INTERNET OF THINGS ANALYTICS
Use Case Examples

Energy Management

- Facility run-time monitoring
- Cost monitoring
- Wastage alerting

Smart Cities

- Traffic management
- Energy monitoring

Transportation Management

- Predictive maintenance
- Fleet management
- Route optimization

Security

- Geo-spatial surveillance analysis
- Threat assessment

THE TRAFFIC MANAGEMENT CHALLENGE

Cities all over the world are growing rapidly but infrastructure is often not expanding fast enough to keep pace with the increased pedestrian, bike and vehicle traffic. As a result, local traffic has become much heavier, leading to an increase in vehicle accidents and traffic violations.. The city governments needed better ways to monitor and manage local traffic to provide better transportation services to the public and reduce incidents. Innovative cities are taking a data-driven approach to the problem by installing thousands of digital monitoring devices at key intersections. These devices capture terabytes of data each month. Now, traffic managers need to a way to understand this data so they can make data-driven decisions that meaningfully impact the city's ability to effectively manage traffic, reduce waste and save money.

To enable more efficient decision making, smart cities solution providers need to add to their platforms the ability to visualize raw data in a way that makes it easy for traffic managers to understand, regardless of domain expertise. One such provider is using Knowi embed within their application platform to provide real-time data visualizations on intersection data collected and stored in Couchbase.
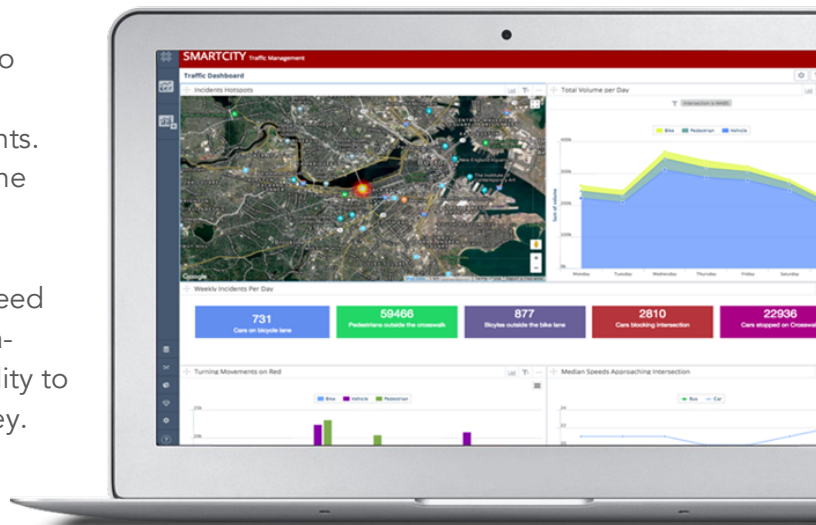
SOLUTION

The smart city platform interacts in real-time with the embedded devices and posts relevant events into Couchbase. However, the event data in Couchbase lacks context the traffic manager needs. Knowi is used to build visualizations and dashboards from data in Couchbase, MySQL and Elasticsearch. Traffic managers then use dashboards to monitor and manage traffic flow and incidents in both real-time and as part of trend analysis. Machine learning algorithms are used to predict growth so City Managers can use that information for budgeting roadworks and infrastructure planning.

RESULTS

Using Knowi as part of a proof-of-concept project, the smart city platform provider was able to deliver actionable data visualizations so traffic managers could immediately see opportunities for traffic flow improvements, pedestrian safety improvements and even a few ways to make some additional revenue.

The team built visualizations to manage and optimize traffic management, including:
- Manage and monitor traffic patterns at key intersections
- Identify incidents and traffic violations
- Identify opportunities to improve flow at high volume times

ABOUT KNOWI

Knowi, AI-driven analytics on modern data, was founded in Oakland, CA with the purpose of dramatically shortening the distance from raw data to action. With native integration to virtually any data source, including NoSQL, SQL, RDBMS, file-based and API's, Knowi eliminates the need for ETL, ODBC drivers, or data transformation processes that alternate solutions require. Knowi is a complete business intelligence platform for enterprises, of any size, who want to unify analytics across their modern data stack and drive actions that matter.

Knowi is a global company with customers in the Americas, Europe, Middle East and Asia supporting companies of all sizes from startups to large multi-national enterprises.

Contact Information
Website: https://knowi.com/
Email: info@knowi.com

US Headquarters
1528 Webster St.
Oakland, CA 94612

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