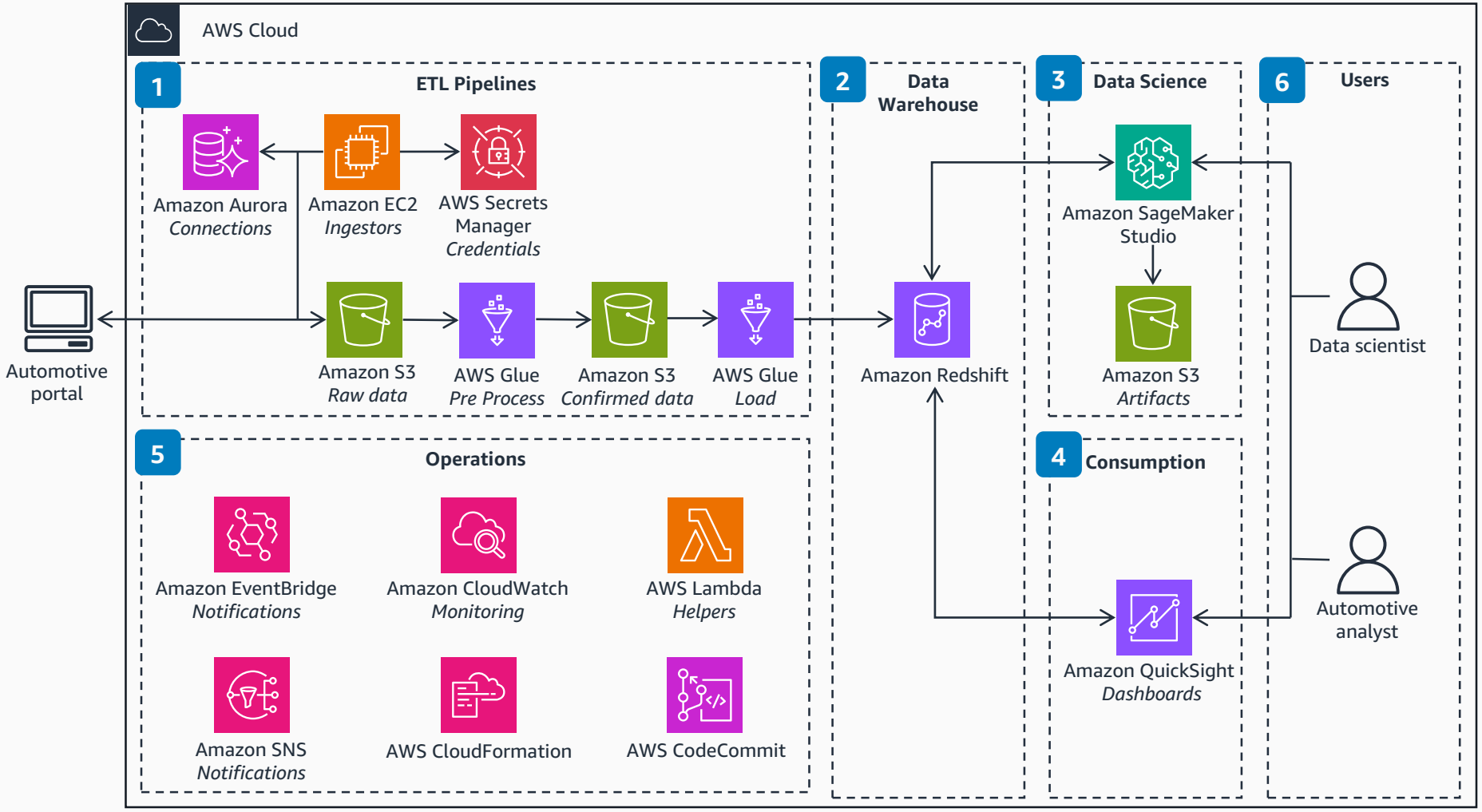
# Guidance for Automotive Warranty Analytics on AWS

This architecture provides a repeatable way to ingest, transform, and consume inferences from an ML model to predict major product defects and recalls. It then enable corrective actions.




1. Scripts running on **Amazon Elastic Compute Cloud (Amazon EC2)** periodically ingest automotive warranty claims from automotive portals and store them in **Amazon Simple Storage Service (Amazon S3)** buckets. This data then goes through scalable extract, transform, load (ETL) pipelines implemented in **AWS Glue**.

2. **Amazon Redshift**, a centralized data warehouse, then hosts this data, which includes enriched data and tables for specific analytical dashboards. **Amazon Redshift** can scale to meet the needs of an entire enterprise or organizational unit.

3. **Amazon SageMaker Studio** provides data scientists and analysts with a comprehensive tool chain for data exploration, model training, and machine learning operations (MLOps) pipelines, all in one place.

4. The broader community of analysts and users obtain specific actionable recommendations through dashboards deployed on **Amazon QuickSight**.

5. **Amazon EventBridge** initiates periodic ingestion and ML pipelines. **AWS CodeCommit** stores application code. **Amazon CloudWatch** provides logging and monitoring capabilities.

6. Data scientists and automotive analysts iteratively develop and review analyses developed in **SageMaker Studio** and **QuickSight** dashboards.

*Reviewed for technical accuracy May 9, 2023*
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**AWS Reference Architecture**