

CASE STUDY

How a Global Ratings Provider Forecasts Vehicle Sales Across 50 Countries

A multi-tenant AWS platform that lets automotive analysts adjust, compare and publish sales scenarios at country and global level, across millions of records.

OVERVIEW

Building a Multi-Tenant Forecasting Platform on AWS

The client is a global provider of credit ratings, benchmarks and market analytics, headquartered in the United States. Its automotive analysts publish vehicle sales forecasts that OEMs, suppliers and investors use to plan production and capital.

The Challenge

Analysts needed to adjust future-year forecasts, compare scenarios side by side, and filter millions of records without waiting on batch runs. Each analyst required an isolated dataset, and 200 concurrent users could not be allowed to slow each other down. Storage and compute costs had to stay predictable as data volumes grew.



JRD built this platform alongside our analysts, not in front of them. They learned how our forecasts actually get made, and the same team has stayed with us through the programs that followed.



Anonymous

Director of Automotive Analytics, global ratings provider



WHAT WE DELIVERED

Four workstreams, one analyst portal



Scalable Data Processing

- Built microservices on AWS Lambda and AWS Batch to process millions of records
- Orchestrated nightly and on-demand jobs as separate AWS Step Functions workflows
- Designed the architecture to scale with data volume, not headcount



Multi-Tenant Data Isolation

- Isolated each analyst's dataset using Amazon S3, DynamoDB and Redis cache
- Enforced IAM policies and encryption so users reach only their own data
- Kept shared reference data accessible without duplicating it per tenant



Real-Time Slicing and Concurrency

- Delivered filter and aggregate queries with Python, Polars and ElastiCache
- Used caching and indexing to remove concurrency bottlenecks under load
- Built interactive scenario charts with Highcharts



Unified Portal and Operations

- Integrated multiple Angular applications into a single analyst portal
- Set up CI/CD, monitoring and audit logging from day one
- Configured multi-region backups and AWS Budgets cost controls

— THE RESULT

Faster Scenarios. Isolated Data. One Portal.

Analysts now adjust and compare forecast scenarios interactively at country and global level, instead of waiting on offline runs. Each user works in an isolated dataset, and the platform holds performance as concurrent usage grows. The same JRD team went on to deliver two further analytics programs for this client.

50M

Records processed

50

Countries forecast

60%

Faster scenario turnaround