
# Case Studies: BI & Analytics

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# 1 Introduction

Experion Technologies is a diversified technology company focusing on web & mobile solutions and services. The company has its headquarters and development center in Trivandrum, India with offices in US, Switzerland, Germany, Netherlands, Denmark and Australia. Experion was founded by a team of senior executives in the IT domain with strong technology and international business background. Experion is an ISO 9001 certified company from Bureau Veritas and has a client base which includes recognizable names such as Bacardi, Johnson & Johnson, Alexion Pharmaceuticals, etc. We have also served over 80 startups and Small and Medium Businesses across US, Asia, Australia and Europe.

Given below are a few examples of Business Intelligence and Analytics solutions that Experion has developed for its customers worldwide:

# 2 Case Study 1: Improved Sales Forecasting

## About the Client

The client is a leading biopharmaceutical company based in Germany.

## Client Challenge

The marketing division of client uses a web based tool called Sales Forecast Data (SFD) for sales forecasting. Developed using ASP.NET platform, the SFD tool helps in collating and consolidating target figures, budget figures, strategy figures and actual figures from various sales regions. Data is uploaded into SFD tool using Excel templates with data also getting picked from SAP R/3 systems, BPC and CRM systems.

To make the most out of data captured in SFD tool, the client wanted to develop a reporting solution based on a powerful and comprehensive Business Intelligence platform. There was also a need to improve the overall usability of the existing SFD tool and add some additional features.

## Solution

A BI reporting solution was developed using SAP BI. The data from SAP, BPC, CRM and SFD applications are loaded into SAP Data warehouse. The BI reports are generated using the SAP BI reporting platform. Reports developed for the client included KPI Forecast Accuracy Report, Country Forecast Accuracy Report, KPI Budget Accuracy Report, KPI Cumulative Forecast Accuracy, etc.

The enhancements to the SFD system was done in ASP.NET and included re-design the look and feel of the user interface and better usability, incorporation ISO currency codes, improved calendar management features, enhanced data validations, development of dashboards for better tracking and monitoring, etc. The SAP BI and ASP.NET teams worked closely with the

business and IT teams of the client, using an onsite-offshore model to design, develop and deliver the overall solution.

Figure 1: Sales BI Tool

# 3 Case Study 2: Field Information Management & Analytics

## About the Client

The client is a growing consumer products manufacturer and distributor of food products which distributes food products directly to several thousands of retailers.

## Client Challenge

One of the biggest challenges faced by the client was the need to manage the operational costs and productivity of its growing field workforce deployed across various markets.

The middle management as well as executive management was demanding updates which showed a better control of costs and visibility into day to day operations.

Over 700 of the client's field staff were out in various markets fulfilling customer orders. A lot of the communication was manual leading to several hours of administrative tasks which affected the productivity of the field staff. . There were also frequent data entry errors by back office staff. Another major challenge for the client was consolidation of field data. Manual consolidation and compiling of management reports were often inaccurate and inconsistent. The process was also resource intensive and time consuming. The lack of actionable intelligence was a hurdle to steer sales and for effective decision making for the client's management team.

## The Solution

A web and mobile based solution for the client to manage data capture in the field and ensure the operations and management teams were able to access daily productivity metrics. The entire order management process was automated and all orders communicated from the field were updated real time. A web based backend system was developed for the client's operations team and management staff to access the information updated from the field.

Apart from real time visibility into field activities and field staff performance, the solution provided advanced analytical reports for the client's management team. The implementation of the system resulted in nearly 32% reduction in order processing costs; 40% reduction of order processing cycle times and 14% increase in workforce productivity.


Figure 2: Field Data Dashboard & Reporting Screens

# 4 Case Study 3: Crash Data Management & Reporting

## About the Client

The client is the Department of Transport for one of the fastest growing nations in the Middle East.

## Client Challenge

The client was using manual methods of accident data collection as part of its road safety improvement programs. The data management system used was based on a client – server architecture making it difficult for different stakeholders of the program to input timely information.

With vehicle population at an all time high, the Department of Transport was finding it difficult to capture the data from different stakeholder, consolidate the data in a time bound fashion and to conduct in-depth analysis for improving its road safety initiatives. Moreover, the client wanted a fully web based system to be implemented which had advanced GIS and mapping capabilities to visualize the data and to further improve analysis and rectification efforts.

