CASE STUDY

The Metropolitan Atlanta Rapid Transit Authority (MARTA)

Keeping Atlanta Moving: How MARTA Powers Data-Driven Transit with Orbit Analytics and Databricks

MARTA sits at the center of how Atlanta moves. With around 48 miles of rail track, 38 stations, a large bus network and the Atlanta Streetcar, MARTA connects people to work, school, the airport and major venues across the metro area, contributing an estimated 2.6 billion dollars in economic impact each year.

To support that kind of citywide movement, teams across finance, HR, and operations rely on more than schedules and timetables. They need clear, timely insight into costs, headcounts, projects, and performance. That is why MARTA is standardizing on Oracle Fusion Cloud ERP and HCM for core finance and HR and implementing Databricks as its central analytics platform.

The vision is straightforward and ambitious at the same time:

- Use Oracle Fusion as the system of record for transactions and control.
- Use Databricks as the engine for analytics, reporting, and advanced use cases.
- Connect the two with governed, incremental data, so everyone is working from a single, trusted foundation.

Turning that vision into day-to-day reality meant finding a better way to move data between these systems. MARTA needed Oracle Fusion data to land in Databricks reliably, repeatedly and with the right level of control without turning every new flow into a custom development project.

This is where Orbit Analytics came in. With Orbit Data Pipelines, MARTA can now connect Oracle Fusion and Databricks through Fusion-aware, no-code pipelines that are faster to configure, easier to operate and easier to trust.

The Challenge

> ***"Orbit Analytics has greatly simplified our Oracle Fusion to Databricks integration. It is very user-friendly and significantly reduces development effort.***
> ***- By Madhu Chava, Cloud Solutions expert at Marta"***

MARTA needed incremental data from multiple source systems, such as Oracle Fusion Cloud ERP and HCM, delivered into Databricks in near real time, while staying aligned with existing data warehousing practices and controls.

The team wanted to:

- Bring rich financial and HR data from Oracle Fusion into Databricks without breaking governance or auditability.
- Stay consistent with their data warehouse strategy and modelling standards.
- Support analytics, reporting, and downstream use cases with fresher, more reliable data.

One of the major technical challenges was extracting data from Fusion ERP into Databricks using Oracle BICC PVOs and related mechanisms. Managing these extracts at scale with the required frequency, lineage, and reliability was becoming a significant effort.

MARTA needed an approach that would simplify this integration without forcing a complete rethink of their data warehousing practices.

The Solution: Orbit Data Pipelines for Oracle Fusion and Databricks

Orbit Analytics implemented Orbit Data Pipelines, a no-code ETL and ELT framework purpose-built for Oracle Fusion.
The solution is designed to extract governed, timely ERP data into warehouses and lakehouses without disrupting existing processes or weakening audit controls. With Orbit, Marta's team could automate extraction, transformation, and loading from Oracle Fusion into Databricks, producing analytics-ready data models with minimal configuration.

1) Clear, auditable data flow
Orbit established a transparent end-to-end flow:
Oracle Fusion ERP (BICC PVOs, BI Publisher data models, custom SQL)
→ **Orbit Data Pipelines**
→ **Databricks Bronze, Silver and Gold layers (medallion architecture)**

Key design choices:

- Transformations are handled in Databricks through stored procedures that align with Marta's existing data warehouse standards.

- Orbit and Databricks together enable a modern Lakehouse approach with:
  - **Bronze** for raw landed data.
  - **Silver** for the deduplicated, quality-checked data sets.
  - **Gold** for curated, business-friendly models ready for BI and analytics.

All objects are registered in **Databricks Unity Catalog**, enabling centralized governance, fine-grained access control, column-level lineage, and impact analysis. This provides full traceability from Fusion extracts to BI reports.

2) Proactive monitoring and notifications

Orbit configured monitoring and alerting so that data operations do not depend on manual checks.

- Alert notifications are aligned to data sync frequencies.
- Stakeholders know when a job succeeds, fails, or experiences delays.
- The team can respond before issues affect downstream reports and dashboards.

This improves operational oversight and builds confidence in the end-to-end data flow.

3) Orchestrated for speed and resilience

Orbit used **Jobflows** to orchestrate individual sync jobs based on how MARTA wants data to move.

- Scheduling is defined by execution of windows rather than just subject areas.
- Model dependencies are captured, so jobs are executed in the correct sequence.
- Parallelization is used where it is safe to accelerate delivery without overloading Fusion or Databricks.

The result is an efficient, conflict-free, and resilient set of data pipelines with timely data availability downstream.

Proposed Approach: Fusion Aware Architecture for Databricks

At a high level, the proposed architecture that Orbit implemented for Marta is:

Oracle Fusion → BICC PVO extracts / BI Publisher data models / custom SQL → Orbit Data Pipelines → Databricks Delta tables → Databricks lineage and modeling via Unity Catalog

Source Layer

- Oracle Fusion Cloud Applications: HCM, Finance, Supply Chain, and other modules

- Extraction via Oracle BICC (BI Cloud Connector) using:
  - PVOs
  - BI Publisher data models
  - Fusion aware custom SQLs where required

