

Building A Scalable BI Ecosystem For Automotive Data Management

ABOUT CLIENT

- A global leader in technology consulting services and digital transformation solutions.
- Actively operating in 50+ countries and with a workforce of over 350,000 professionals, this esteemed collaboration was executed as part of our client's engagement with a leading automotive client.

PROBLEM STATEMENT

The client struggled to deliver consistent, timely, and actionable reporting across business units. Key challenges discussed:

Scattered Metrics

KPIs were maintained in separate Excel sheets, resulting in inconsistent formats and metrics across teams.

Slow Decision Cycles

Manual consolidation of data caused delays, making it hard to act on insights quickly.

Limited System Integration

Existing reports weren't connected to enterprise data sources like ET2000 and DMS, restricting scalability and broader analysis.

Isolated Data Stack

Sales, inventory, and retail performance data remained isolated, preventing cross-functional visibility.

Static Reporting

Reports lacked interactivity, no drill-downs, filters, or real-time updates, reducing their usefulness for operational decision-making.

SOLUTION

Upon further discussions, DataToBiz implemented a comprehensive two-phase BI transformation workflow:

Phase 1: Rapid Excel-to-Power BI Development

- Developed 20 Power BI dashboards covering ~80–90 KPIs, including accessory sales, dealer inventory, kit penetration, WIP, license payouts, and retail performance.
- Standardized Excel files and migrated KPIs into interactive dashboards with drill-downs, slicers, and DAX-based calculations for immediate visibility.
- Implemented role-based access to secure reporting and control visibility across teams.
- Created a centralized reporting framework with standardized KPI definitions to ensure consistency across all business units.

Phase 2: AWS Data Warehouse Integration

- Migrated reporting from Excel to automated, AWS-powered data pipelines, connecting Power BI to ET2000 (~50K rows/day) and DMS (~20K rows/day) via S3, Glue, and Athena.
- Configured automated daily data refreshes and optimized query performance for near real-time reporting.
- Extended dashboards to include additional complex KPIs and implemented archival processes for historical trend analysis.
- Delivered complete artefact handover, UAT support, and training to empower the internal team to manage and maintain the solution independently.

TECHNICAL IMPLEMENTATION

Architecture & Data Integration

- **Phase 1:** Power BI connected to standardized Excel datasets.
- **Phase 2:** Direct Athena connection to AWS Data Warehouse; optimized Glue jobs for pipeline efficiency.

Dashboard Development

- Wireframed 20 dashboards covering ~90 KPIs.
- Built using Power BI with DAX measures, filters, and drill-throughs.
- Role-based workspaces for secure access.

