

Digital Sovereignty in Logistics: Eliminating Manual Overhead at Scale

How we replaced a 300-person manual coordination layer with a real-time "Mission Control" system.

Customer Case Study
Logistics industry



<p>95% Faster Response Improving system speed from 4s to 160ms.</p>	<p>98% Payroll Efficiency Cutting processing from 8 hours to 10 minutes.</p>	<p>3,000+ Trucks Orchestrating 6,000+ personnel with real-time monitoring</p>	<p>Instant data feedback Real-Time Truck reporting for smart decisions and planning</p>
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Client Background

A large-scale logistics organization managing over 6,000 drivers and 3,000 trucks required a total digital transformation of their operational core. The client's existing model was heavily fragmented, relying on manual work coordinated by an in-house support team of over 300 people. This created significant delays, high operational overhead, and a lack of real-time visibility into daily fleet movements.



The Challenge

The client struggled with a legacy environment where data was siloed and scheduling was opaque. They needed to:

- **Eliminate Manual Bottlenecks:** Replace a 300-person manual coordination layer with automated digital workflows.
- **Enable Real-Time Scheduling:** Provide 6,000+ employees with instant access to routes, assignments, and completed work.
- **Scale Performance:** Support high-concurrency activity without the 4-second latency lags that hampered decision-making.

