



INDUSTRY

Transportation

CLIENT



OBJECTIVE

Create a web portal to give fleet managers a comprehensive, real time view of the road.

SOLUTION

Create data-cleansing algorithms, design a BI framework that can accommodate future technologies, build a web portal with a scalable back-end and clean, easy to use front-end.

SERVICES

Custom Software Development
Business Intelligence

CASE STUDY

BENDIX DELIVERS BI FOR 18-WHEELERS

A game-changer for transportation technology

Bendix Commercial Vehicle Systems partnered with Base2 Solutions to create a sophisticated, business intelligence (BI) web portal to revolutionize the transportation industry.

The portal takes near-real-time truck data and converts it to actionable reports and alerts. This portal would allow fleet managers to identify and document dangerous situations and bolster driver behavior.

Near real-time alerts not only prevent accidents by monitoring the driver, they also monitor the automotive equipment. This feature sends alerts when there are issues, preventing breakdowns that can cause expensive delays or worse, accidents.

The BI portal that Base2 delivered helps fleet managers prevent accidents, reduce fuel costs, and meet emission standards and federal safety regulations.

In short, it keeps our roads safer and helps transportation companies operate more efficiently.

ONBOARD SAFETY SYSTEMS ARE ONLY HALF THE SOLUTION

Most modern 18-wheelers are equipped with enough safety monitoring technology to make your head spin: collision avoidance systems, tire pressure monitoring systems, electronic stability, and other sophisticated gear to ensure that the truck stays in its lane, goes the right speed, follows at the right distance, maximizes fuel efficiency, and much more.

Abundant data is great, but the ability to collect all that data came way before the ability for fleet managers to make sense of it. In 2009, Bendix realized that it was only solving half the problem for its customers—operators of trucking fleets.

Its onboard safety systems captured volumes of truck safety data, but it generally amounted to meaningless piles of data on their servers. Also, data wasn't transmitted in real time; it was "dumped" from trucks to data ports once a day when truckers ended their runs. There was missed opportunity by not being able to have immediate alerts on equipment in motion.

Bendix wanted to relay customer data in real time to help capture even more data—on both truck and driver behavior. They wanted a BI web portal to organize and present the data, make it actionable, help fleet managers prevent accidents, strengthen driver training, monitor equipment, and otherwise improve their operations.

RAPID DEVELOPMENT OF A BI PORTAL

Bendix hired a web development firm to create a web-based BI portal, but the firm was quickly bogged down in data quality issues. Incoming truck data was often incomplete or unclear, often presented out of order, and required significant processing before it could be archived—skills the web shop did not have.

Bendix called in Base2 to help get the project back on the road. Base2 offered extensive BI and data management expertise and understood how to design a robust database-driven BI back end as well as an elegant, easy-to-use front end.

DRIVEN TO DELIVER

Base2 began by developing data-cleansing algorithms to bring order to the jumble of information. They designed a forward-looking BI framework that would accommodate existing data as well as data for future technologies.

Base2 implemented the portal using Microsoft ASP.NET and Microsoft SQL Server and hosted it in the cloud to reduce infrastructure costs and speed deployment.

In just two weeks, Base2 had a proof of concept up and running. In six weeks, a production system deployed. Over the course of the next five years, Base2 provided ongoing support to enrich the portal interface, update and upgrade as new technologies came along, and scaled the back end to deliver greater performance and reliability. Base2 also provided BI, data warehousing, and data management training so that the customer could maintain the portal self sufficiently.

REAL-TIME EYES ON THE ROAD

The Bendix BI portal now provides fleet operators with a comprehensive, real-time view of their trucks and drivers so that they can address potential problems before they occur. The company's truck safety systems wirelessly transmit data to the cloud, where the web portal organizes, analyzes, and presents the data as insightful charts, graphs, and alerts.

AN EXAMPLE OF THE IMPORTANCE OF NEAR REAL-TIME ALERTS

The portal alerts fleet operators if a driver is having difficulty staying in their lane—often an early indicator of driver drowsiness. The driver can be contacted before an accident happens. There are also in-cab audible warnings if the driver gets too close to the vehicle in front or begins to drift out of their lane. This information and alerts help fleet managers identify risky behavior and provide training to reinforce safe driving practice.

The web portal captures and reports events in more than a dozen preset categories, including excessive curve speed, lane changes without turn signal, and forward collision warning. Fleet operators can create reports for individual drivers or the entire fleet. Reports of specific safety incidents are replete with incident time and date, driver and vehicle ID, odometer reading, vehicle speed, GPS location, and even video clips.

Fleet operators have found the portal invaluable in meeting federally mandated safety rules, emissions standards, and conserving fuel costs. They finally have detailed, near-real-time insight into what's happening on the road with their trucks.

A Safer Road Ahead

We all reap the benefits of safer roads and a more efficient transportation industry.

For Bendix, the near real-time capabilities paired with the safety system's pioneering technologies makes the BI portal the only tool like it on the market. Bendix has been extremely successful with this competitive advantage.

The trucking companies, the users of this product, are able to optimize their operations to save time, money, and, most importantly, countless lives.