DIGIAGE · cielo

CASE STUDY

Turning a data bottleneck into a strategic asset at Cielo

How Digiage rebuilt the data foundation of one of Brazil's largest digital payments companies on the Databricks Lakehouse — without a single day of downtime.

R$800B	1 PB	2,700+
in annual transactions (≈ US$150B)	of unified data	processes migrated

Digital Transformation · Databricks Lakehouse

Cielo by the numbers: scale that demands excellence

Cielo is one of Brazil's largest digital payments companies and one of Latin America's leading merchant acquirers — processing and settling card transactions on behalf of merchants. With operations that power the country's economy every day, any technical instability translates directly into business impact.

R$800B ≈ US$150B
in digital transactions processed annually

780K
merchants served across Brazil

700K
active clients across e-commerce, enterprise accounts, and small businesses

R$5.2B ≈ US$1B
in consolidated annual net revenue

Modernizing without disrupting the real economy

Electronic payments account for a significant share of Brazil's economic activity — and Cielo sits at the center of that flow. Brazil is now the world's second-largest instant payments market, behind only India. That raises the stakes on every modernization decision the company makes: there is no window to shut down.

35.1%

of Brazil's GDP flows through electronic payments

55.5%

of household consumption is paid electronically

8%

of Brazil's GDP is processed by Cielo itself

Source

Abecs, Q1 2026

THE CHALLENGE

"Data was never the problem. The company always had more than enough of it on every transaction and every customer. AI wasn't the problem either — the models were improving every day. **The problem was the foundation that data and AI needed to run on.**"

Gabriel Mochnacs · Head of Data & AI, Cielo · Data+AI Summit 2026

When technology becomes a constraint

Cielo's data foundation had reached its operational limit.

Much of the legacy code was undocumented: built over two and a half decades and maintained, in practice, by the institutional memory of the people who ran it.

The environment supported more than 120 teams and could no longer keep up with the volume and complexity the business demanded.

1 PB of data spread across 8,000 tables

7,000+ processes and jobs running every day

900 legacy PL/SQL routines

20–25 years of accumulated legacy, much of it undocumented

THE CHALLENGE

The problem was no longer technical — it was about trust

Operations were fragmented and heavily manual, with multiple analytics platforms running in parallel — including Cloudera and several layers on AWS.

The result: high costs, slow decision-making, and what the team itself called an “illusion of certainty” — conflicting sources producing different numbers for different parts of the same company.

AI doesn’t scale on inconsistent data. Without a trusted foundation, no automated decision, autonomous agent, or risk model can hold up.

Infrastructure at its limit

Legacy environment unable to handle growing volume and complexity

Operational fragmentation

Cloudera and AWS layers running in parallel

Illusion of certainty

Conflicting sources producing different numbers for different teams

AI innovation blocked

Without trusted data, critical use cases aren’t viable

A four-stage roadmap to modernize without stopping

With no window to pause operations, Digiage structured the program as four sequential stages — each one de-risking the next. Legacy and new platforms ran side by side until every team was ready to move, so modernization never came at the expense of day-to-day business. Governance came first; value creation was built on top of it.

01

Foundation

Defining the new architecture and governance standards

02

Controlled coexistence

New and legacy platforms running in parallel, with no disruption to critical processes or customers

03

Enterprise adoption

Enabling teams to work on the new platform and make decisions with trusted data

04

Value creation

Analytics, conversational data, and agents embedded in business workflows

Solution built on the Databricks Lakehouse

Data engineering at enterprise scale

The technical challenge matched the size of the operation: modernize thousands of processes without interrupting operations for a single day.

Digiage kept both environments in controlled coexistence — the fragmented legacy stack and the new foundation — so that no business decision, merchant, or transaction was affected during the transition.

The approach relied on standardized, reusable templates, with Databricks AI Playground accelerating the refactoring of the most complex workflows. Every process was analyzed, cataloged, and migrated with full stability.

4,500+ tables modernized into the new Databricks environment

4,000+ processes analyzed and optimized by the team

2,700+ processes migrated to production with full stability

1,393 obsolete processes retired, freeing up resources

THE STRATEGY

From the data layer to governed AI

Each component of the Databricks stack plays a specific role in the architecture — and eliminates a point of fragmentation from the previous environment.