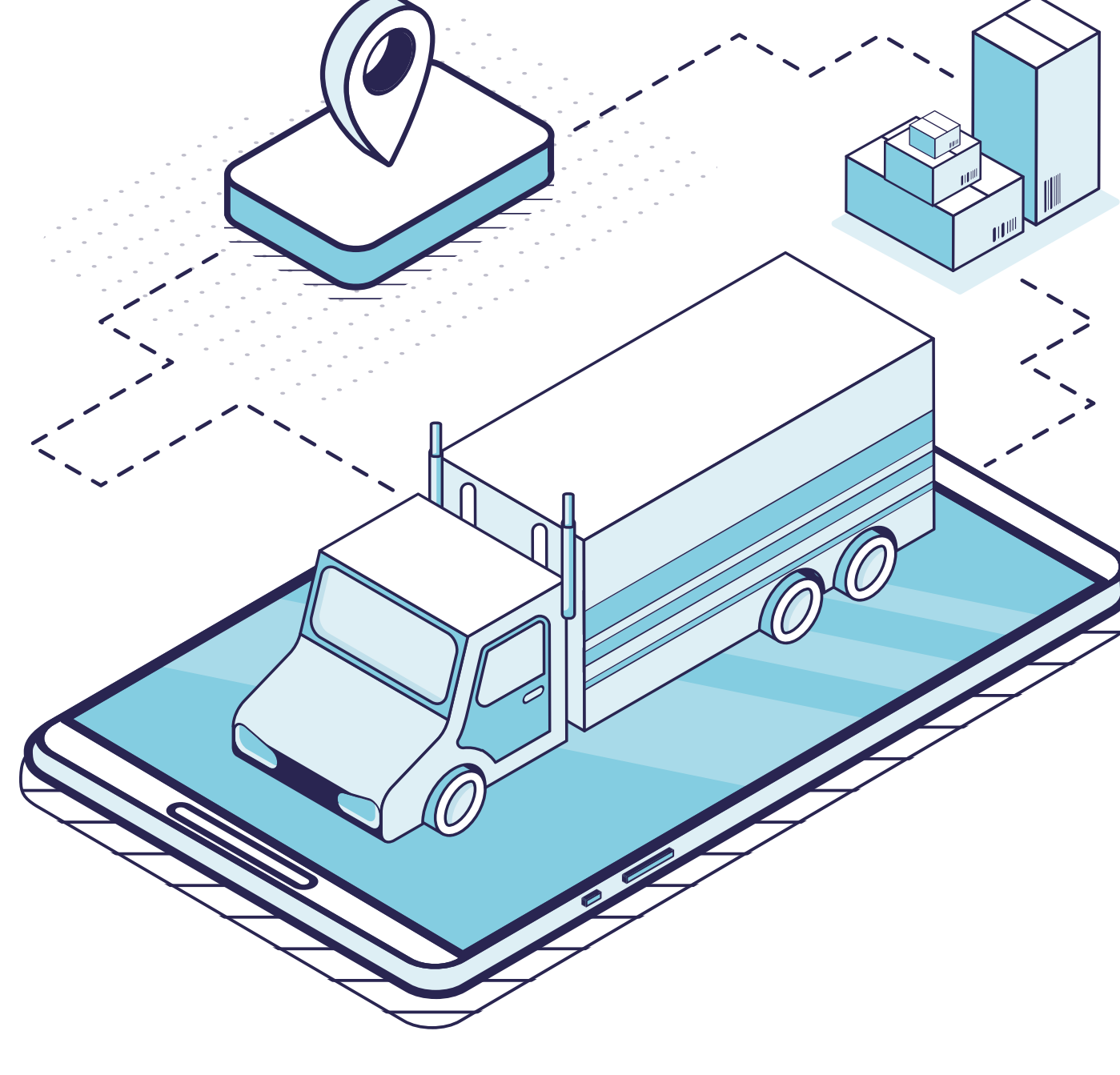
PROBLEM STATEMENT

How do we bring together scattered logistics tools into one powerful command center that handles payroll automatically, makes scheduling easier, and tracks the entire fleet as it happens?

The Albocensa Solution: "Mission Control" Blueprint

We designed a Mission Control Ecosystem that unified web and mobile applications into a single system of record. This framework moved the client from "human-dependent coordination" to "event-driven automation."

Under this new framework, the logistics department gained the ability to oversee more than 3,000 trucks in real-time through a centralized "Mission Control" experience. Every critical event, from route assignment to payroll triggers, is now processed with sub-200ms latency, ensuring that data is no longer just archived but is immediately actionable.



The Solution Framework

We didn't just build an app; we engineered a single system of record that digitized the entire lifecycle of logistics execution:

<p>Mission Control Dashboard A centralized "tower" for tracking 3,000+ trucks in real-time with integrated Business Intelligence.</p> <p>Data Scope Real-time telemetry for 3,000+ trucks, fleet-wide GPS coordinates, and integrated Business Intelligence (BI) layers</p> <p>Primary Use Centralized "Tower" oversight for the logistics department to track asset movement, product delivery status, and route execution</p> <p>Key Benefit Transformed operational oversight from reactive manual checking to proactive, high-velocity fleet management at scale.</p>	<p>Self-Serve Driver Portal Mobile (React Native) applications giving drivers instant worked-segment reports and route visibility.</p> <p>Data Scope Individual worked-segment logs, personalized shift schedules, and historical route assignments.</p> <p>Primary Use Provides 6,000+ drivers with instant access to their digital system of record via React Native mobile applications.</p> <p>Key Benefit Eliminated information silos between dispatch and drivers, reducing dispute resolution time and manual coordination overhead.</p>
<p>Automated Policy Enforcement Real-time alerts for compliance, such as phone usage detection, ensuring safer operations.</p> <p>Data Scope Compliance triggers, safety sensor data (including phone usage detection), and Samsara-integrated fleet alerts.</p> <p>Primary Use Real-time monitoring and automated notification of safety violations or rule non-adherence.</p> <p>Key Benefit Enhanced operational longevity and safety standards through immediate, automated risk mitigation and accountability.</p>	<p>Instant Feedback Loops Real-time truck reporting that connects driver activity directly to operational context and products delivered.</p> <p>Data Scope Real-time truck reporting, worked-segment verification, and operational context (Who/Where/What).</p> <p>Primary Use Bridges the gap between physical driver activity and digital reporting for instantaneous performance validation.</p> <p>Key Benefit Achieved a 95% faster response time (160ms), ensuring that all logistics data is immediately actionable for smart decision-making.</p>

Value-Driven Outcomes

<p>Radical Efficiency The transition from manual to digital logistics allowed the client to 98% automate their payroll process, turning a full workday of effort into a 10-minute automated task.</p>	<p>Operational Velocity Response times improved by 95%. In a high-stakes logistics environment, the jump from 4 seconds to 160ms represents the difference between bottlenecking to, real-time system orchestration.</p>	<p>Empowered Workforce 6,000 drivers gained instant access to "worked-segment" reports and clear scheduling. This transparency reduced disputes, improved driver satisfaction, and ensured strict adherence to safety policies.</p>
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Technologies

The stack was engineered for extreme low-latency and event-driven scalability:

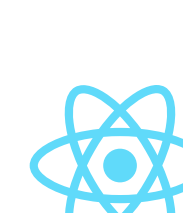
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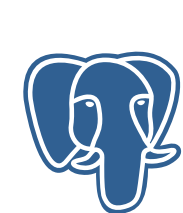
MuleSoft
Integration platform used for seamless API orchestration and connecting legacy systems.



