



**Unlock the Power of
Your Data: Transform
Your Business with
Advanced BI**



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Our client, a leading logistics company in Europe, had a vision of growth. For years, they had been automating their warehouses and advancing their operational efficiency.

But as they grew, they faced a major hurdle: their data was scattered across various systems, including Warehouse Management, HR, and ERP systems. The company realized they needed a smarter, more integrated approach to manage their data, and that's when they reached out to us.



The Challenge: Disconnected Data and Complex Processes

The company's operations were heavily reliant on various systems. But these systems didn't communicate well with each other. Their data was fragmented, making it tough to get an accurate, unified view of their performance. In particular, invoicing and reporting became a nightmare. The finance team had to manually cross-reference data from different systems to ensure everything was billed correctly, leading to errors, delays, and revenue leakage.

The Solution: A Tailored BI Platform Built for Growth

To solve these challenges, we proposed an advanced BI platform built around a data lakehouse architecture. We started by implementing a sophisticated Medallion architecture on Azure Data Lake Gen2 and Databricks, which organized their data into three layers:

- **Bronze layer:** Raw data directly ingested from the source systems, providing a historical archive for auditability and future reprocessing.

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- **Silver layer:** Cleansed and merged data, offering a reliable "Enterprise view" of key business entities.
- **Gold layer:** Business-ready data, enriched and optimized for advanced analytics and reporting.

This architecture allowed us to centralize all the client's data into one environment, making it accessible for analytics and reporting in real time. We also utilized incremental data ingestion to ensure optimal performance, with data being updated daily in an efficient, scalable manner.

To enhance performance, we created materialized views and pre-aggregated datasets using Databricks, which simplified complex queries and significantly boosted the performance of Power BI dashboards. These dashboards transformed the company's data into actionable insights, providing real-time visibility into key business metrics.

The Execution: Building a Seamless Data Ecosystem

Our approach was systematic and collaborative from the beginning. We first conducted a detailed requirements walk-through with the client to ensure we fully understood their operational needs. From there, we built the solution using Azure tools, including Azure Data Lake Gen2 for secure data storage and

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Azure DevOps for CI/CD, ensuring smooth integration with the client's existing tech ecosystem.

As the data flowed from source systems to the data lake, it was processed through the Medallion architecture. Using dbt (data build tool), we applied business logic, transforming the data and preparing it for advanced analytics.

Finally, we integrated Power BI to create customizable dashboards that not only provided the client's management team with key insights but also allowed them to share reports with customers. These high-quality, client-facing reports quickly became a selling point for the business, with customers placing additional orders for customized reports.

The Results: A Transformation in Data Management and Decision-Making

The impact of the new BI platform was immediate and profound:

Quantitative results:

- Achieved 98–100% consistency in financial records, reducing invoice disputes by 30%.

Qualitative benefits:

- The finance team now had improved confidence in billing, eliminating revenue leakage.

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- Eliminated revenue loss caused by inaccurate service billing.
- Reduced the time to generate BI reports from days to seconds.
- Automated data feeds saved departments 5–10 hours per week.

- Operational managers could pinpoint inefficiencies in warehouse processes and address them immediately.
- The solution laid a scalable foundation for future data integrations and advanced analytics, such as predictive insights.

Key Takeaways and Lessons Learned:

- **Robust Data Architecture:** The Medallion approach ensured data was refined incrementally, reducing errors early in the process.
- **Stakeholder Collaboration:** Frequent feedback loops with the finance and operations teams helped align requirements and expectations.
- **Focus on Security:** Proactive attention to data access controls and encryption prevented governance issues.

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Challenges overcome:

- Some legacy systems required custom connectors and adjustments to data formats.
- Handling large data volumes required optimizations in Databricks and Azure Data Lake.

Industry insights:

- Data is the backbone of modern logistics. Leveraging your data gives you the competitive edge you need.
- The Medallion architecture provides a flexible and scalable solution for managing massive data volumes while maintaining high-quality data integrity.
- Power BI's intuitive interface accelerates analytics adoption across non-technical teams, making insights more accessible than ever before.

Are you ready to take control of your data? Like our client, you can transform your business with the right BI solution. If you're looking to enhance your decision-making and optimize operations, **contact Forbytes today**, and we'll help build a unique BI solution tailored to your needs!

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