Fusion Aware Pipelines

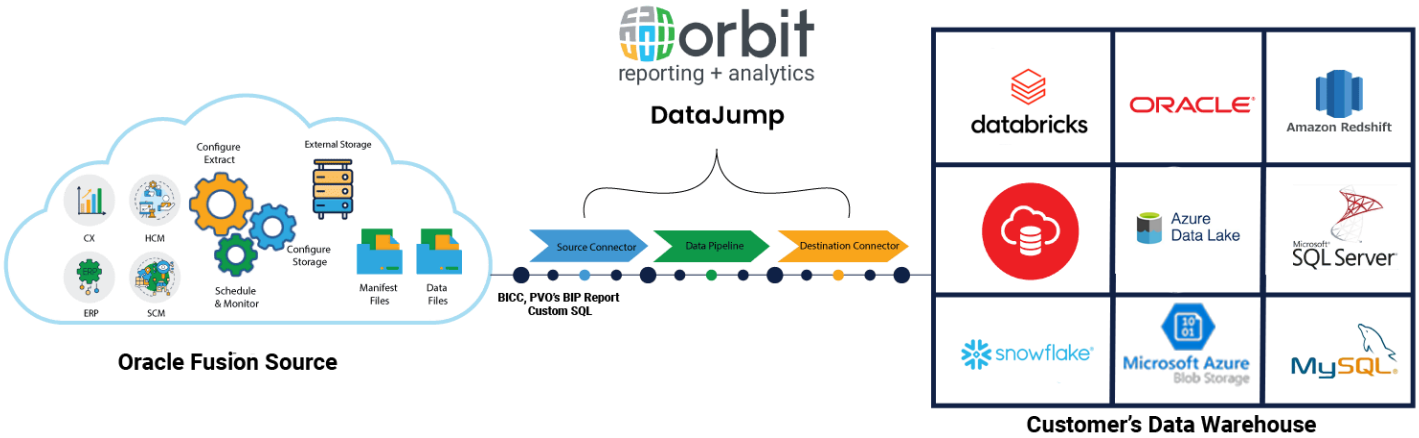
- Pipelines tuned to Fusion data structures, APIs, and release cycles
- Incremental logic that respects Fusion specific keys and change patterns
- Built in validation rules to protect data quality before it reaches analytics consumers

Orchestrated Jobflows

- Automated scheduling and dependency management for each data flow
- Support for both full and incremental loads, configured at subject area or PVO level
- Central view for data engineers to monitor and manage all Oracle Fusion to Databricks jobs

Destination and Modeling Layer

- Databricks Delta tables as the foundation for Bronze, Silver and Gold layers
- Databricks Unity Catalog as the single source of truth for governance, lineage, and access policies
- This architecture allowed Marta to modernize their data platform without rewriting their entire reporting strategy from scratch.



Implementation and Support

The technology choice was only part of the story. MARTA also needed a partner that could help the team adopt the new framework quickly and confidently.

During the implementation process, the Orbit team:

- Guided MARTA through a smooth onboarding experience.
- Provided comprehensive knowledge transfer sessions so the MARTA team could own and extend the solution.
- Worked closely with project stakeholders to align the pipelines with MARTA's operational and governance requirements.

The client specifically acknowledged the contribution of Orbit's project management team for their time, guidance, and support throughout the rollout.

Result and ROI

MARTA already had the right building blocks in place: Oracle Fusion Cloud ERP and HCM as systems of record, and Databricks as the strategic analytics platform. Orbit Analytics helped connect these systems in a way that is faster to build, easier to govern, and more reliable to operate.

Faster delivery of Fusion → Databricks data flows

After introducing Orbit Data Pipelines, MARTA's data team no longer has to treat every new Oracle Fusion integration as a standalone development project.

- Pipelines from Oracle Fusion ERP and HCM into Databricks are now **configured instead of hand coded.**
- The **intuitive interface** and **library of source and destination adapters** have **reduced development effort** and sped up onboarding of new modules and subject areas.

This means more of the team's time can be invested in modeling and analytics rather than in the mechanics of data movement.

Controlled, Fusion-aware loading that matches business needs

Orbit also helped MARTA make Oracle Fusion ingestion more structured and business aligned.

- **Oracle BI Publisher** data models are scheduled and managed through Orbit, which extracts and loads data into Databricks in a controlled, repeatable way.
- **BICC offerings** can be imported, and the team can **select the right PVOs and define full or incremental loads** based on business requirements.

Instead of generic extracts, MARTA now has Fusion-aware pipelines that align with how the business uses data, improving data freshness and reliability for downstream analytics.

Stronger operational confidence and easier support

As the number of data flows grows, day-to-day reliability and supportability become critical. Orbit contributes here as well.

- A **strong logging and diagnostics layer** gives the team clear, detailed visibility into every load.
- When something goes wrong, issues are **easier to identify and resolve, improving pipeline uptime and reducing** the impact on reporting and analysis.

Combined with the onboarding and knowledge transfer that accompanied the implementation, the data team is better equipped to run and extend the solution with confidence.

Summary: The Orbit impact for MARTA

By introducing Orbit Analytics into their Oracle Fusion and Databricks landscape, MARTA has:

- Turned Fusion to Databricks integration into a repeatable, no code pipeline framework rather than a series of custom projects.
- Gained better control over data freshness and load patterns, aligned with actual business requirements.
- Improved operational confidence, with clear logging and easier troubleshooting for the data team.
- Established a scalable foundation that can support additional Fusion modules and Databricks use cases as their analytics program grows.

Orbit did not replace MARTA's existing investments. It helped them realise the value of those investments more quickly, with less effort and greater confidence.