TriLumen Systems

CASE STUDY

Small Textile Manufacturer (200 Employees) · Modern Data Stack

Enterprise-Grade Analytics Without the Enterprise Bill

THE CHALLENGE

A 200-employee textile manufacturer had outgrown spreadsheets and was trying to get live reporting directly off their operational PostgreSQL database. It wasn't working, running analytical queries against a live transactional system slowed down the actual business software people depended on every day. Looking for a real fix, they'd started pricing out enterprise data platforms, Fivetran, Snowflake, dbt Enterprise, and found the cost and complexity genuinely alarming for a business their size, thousands of dollars a month, and infrastructure that would strain their existing legacy systems rather than work with them. The owner was frustrated and not sure there was a version of this that actually fit their business.

OUR APPROACH

We didn't put them on the same stack a much larger company would use. We kept managed PostgreSQL as their transactional database, exactly what it's built for, but separated the analytics layer out entirely so heavy reporting queries never touch the live system again. For transformation, we used DuckDB, which runs in-memory on serverless infrastructure with no standing server cost, paired with dbt to write clean, modular, version-controlled SQL.

Google BigQuery still has a role, but not as the everyday engine. We use it strictly as long-term cold storage, a monthly archive push, so historical data stays searchable and ready for future analysis without paying to keep a massive warehouse running 24/7 for day-to-day reporting.

Because the transformation logic lives in dbt, it's self-documenting. If a new manager joins a year from now, they're not stuck guessing how a metric is calculated, they can open the documentation and see exactly how data moves from PostgreSQL through DuckDB to the dashboard.

THE RESULT

A full modern data stack running for roughly $60 to $230 a month, against enterprise-equivalent pricing that would have landed between $1,200 and over $3,000 a month for the same job. Enterprise-grade speed and reliability, at a cost that actually made sense for a 200-person business, with none of the "one developer holds all the knowledge" risk that comes with undocumented custom pipelines.

> *"Running a 200-person plant means you watch every dollar, and typical enterprise software quotes were giving us sticker shock. TriLumen managed to pull our numbers out of a dozen messy spreadsheets and put them onto one clean dashboard for a fraction of the cost. We finally have a clear picture of our morning numbers without breaking the bank."*
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> DIRECTOR OF OPERATIONS, TEXTILE MANUFACTURING

Have a Problem That Looks Like This?

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