



## AMERICAN INFRASTRUCTURE

### BUILDING BETTER DATA WITH SAP® BusinessObjects™ SOLUTIONS

“By using SAP BusinessObjects solutions . . . people can now make more intelligent use of business data to ensure optimal utilization of equipment and personnel and deliver projects on schedule and on budget.”

**Cary Connor**, Business Intelligence Analyst,  
American Infrastructure

#### QUICK FACTS

##### Company

- Name: American Infrastructure
- Location: Worcester, Pennsylvania
- Industry: Engineering, construction, and operations
- Products and services: Heavy civil construction and materials supply
- Revenue: US\$235 million (est. 2007)
- Employees: 2,045
- Web site: [www.americaninfrastructure.com](http://www.americaninfrastructure.com)

##### Challenges and Opportunities

- Minimize project costs and delays with timely insight into resource utilization
- Eliminate disparities by integrating multiple systems, databases, and spreadsheets
- Enhance competitive positioning for funding by completing projects faster and within budget

##### Objectives

- Create an enterprise solution with standardized reporting processes
- Comply with OSHA regulations
- Track, reconcile, and report on HR, financial, operational, and industry-specific data

##### SAP® Solutions and Services

- SAP® BusinessObjects™ XI solutions
- Crystal Reports® software
- SAP BusinessObjects Web Intelligence® software
- SAP BusinessObjects Dashboard Builder software
- SAP BusinessObjects Data Integrator software

##### Implementation Highlights

- Centralized data, automated report scheduling, and dashboards for immediate access to relevant data
- Projects delivered on time and within budget through support of enterprise requirements

##### Why SAP

- Robust business intelligence functionality combined with flexible reporting, including Web-based reports and dashboards
- SAP BusinessObjects solutions facilitating project management and decision making

##### Benefits

- Ability to move mountains – in one project alone, managing more than 658,000 cubic yards of excavation, 400,000 tons of aggregate, 200,000 tons of bituminous base, and 100,000 square feet of retaining walls
- Enhanced operations, finance, and HR processes thanks to standardized reporting
- Immediate insight into project-critical metrics, better-informed decision making, and optimal use of equipment and personnel through use of dashboards
- Continued excellence in safety and avoidance of fines through OSHA compliance
- Competitive strength and ability to deliver – demonstrated by winning the nation's first economic stimulus project

American Infrastructure is moving mountains in Pennsylvania – and along with graders, concrete mixers, earthmovers, and other heavy equipment, business intelligence (BI) is one of its primary tools. The company's Pennsylvania

safety program, and broad experience in all aspects of heavy construction. It also depends on the intelligent use of data to ensure optimal utilization of equipment and personnel.

of industry-specific data that it must regularly track, reconcile, and report on. For example, to avoid fines and to help maintain its excellent safety record, the company must produce records that demonstrate compliance with OSHA regulations. Crew cost factor reports show the relationship between dollar amounts budgeted and spent for each project. Utilization reports help project managers maximize efficiency and contain costs associated with bulldozers, graders, loaders, and other heavy equipment. With so many reporting demands, the company needed a way to consolidate data and standardize its reporting processes.

“Our dashboard has become a place where people can get the specific information they need on a daily basis for their jobs.”

**Cary Connor**, BI Analyst, American Infrastructure

Turnpike roadway improvement project involves widening over five miles of the major toll road to six lanes. Ultimately, the project will require more than 658,000 cubic yards of excavation, 400,000 tons of aggregate, 200,000 tons of bituminous base, and 100,000 square feet of retaining walls. This ambitious undertaking is just one of many projects throughout the mid-Atlantic region of the United States that American Infrastructure crews are working hard to complete on time and within budget. SAP® BusinessObjects™ BI solutions are helping to get all of these jobs done with maximum efficiency.

That's where Cary Connor comes in. Connor is the BI analyst at American Infrastructure, responsible for designing the company's data warehouse, identifying data sources, creating and scheduling reports, and populating dashboards with relevant metrics. In short, she's responsible for anything that relates to the company's BI system.

### **Disparate Data Hindered Fast, Consistent Analysis**

When Connor joined American Infrastructure, data was housed in a wide variety of systems, application databases, and spreadsheets, creating disparities in how end users viewed data. “There was no single place where all the data was integrated,” she says. “Everybody was accessing the information differently, and, consequently, people were looking at things in different ways.”

