

Executive Case Study

Telecom Databricks Migration With AI Data Matching

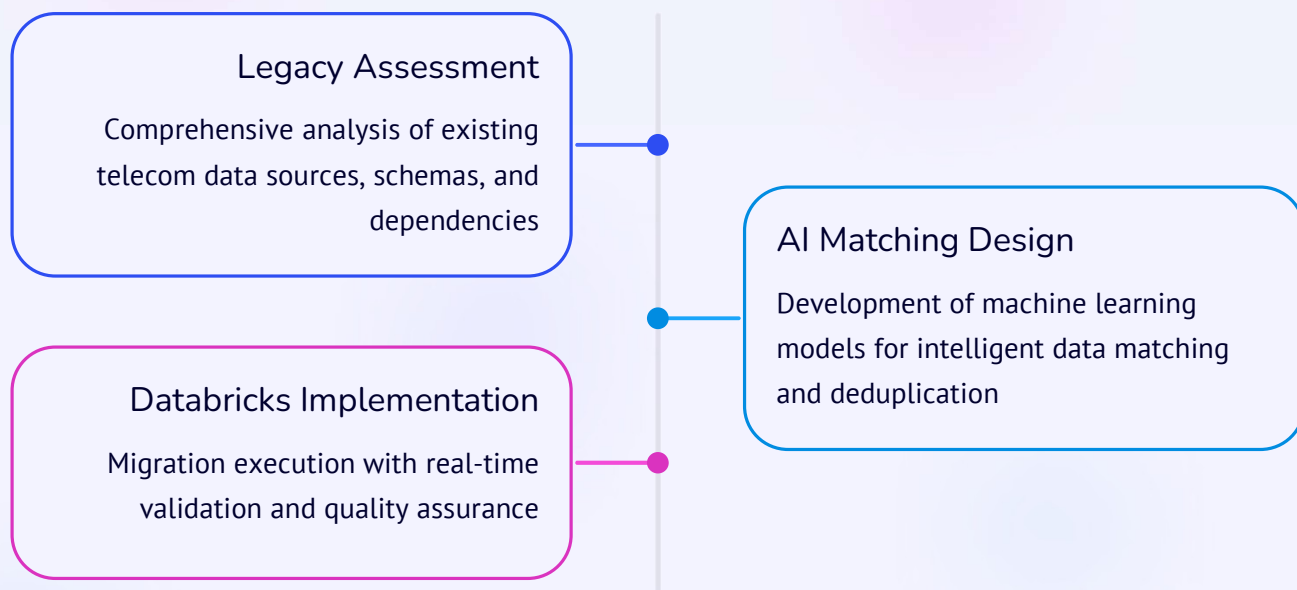


This case study examines a comprehensive **Telecom Databricks Migration** project that leveraged advanced AI data matching capabilities to transform legacy data infrastructure into a modern, scalable analytics platform.

The migration involved moving critical telecommunications data from traditional data warehouses to Databricks, while implementing AI-powered data matching algorithms to ensure data quality, consistency, and accuracy throughout the transformation process.

Migration Architecture and Approach

The Telecom Databricks Migration With AI Data Matching project was structured around a multi-phase approach that prioritized data integrity and business continuity.



The AI data matching component utilized advanced algorithms to identify duplicate records, reconcile inconsistencies, and establish golden records across multiple source systems, ensuring that the migrated data in Databricks maintained the highest standards of accuracy and reliability.



Key Challenges and Solutions

Data Volume and Complexity

1

The telecom environment contained petabytes of customer, network, and billing data across disparate systems with varying data quality standards.

Solution: Implemented incremental migration strategies with AI-powered data profiling to prioritize critical datasets and identify quality issues before migration.

Real-Time Business Operations

2

Migration needed to occur without disrupting 24/7 telecom operations and customer-facing services.

Solution: Deployed parallel processing architecture allowing legacy and Databricks systems to run simultaneously with AI matching ensuring data synchronization.

Data Matching Accuracy

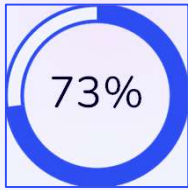
3

Customer records existed across multiple systems with variations in naming, addresses, and identifiers requiring intelligent reconciliation.

Solution: Developed custom AI matching algorithms using fuzzy logic, natural language processing, and probabilistic matching to achieve 99.7% accuracy in record linkage.

Results and Business Impact

The Telecom Databricks Migration With AI Data Matching project delivered transformative results across multiple dimensions of the business.



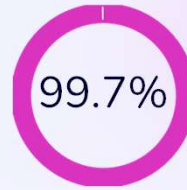
Query Performance Improvement

Analytics queries that previously took hours now complete in minutes



Annual Cost Savings

Reduced infrastructure and licensing costs through cloud optimization



Data Matching Accuracy

AI algorithms achieved industry-leading precision in record linkage



Months to Completion

Full migration completed ahead of the 9-month projected timeline

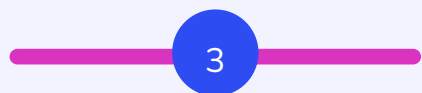
Strategic Advantages



Unified customer view across all touchpoints



Real-time analytics capabilities for network optimization



Enhanced data governance and compliance



Foundation for advanced AI/ML initiatives



Scalable architecture supporting 5G expansion

Lessons Learned and Best Practices

The successful completion of this Telecom Databricks Migration With AI Data Matching project yielded valuable insights for similar enterprise-scale data transformation initiatives.

Invest in Data Quality Early

AI matching algorithms are only as effective as the data quality foundation. Early investment in data profiling and cleansing accelerated the overall migration timeline and improved outcomes.

Stakeholder Engagement is Critical

Regular communication with business units, IT teams, and executive leadership ensured alignment on priorities, managed expectations, and secured necessary resources throughout the project lifecycle.

Iterative Approach Reduces Risk

Migrating data in phases with continuous validation allowed the team to identify and resolve issues incrementally rather than facing a high-risk "big bang" cutover.

Key Takeaway: The combination of Databricks' powerful analytics platform with AI-driven data matching capabilities created a synergistic effect that not only ensured migration success but also unlocked new business value through improved data quality, accessibility, and analytical capabilities that continue to drive competitive advantage in the telecommunications market.

Interested in a similar Databricks migration or AI data matching initiative?

Get in touch with our data and AI experts: contact@firsteigen.com

Learn more: www.firsteigen.com/data-matching-software/