Python & C#
Backend services designed for high-concurrency and business logic execution.



React & React Native
Provided a seamless, consistent UI for both dispatchers and drivers.



PostgreSQL
Robust data storage for massive daily logistics logs and worked-segment records.



Samsara Integration
Leveraged for real-time fleet telemetry and policy enforcement data.



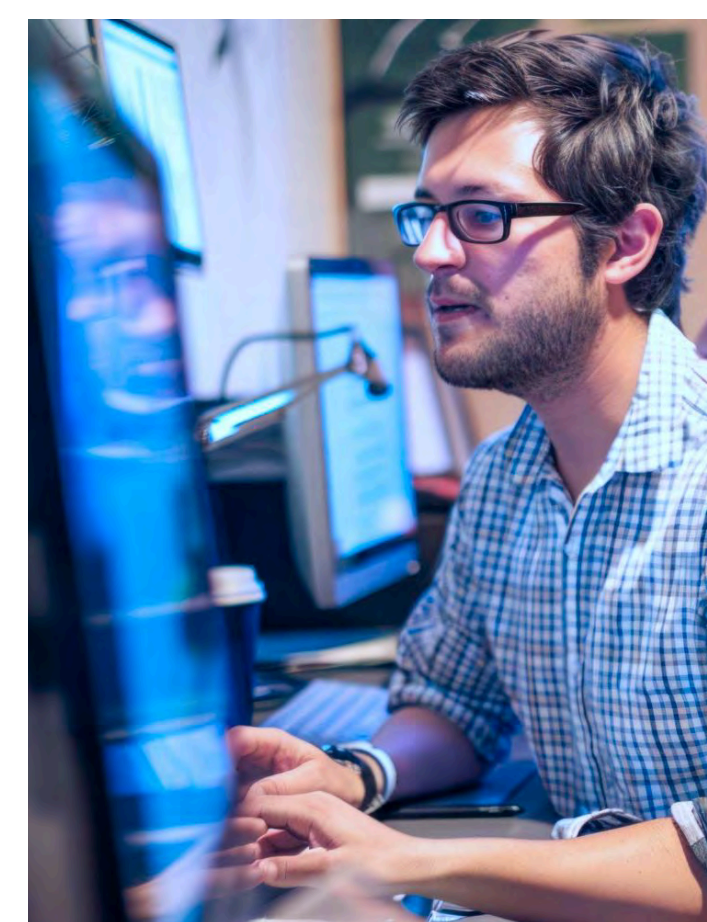
AWS Lambda
Serverless computing service used for executing event-driven code to system triggers



Team

The project utilized a lean, five-person delivery team comprising three Developers, one QA, and a Tech Lead to drive high-impact results through rapid iteration and tight feedback loops. This streamlined model maintained strict architectural integrity, ensuring the system could scale seamlessly from a few hundred to over 3,000 active units without any performance degradation.

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Client Benefits

By modernizing the operational framework and transitioning to an automated, real-time ecosystem, Albocensa delivered a high-performance environment that aligned with the client's strategic goals for digital transformation.

<p>Financial & Operational Excellence</p> <ul style="list-style-type: none"> • 98% Automation Lift in Payroll: Transitioned payroll processing from an 8-hour manual ordeal to a 10-minute automated task. This was achieved by digitizing core workflows and connecting disparate systems that previously required human coordination. • Drastic Cost Reduction: Successfully lowered dependency on a massive 300+ person manual support function. By introducing a digital self-service model for over 6,000 drivers, the client achieved significant operational cost savings through an optimized service model. • Scalable Operational Stability: The project replaced fragmented scaling with a single, always-available system of record. This ensured the infrastructure could support high concurrency and continuous activity throughout the day without disruption. 	<p>Quality & Visibility</p> <ul style="list-style-type: none"> • Extreme Performance (95% Faster): Reduced system response times from approximately 4 seconds to a lightning-fast 160ms. This massive leap in performance supports a much more responsive user experience and enables true real-time fleet management. • Enhanced Safety & Risk Mitigation: Introduced proactive risk identification through real-time notifications for driver compliance and safety triggers, such as phone usage alerts. This integrated risk approach ensures safer operations and more consistent rule adherence. • Zero-Gap Scheduling & Transparency: Provided full operational oversight via a "Mission Control" experience. Every employee now has a clear, real-time view of route assignments and worked-segment reports, ensuring total transparency across the organization.
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