200,000 Suppliers  
Complex Data Content

### Setting the Standard

Standards are critical for the railway industry, in which seamless interoperability of parts is fundamental. When it comes to data, however, rail manufacturers are prone to the same data quality standards challenges as are other companies.

Thus, after many years of acquiring and consolidating businesses, Bombardier Transportation, the global leader in the rail equipment manufacturing and servicing industry, was faced with profound disarray in its corporate data:

- Over 70 databases
- In 8 legacy systems
- Containing 2.8 million materials and discrete parts
- From over 200,000 suppliers
- In more than 9 million records
- Recorded in 5 languages

“Getting a harmonized view of our supply chain was a major driver,” says Kevin Carrick, Project Director, SAP Services, at Bombardier.

In planning a project of such enormous scope, Bombardier wisely considered both current and future needs, incorporating industry standard product codes and seeking a technology solution that could support global expansion into new countries.

### The Free-Form-Text Challenge

One overarching goal was reducing the amount spent on procurement by 30% in three years. To support this goal, Bombardier sought a data quality solution that could improve critical product and inventory data, including orders, parts, and materials in addition to name-and-address data. However, much of the identifying data was buried in free-form text. In choosing the Trillium Software System®, Bombardier found a solution that could process name and address and specific business data concurrently—all for the price of a standard license.

### Supply Chain Efficiencies

Like any capital-intensive manufacturer, Bombardier saw opportunities for big savings in streamlining its \$1.3B procurement operation and in reducing inventory:

**Procurement**—Savings of 3-5% annually is a conservative estimate of how much Bombardier will gain by negotiating more favorable contracts based on an enterprise-wide understanding of supplier relationships. In fact, the team discovered that one supplier, who was thought to have a \$4M-\$5M relationship, actually did \$135M. An added benefit was a reduction in the overall number of suppliers.

**Inventory**—An up-to-date unified view of all inventory let Bombardier save significantly. It spent less by using surplus from one location at another and it eliminated the weeks, sometimes even months, of delay in waiting for specialty parts ordered from a supplier. Bombardier also reduced inventory by eliminating rarely used and obsolete parts. The results rippled through the supply chain: better inventory management increased on-time deliveries and shortened repair times.

“We can now track globally where parts are with the push of a button,” says Dr. Claudio Gruler, project Integration Manager at Bombardier.

### Reliable, Up-to-Date Reports

Reports that used to take up to six months to prepare are now done weekly. Nine million records are integrated, including 3 GB of changed records on average. Now, data for strategic analysis and business intelligence is distributed across the enterprise to about 300 decision-makers. Once wary of the outdated and incomplete data they received, they now fully trust the weekly reports to help them make the best decisions.

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Case Study: *Bombardier Transportation***Increased Sales**

A unified customer view has also increased Bombardier's upsell and cross-sell success and allows the company to apply common pricing policies around the world. Like many companies, Bombardier actually lost money on small orders—in this case, those under \$180. The company has been able to reduce these types of orders significantly. In addition, through a better understanding of product and parts life cycles, it can anticipate and plan for demand, both in manufacturing and in proactive marketing.

**Strategic Positioning**

Bombardier chose an amalgamation of standard coding systems to fit its current needs and pave the way for easier business-to-business trading in the future:

- United Nations Standard Products and Services Codes (UNSPSC) for commodity codes.
- DUNS codes for identifying companies and their affiliates/subsidiaries.
- FSF codes, a global numbering system developed by the German rail industry.
- ISO (International Standardization Organization) country codes to facilitate conversions of currencies and units of measure.

The Trillium Software System® business rules will also simplify the process of standardizing and integrating product data for future acquisitions.

**Under-Budget Implementation**

The Bombardier team designed, developed, and implemented processes in the Business Data Parser to handle materials, parts, and products information for the entire set of legacy systems in two six-week phases. In just six weeks, using four people, the company loaded, standardized, and linked the records for the 1.6 million German parts into its SAP Business Warehouse, all of which were integrated into their extract, transform, and load (ETL) process. During the second six-week period, another 1.2 million items from multiple countries were codified.

**40% Improvement**

The results of the data quality efforts exceeded Bombardier's expectations. Before implementing the Trillium Software System,

less than half of the records contained accurate codes. After implementation, the system matched 88% of records with product codes, which actually covered 96% of all of Bombardier's parts and materials.

The integration team discovered that having systems with fields for specific codes does not mean the fields are populated properly. "Some systems are better than others," explained Gruler. In one large ERP system, the team found that of 1.6 million parts, 1.4 million had been assigned the same dummy code, '999,' in a mandatory field.

Bombardier developed custom business rules and logic within the Trillium Software System to meet its specific needs. The software now interprets free-form text, finding commodities, parts, and products, and assigns standard codes for each. Says Gruler, "It is an intelligent tool that we can teach how to interpret our data."

**A Standard Global View**

The Trillium Software System architecture and product offering was attractive to Bombardier because it supports scalability across any geography. The modular software design provides country-specific processes with rules based on local cultural and linguistic conventions, including processes for double-byte data, that easily integrate with the core data quality solution.

**Assessing ROI**

The integration team has a formal project step for assessing the business benefits of specific initiatives, but it's still a little too early to tell. Bombardier says it intends to reduce procurement costs by 30% in three years and that the Trillium Software System is helping a great deal to keep the company on track to meet that goal.

**About Trillium Software®**

*Dedicated to increasing the value of information across organizations, Trillium Software®, a division of Harte-Hanks, is the most trusted provider of technologies for Total Data Quality. Today, more than 1400 companies worldwide use the Trillium Software System® and Trillium Software Discovery to turn raw, chaotic data into usable, valuable information through continuous global data profiling, cleansing, enrichment, and monitoring.*