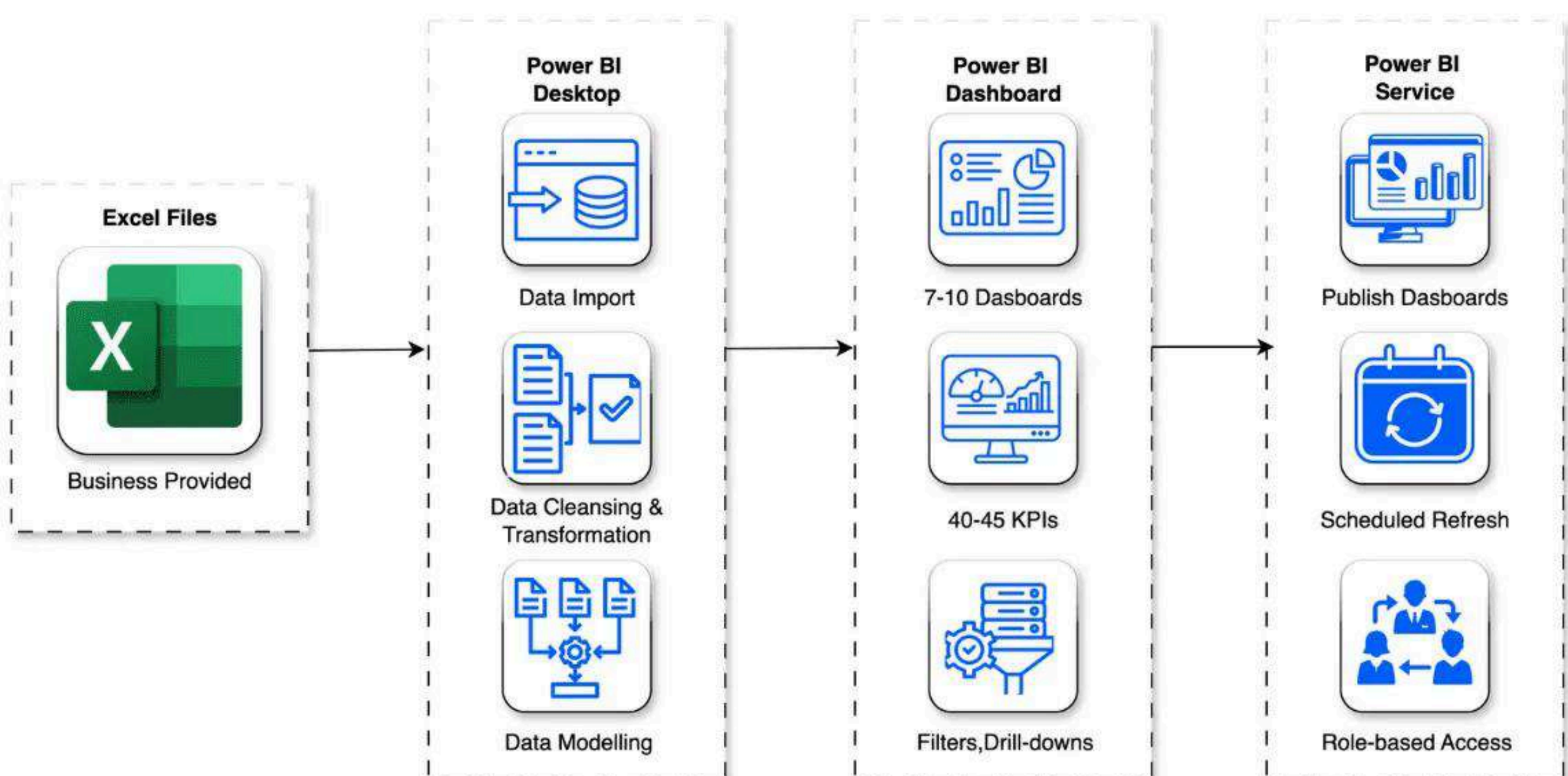
Data Automation

- Daily refresh schedules aligned with continuous business cycles.
- Archival in AWS for multi-year trend analysis.

