

# AI-Enabled Safety Analytics & Custom Dashboard Solution

Transforming complex safety data into actionable, AI-powered insights enabling faster decisions, proactive risk management, and a measurably safer operational environment.



## CLIENT OVERVIEW

A leading safety management platform provider supporting industries such as construction and pipeline operations, focused on improving safety, compliance, and operational visibility through data. The platform serves as a critical layer for field teams, safety officers, and leadership connecting on-the-ground activity with enterprise-level oversight.

## THE CHALLENGE

The client faced critical barriers preventing their safety data from driving meaningful outcomes.



Complex safety data that was difficult for users to interpret



Existing dashboards lacked clarity and actionable insights



Manual validation required to identify missing or incomplete form data



Limited personalization and user-level filtering capabilities



No AI-driven summaries to highlight risks or critical issues



Difficulty in quickly identifying compliance gaps and safety risks

## Solution Implemented

A comprehensive analytics ecosystem combining advanced dashboards, custom applications, and AI - built to transform safety data into decisive action.



### Data Integration & Processing

Integrated data from the platform's PostgreSQL backend into Domo via APIs. Performed data flattening and preprocessing using Python to ensure analytical readiness.



### ETL Pipeline Development

Developed robust data pipelines and transformations using Magic ETL, enabling consistent and reliable data flow across all dashboard components.



### Advanced Dashboard Design

Created interactive, publication-quality dashboards using App Studio and Jupyter integrations purpose-built for safety analytics and compliance monitoring.



### Custom Application Development

Built full-stack custom applications using React, JavaScript, and CSS with APP\_DB backend delivering tailored experiences beyond out-of-the-box capabilities.



### AI-Powered Insights

Enabled AI-generated summaries for quick insights and decision-making, surfacing critical risks and compliance gaps automatically.



### Personalization & Automation

Implemented dynamic filters, user-level views, customizable dashboard components, drill-down capabilities, and automated validation for incomplete data.

## Key Capabilities Delivered



### AI-Powered Insights

Automated, AI-generated summaries that surface critical safety risks, compliance gaps, and operational anomalies enabling leadership to act on data in seconds, not hours.



### Custom Dashboard Experience

Intuitive, publication-quality dashboards combining Domo's analytical power with custom-built React applications delivering clarity that generic tools cannot match.



### Automated Data Validation

Intelligent validation logic that automatically highlights missing or incomplete form submissions, eliminating tedious manual reviews and ensuring data integrity at scale.



### Personalized User Views

Dynamic, role-based filtering and customizable dashboard components allow each user from field supervisors to executives to see exactly what matters most to them.



### Drill-Down Analytics

Multi-level drill-down capabilities empower users to move from executive summaries to granular field-level data with a single click, uncovering root causes and patterns.

## Business Impact

**~60%**

### Faster Decision-Making

With AI-generated summaries and real-time insights

**50-65%**

### Reduction in Manual Validation

Through automated data quality checks

### Additional Outcomes

- Improved risk identification and proactive safety management
- Enhanced compliance tracking and reduced incident probability
- Better user adoption through intuitive and customizable dashboards
- Scalable analytics architecture ready for future growth



## Technology Stack

### ANALYTICS PLATFORM

Domo

Magic ETL

App Studio

Dashboards

Jupyter

APP\_DB

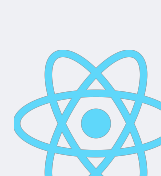


### CUSTOM DEVELOPMENT

React

JavaScript

CSS



### DATA & INTEGRATION

PostgreSQL

Python

API-based Data Integration



## Value Delivered

By combining AI-powered analytics, custom-built dashboards, and intelligent automation, we transformed how this leading safety management platform provider understands and acts on their data.

Safety teams now make decisions up to 60% faster, with AI summaries surfacing critical risks before they escalate. Manual validation effort has been reduced by 50-65%, freeing teams to focus on proactive safety management rather than data wrangling.

The solution delivers a scalable, intuitive analytics ecosystem that grows with the client's needs supporting safer job sites, stronger compliance, and data-driven decision-making at every level of the organization.