

Better Performance, Less Effort: Coca-Cola improves productivity 8% by moving to real-time production data

The Management Team at Coca-Cola Puerto Rico realized they could significantly increase productivity by empowering its directors to make production adjustments in real time, using live data visualized in alignment with their KPIs.

Follow-on opportunities: integrating real-time demand data for AI-based production optimization; machine learning based forecasting to fine-tune inventory management.

THE CHALLENGE: Information latency and complexity impeded production efficiency

Production management was a labor-and-spreadsheet intensive process that precluded fast, optimal response to changes in demand, machine downtime, and other issues. The impact:



Production Inefficiencies: Frequent SKU changes on the production lines reduced output and were costly. In a single shift, lines were often switched from one SKU to another, and then back again.



Data integrity issues: Dozens of SKUs, some described by multiple product numbers, but no unified coding system, resulting in mis-matched data and difficulty in managing costs.



Extreme latency: Production reports, in lengthy, complex data tables, were delivered too late to impact production and were difficult to discern how to improve long-term productivity.

Coca-Cola Puerto Rico's bottling plant is organized around several production lines capable of producing the full range of SKUs. Each line is managed by a supervisor working 12-hour shifts.



The supervisors collected production data from engineering teams every hour, reporting the quantity of units bottled, line utilization, waste, and other KPIs in spreadsheets.



Every 12 hours, the supervisors consolidated the spreadsheets into a single report sent to multiple departments. A manager created a 24-hour version for the Field Staff's review.



On a weekly, monthly, quarterly, and annual basis, the Production Manager consolidated the reports for senior management KPI reviews.



Coca-Cola PR Bottlers produces and distributes the company's products throughout Puerto Rico and adjacent regions, a market worth \$500 million annually. To satisfy this thirsty market, CC PR delivers million of bottles bottles from a single plant, employing 3,000 employees.

Although Coca-Cola PR was very profitable, the company was investing more than 4,000 hours per annum gathering and reporting production data. These reports were error-prone and too late to address live production issues.

The impact of these reports was diminished by mismatched SKU codes, poor granularity, and massive number tables that made it difficult to extract actionable insights. Further, production data, stored on multiple PCs, was vulnerable to data loss and security breaches.

THE SOLUTION: Four steps to up-to-the-minute business intelligence, and more

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Data Standardization: To increase the value of the reports, **Teranalytics** created a unified, granular coding system to deliver more precise production information, new operational metrics to describe production line performance, and business rules to manage current and future products.



Data Collection: To reduce information latency and improve accuracy, the Team created a new tool that enables the supervisors to easily enter production line information directly into the Data Server from their PCs as they collect it.



Data Storage: To enable real-time data access for production line managers and senior management, as well as ensure data security, the Data Server consolidates the information into the Data Warehouse, ready for immediate analysis.



Business Intelligence: **Teranalytics** integrated the new Data Warehouse with PowerBI to provide up-to-the-minute visualized information tuned to role-specific needs. Supervisors are able to identify and remediate problems immediately and avoid unnecessary line changes; senior management has immediate, clear visibility to actionable insights.

THE RESULTS: Real-time, visualized reporting to guide immediate optimization

With the help of **Teranalytics**, Coca Cola made the move from massive spreadsheet-based, latency-plagued reports to real-time production management.

- 1. Real-time, visual production data** to line managers, to inform proactive actions, rapid responses.
- 2. Unified, granular SKU visibility** to enable tighter production management and to meet demand.
- 3. Zero information latency** via real-time KPI dashboards for the Management Team.
- 4. Streamline reporting** to minimize engineering time spent reporting, improve data accuracy.
- 5. Data** integrity and security.
- 6. Optimize production** while minimizing waste and downtime.



Beyond real-time production management, the foundation is in place for **Teranalytics** to further optimize Coca-Cola's business processes, by integrating real-time retail demand with production management and using AI to improve inventory control via more precise forecasting.



The impact of real-time, visualized data on our business was immediate and profound. **Teranalytics enabled us to increase plant efficiency by 8% in less than 2 months.** In January 2020, we produced 222,000 additional cases compared to the same period in 2019."

Jose E. Lefebre

Production Manager, Coca-Cola Puerto Rico