Delta Lake

Storage and processing for the lakehouse foundation, with ACID transactions. Consolidates ~1 PB into an architecture built for analytics and AI.

Unity Catalog

Centralized governance: access, permissions, traceability, and lineage across thousands of tables. A single, auditable source of truth.

Databricks SQL Serverless

Elastic serving and query layer that lowers TCO with no manual infrastructure management.

AI Playground (Mosaic AI)

Accelerates the refactoring of thousands of legacy PL/SQL workflows, compressing what would otherwise be manual work.

AI/BI — Genie & Dashboards

Analytics consumption and natural-language interaction, connecting business questions to governed context.

Lakeflow

Managed ingestion. Salesforce is the most-used connector; Jira, PostgreSQL, and Oracle are in development.

Cielo Agents

Cielo's own multi-agent governance layer on Databricks: traceability, security, and decision-level access control.

AI IN PRODUCTION

One foundation. Three AI capabilities in production.

With the foundation in place, Cielo built three business capabilities on the same trusted, governed base — analytics, natural-language interaction, and agents that use consistent context and data inside business workflows.

Cielo Analytics

Data that reaches decisions and products. Expands the use of analytical models across business units and pushes their outputs directly into systems, products, and processes — closing the gap between analytics development and real-world application.

Cielo Conversational

Data that answers in plain language. With AI/BI Genie, teams such as sales and finance query data on a governed foundation. The same logic extends to end customers: the website and app draw on the same source used internally.

Cielo Agents

Agents in production, with full control and traceability. Security, data access, and agent decisions are auditable end to end, and agents can share capabilities across teams.

When the agent closes the deal

The most advanced use case connects agents directly to operations: customer negotiations over WhatsApp handled by agents that engage, analyze context, decide, and close the deal — with human teams overseeing their behavior and evolving their capabilities.

With all three capabilities **running on the same foundation**, the data platform becomes operational infrastructure for AI.



Negotiation **closed on WhatsApp**, with human oversight

TRANSFORMATION IMPACT

“Data modernization is a strategic business decision — not just a technology upgrade.”

BUSINESS OUTCOMES

Measurable impact far beyond IT

The modernization delivered gains that moved the client's operation from reactive to scalable — with the predictability and agility to keep growing.

1,393
obsolete processes retired, freeing up resources immediately

ZERO
days of operational downtime throughout the modernization

TCO↓
direct reduction in total cost of ownership with a serverless model

From reactive to predictive

The client moved from a reactive model to a scalable operation, with the predictability and agility to launch new products quickly.

A solid foundation for AI and analytics

The company now has a governed platform ready to lead advanced analytics and machine learning initiatives at scale.

THE DIFFERENCE

The differentiator isn't the tools — it's the order of decisions

Digiage treated governance as a prerequisite for AI, not an afterthought. That reverses the most common approach in the market, where AI is adopted before the foundation is ready — and fails to scale as a result.

Governance before AI

Reversing the market's usual order: trusted foundation first, AI second — which is why it scales

Template-driven execution

Thousands of processes modernized with standardized, reusable templates across four stages, with zero disruption

The human factor

The Brilliant Futures program equipped business and operations teams to build and oversee their own AI agents

It's not humans versus AI — it's teams of humans and agents working together.

WHY DIGIAGE

Connecting leading platforms to your strategy

Digiage connects leading platforms like Databricks to each client's strategy — turning operational complexity into real, measurable, and sustainable impact.

True Partnership

We operate as an extension of the client's team, co-creating solutions with cross-functional squads committed to business outcomes.

Measurable Impact

Every engagement is anchored in clear business metrics — not just technical ones. TCO, speed to innovation, and scalability define success.

Technical Expertise

Since 2014, we've specialized in APIs, data management, and integration — as certified partners of the market's leading platforms.



Digiage operates at the intersection of strategy and technology, **orchestrating data, APIs, and AI to power the decisions that drive growth**, efficiency, and competitive advantage. We are strategic partners in building intelligence that works for the business.