## The Solution

Developed and implemented a fully web-enabled the system for use by multiple stakeholders related to transportation safety. The solution features web and mobile front ends for field officers and police personnel to capture crash details on the go. The mapping capabilities in the application help capture accurate location details for reporting and analysis.

The application features a feature rich validation rule engine and crash data analysis engine for providing advanced spatial analysis, report generation, ad hoc reporting and cross tab reporting capabilities for the Department of Transport.

The solution utilizes a SOA based architecture to ensure efficient interfacing with external systems.

Figure 3: Crash Data Dashboard & Reporting Screens

# 5 Case Study 4: Data Consolidation & Analytics

## About the Client

One of the fastest growing Leisure & Entertainment services company in North America.

## Client Challenge

The client was primarily using two separate systems for managing leisure games and food & beverages. Whereas gaming related data was available centrally, the data related to food & beverages for each location was reported separately. The client wanted to consolidate data across these systems and business locations and develop an analytics solution for informed decision making.

## The Solution

Experion developed a web application to fetch data from different locations on a scheduled basis and load into a MySQL database. This helped the client to consolidate data from gaming systems & food & beverages systems across all its global facilities.

Automation and streamlining of the data consolidation process was an important milestone for the client to initiate an internal drive to generate analytics related to games, bay utilization, food & beverages consumption, peak hours, etc. Data silos were eliminated after consolidation of data from these systems and the solution made sure that the data from different locations were available centrally for further processing.

Experion also helped the client to process data from both databases to create analytical reports using tools such as QlikView Reports. Some of the reports were also developed using PHP.

Intelligence derived from these key reports was used by the client's business teams to arrive at business improvement plans and to link business decisions with revenues. Marketing campaigns were also designed based on inputs from such reports.

The solution helped the client to devise business improvement plans and marketing decisions based on accurate and up-to-date inputs derived from BI reports. Availability of reports also helps the top management of the client to compare performance against different locations, identify trends and take timely corrective actions.

# 6 Case Study 5: Smart Sensor Monitoring Solution

## About the Client

Based in the Scandinavian region, the client is a leading provider of solutions such as data loggers, wireless modules and modems, SMS alarm senders, and CO2 sensors and controllers. Data logger solutions have applications for diverse business cases - from simple temperature and humidity, pulse and water level logging, to fully automated cold room and warehouse monitoring systems.

## Client Challenge

The client was using a very basic system developed earlier for displaying sensor data installed by its end client. As the smart sensor vendor in the Internet of Things (IoT) domain, the competition was picking up and the client wanted to revamp its sensor data dashboard with added features and improved data visualization options.

## The Solution

Experion worked with the client to reengineer/ re-architect its data logger/ sensor management dashboard, add new features and improve data visualization capabilities. The solution captures data from different loggers/ sensors and displays it to end users for real time monitoring and management. The solution also provides alerts to the user (based on preset threshold values) to handle deviations and exceptions. The technologies used in the project included Java, Struts, Java RMI, Spring, Bootstrap and jQuery.

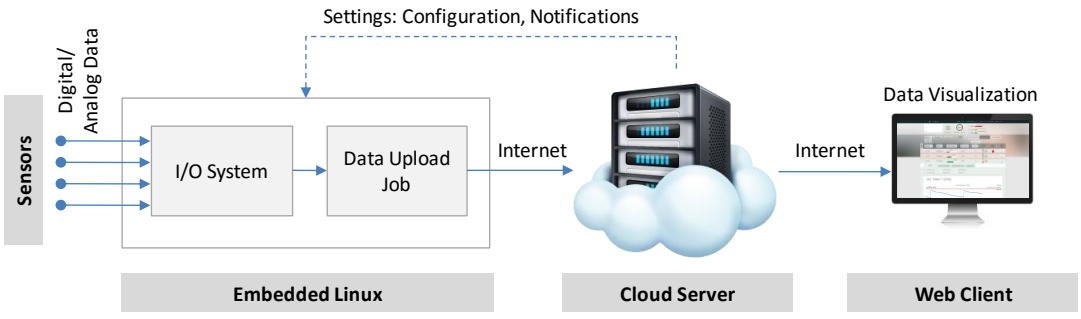


Figure 4: Overview of smart sensor based monitoring system

Figure 5: Sensor Management Dashboard

# 7 Case Study 6: Sensor Data Aggregation & Analytics Solution

## About the Client

The client is a supplier of a wide range of electrical, data, gas, telecommunication and water testing and monitoring products in Australia. The client serves the needs of customers in diverse domains such as Telecommunications, Electricity, Gas, Water and Occupational Health & Safety.