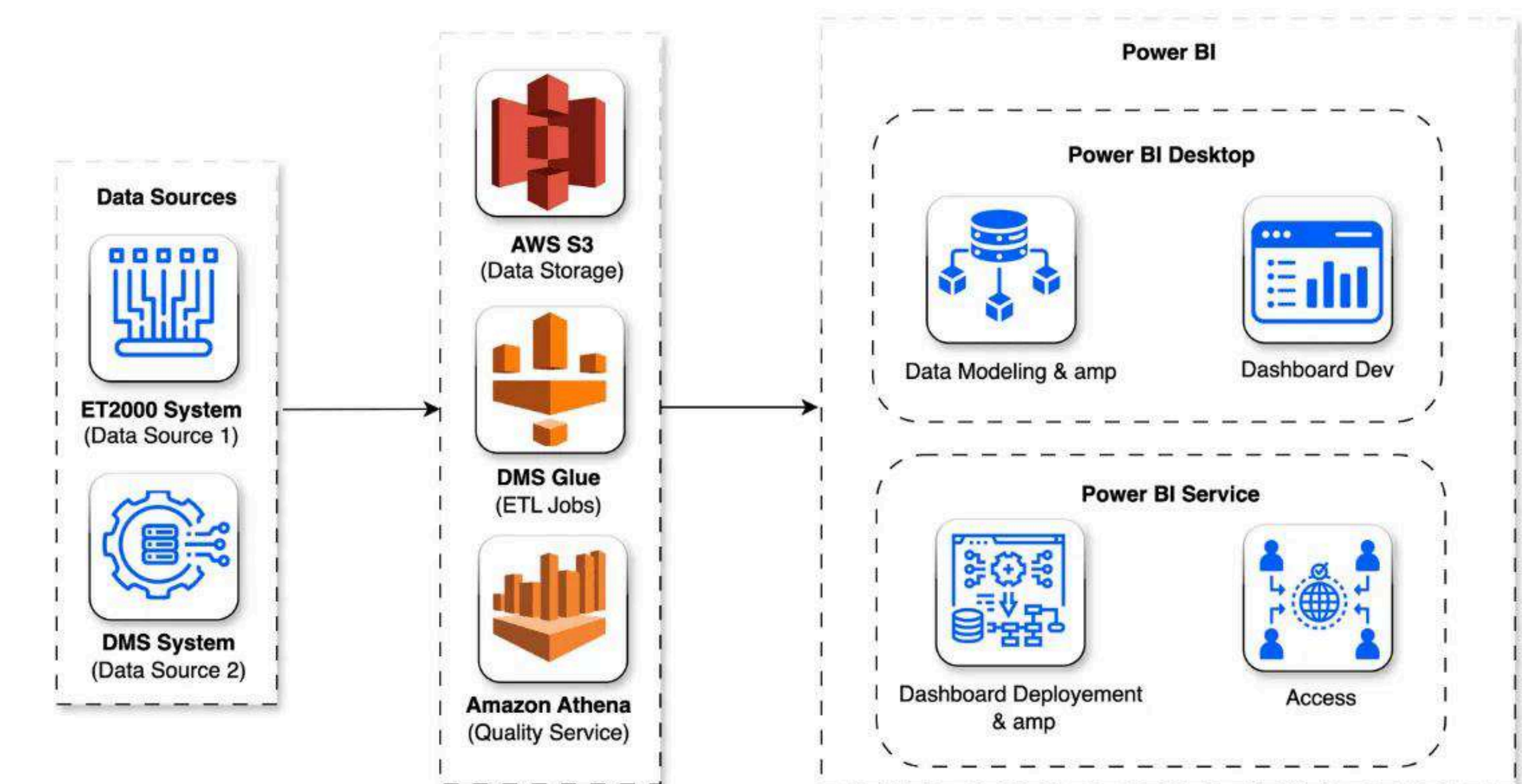
Performance Optimization

- Query tuning in Athena and DAX model optimization.
- Implemented incremental refresh for large datasets.

Phase - 1



Phase - 2



BUSINESS IMPACT

Faster Report Preparation

Automating Excel-based processes with AWS-powered pipelines cut report preparation time by ~50%, reducing manual effort from 8–10 hours per day to just 4–5 hours.

Real-Time Decision Making

Daily refreshed dashboards provided leaders with near real-time insights, improving decision-making speed by approximately 40%.

Consistent KPI Tracking

Standardized metrics and centralized dashboards ensured 100% alignment of KPIs across 6+ business units, reducing discrepancies and reporting errors by around 35%.

Scalability

AWS integration allowed the platform to handle 2–3x data growth without performance degradation, supporting future expansion to additional regions and datasets.

Improved Data Governance

Role-based access, standardized definitions, and audit trails covering 100% of dashboards and datasets strengthened governance, cutting compliance risks by roughly 30%.

By connecting Power BI with AWS data pipelines, DataToBiz helped the client shift from static, disconnected reports to a centralized, automated, and interactive BI system. This improved efficiency, cut reporting delays, and created a scalable analytics foundation for smarter, long-term decisions.