In addition to maintaining standard HR and finance information, American Infrastructure generates a large volume

### **Improving Competitiveness with Timely Insight into Operations**

“Initially, we were just looking for a way to create dashboards, so our construction project managers would have all the relevant data right at their fingertips,” says Connor. “But we quickly realized that we needed a full enterprise solution to standardize our reporting processes throughout the organization. With decreasing public funds and pressure to complete projects faster, timely insight into operations was becoming even more important. SAP BusinessObjects XI solutions meet our needs very well.”

Before implementing SAP BusinessObjects solutions, producing reports was a tedious and time-consuming manual process. “The crew cost factor reports are a good example,” says Connor. “These reports are delivered once a week, on Monday

Privately held American Infrastructure, a heavy civil construction and materials supplier, consistently ranks in the upper half of *Engineering News Record's* annual ranking of the top 400 U.S. contractors, top 50 heavy and highway contractors, and top 200 environmental engineering and construction companies. Achieving this level of success depends on many factors, including providing its customers with high-quality materials, dedicated crews, an excellent



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morning. Before we installed our BI system, they were actually done on Sunday nights by a fellow at home. It took him four to six hours to complete the task. He doesn't do that anymore – SAP BusinessObjects solutions cover it all.”

Along with SAP BusinessObjects XI, Crystal Reports® software and SAP BusinessObjects Web Intelligence® software give American Infrastructure flexible choices in reporting, including Web-based access and analysis of project data. SAP BusinessObjects Dashboard Builder software enables the development of dashboards, enabling financial, HR, and operations personnel to track data that is relevant to their roles. SAP BusinessObjects Data Integrator software is instrumental in consolidating the company's numerous data sources, helping ensure that all users work with the same data and make decisions using the same business assumptions.

### Automating Fast Access to Quality Data with BI

American Infrastructure now uses SAP BusinessObjects solutions to consolidate data and automate a range of reports that previously took hours to produce. For example, it used to take approximately two hours every Monday morning to produce equipment utilization reports. Finalizing safety reports required several hours a month, as data was pulled from different sources and formatted into a spreadsheet. Now, all of these tasks are handled automatically, and Connor is constantly on the

lookout for additional opportunities to streamline the process. “We try to find areas in which reports are still being created manually and distributed widely across the organization,” she says. “Then we work with the stakeholders to understand their requirements and deliver the functionality they need to do their jobs better.”

An important side benefit of this effort is an ongoing improvement in data quality. “When we go through the process of automating a report, we occasionally find areas in which manual processing can lead to errors,” says Connor. “In creating the equipment utilization report, for instance, we found that the data sometimes contradicted itself – a bulldozer might have been listed as non-operational for a given day but have eight hours logged against it for the same day. Regular, rules-based alert reports make it possible for project managers to correct these inaccuracies immediately. That way, they don't have to spend time at the end of the month trying to reconcile inconsistent data.”

Dashboards are especially popular with American Infrastructure's construction project managers. The dashboards help managers visualize a wide range of performance and resource data, including crew cost factor information, data on safety-related incidents, and equipment utilization figures. Connor notes that many simple metrics – such as the number of unapproved invoices per project – are extremely valuable for helping manage operations and workflow. “Rather than going into a separate system, project managers can immedi-

ately see the number and dollar amount of invoices waiting for their approval,” she says. “If the total is US\$1,500, it can probably wait until Friday. But if it's more like \$50,000, the project manager can go directly into the system, approve the invoices, and perform whatever follow-up is required. Our dashboard has become a place where people can get the specific information they need on a daily basis for their jobs.”

### Transforming the Business with SAP BusinessObjects Solutions

Connor notes that American Infrastructure has always looked for new ways in which technology can be used to enhance business operations and customer service. “By using SAP BusinessObjects solutions to automate reports, we've found that we can maintain a consistent presentation of the data,” she concludes. “People can now make more intelligent use of business data to ensure optimal utilization of equipment and personnel and deliver projects on schedule and on budget. In that sense, SAP BusinessObjects solutions have helped transform the way people work at American Infrastructure.”

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