## Client Challenge

The client wanted to develop a web based application to consolidate and visually present sensor data currently logged in FTP servers. The requirement also warranted the application to be multi-tenant and responsive in nature to be accessible from PCs, tablets and mobile phones. The client wanted to move up the chain in the smart sensor space by offering data consolidation and analytics options to its client.

## The Solution

The application developed by Experion is designed to automatically collate sensor data using ETL process. Once cleaned up data is saved against each end client, the data is visualized using rich UIs and intuitive user dashboards. The solution also triggers alarms and alerts to notify users when sensor data crosses set threshold values. The web platform provides multi-client support and has client/ user management features. The solution is architecturally scalable to support big data analytics with growth in data volumes. The technologies used in the project included AngularJS, NodeJS and Cassandra.

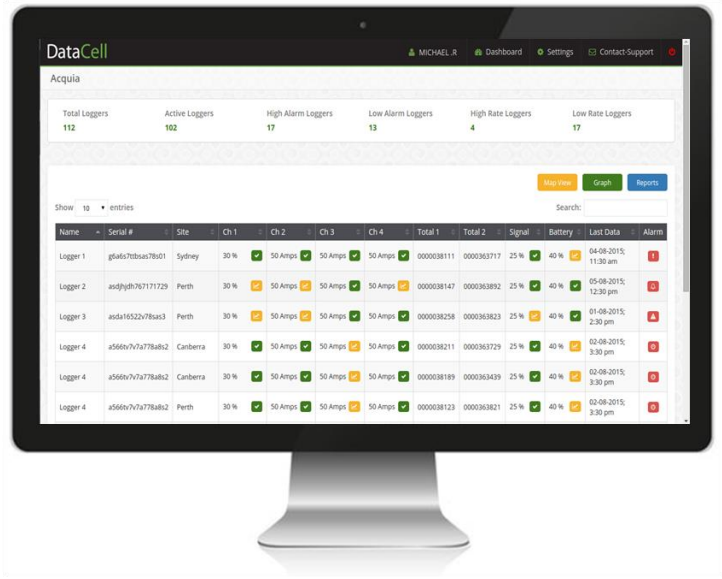


Figure 6: Sensor Data Visualization Dashboard

# 8 Case Study 7: Media Data Analytics Solution

## About the Client

The client is a Middle East based consulting and data analytics solution provider focusing on Media and Marketing domains.

## Client Challenge

The client wanted to develop a product solution in the Media Analytics domain. The objective of the solution was to help end customers gather market intelligence data and interpret the data for quick and efficient media planning.

## The Solution

The project involved development of a web based data aggregation and visualization solution. The solution is designed to help end customers gather market intelligence data and interpret the data across a wide range of parameters in the media domain. It helps aggregate data from multiple data sources using ETL process and provides dashboards and data visualization options customized for the media domain.

Developed on a SaaS based architecture, the solution is multi tenant and allows an administrative panel for managing data sets and application users.

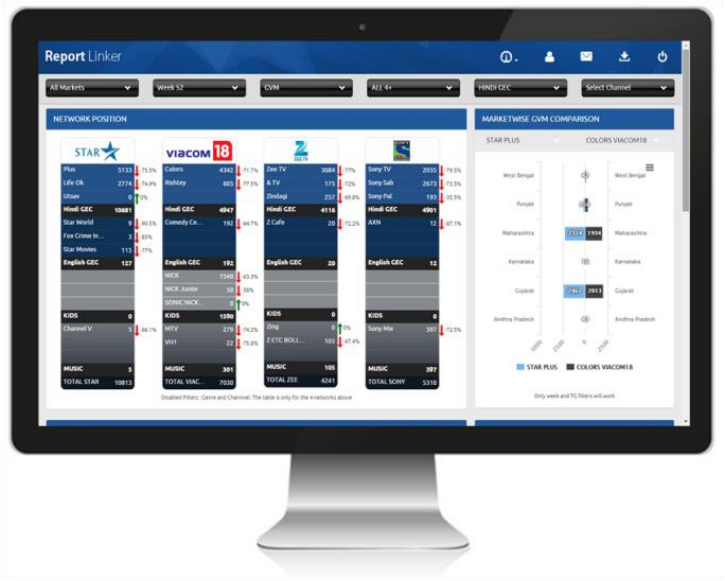


Figure 7: Media Planning Dashboard