Case Study

Driving 20% Cost Savings, an 8% Improvement in Turnaround Time, and 95% Spend Mapping Coverage via Smart Port Logistics Analytics

Client Overview

Managing multimodal rail and road logistics across commercial port terminals demands high-integrity data flow and real-time operational transparency. This case study details the deployment of a GCP-based smart logistics analytics platform for a prominent Indian private port operator. By replacing manual data entry with automated PostgreSQL processing, dynamic Power BI dashboards, and GenAI spend mapping, the client achieved a 20% cost reduction, an 8% improvement in transit turnaround time, and expanded total freight management capacity.

The Challenge?

Complexity across Dispersed Sites

High variable count in daily rail and road operations causing oversight gaps when using legacy manual entry tools.

Manual Bottlenecks & Lack of Live Insights

Inability to identify delay sources in real time due to un-automated, error-prone data collection.

Consolidation Obstacles

Inadequate data consolidation blocking aggregated leadership reporting on asset utilization, TAT, and financial performance.

Solution Delivered

GCP & PostgreSQL Pipeline

Establishment of robust, secure endpoint connections across source and target Oracle databases.

Power BI Operational Suites

Deployment of Qlik Replicate for frictionless creation and management of live data capture jobs.

Dispatched Stakeholder Alerts

Implementation of three distinct extraction strategies (SQL queries, Procedures & Functions, and Materialized Views) for comprehensive data capture.

The Impact

20% Direct Cost Savings

Delivered substantial bottom-line savings through automated optimization tools and streamlined workflows.

8% TAT Improvement

Enhanced Terminal and Transit Turnaround Times using real-time operational tracking.

15% GenAI Accuracy Boost

Expanded spend mapping coverage from 80% to 95% within 3 months.

Maximized Terminal Throughput

Increased the overall volume of work managed by eliminating manual entry delays.

Outcome

Modernizing port logistics through automated cloud pipelines and real-time analytics is essential for sustaining throughput growth. By combining GCP data architectures, Power BI visualization, and GenAI automation, this leading port operator successfully eliminated operational blind spots. The solution provides the speed, accuracy, and external stakeholder integration required to lower transit times, minimize operational costs, and maintain a highly resilient supply chain footprint.

Interested in a customized solution designed to meet your unique requirements and achieve comparable results?

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