

# Improving Data Quality and Accelerating Advanced Analytics through an Enterprise Graph Database

E Source is helping Alabama Power Company (APC) to apply advanced analytics, machine learning models (MLM), and artificial intelligence (AI) to make better decisions about managing the complex distribution network. APC has accrued massive data sets across a variety of systems, applications, devices, asset types, etc. and E Source is helping them take a sustainable, innovative, and smart approach to managing these troves of data.

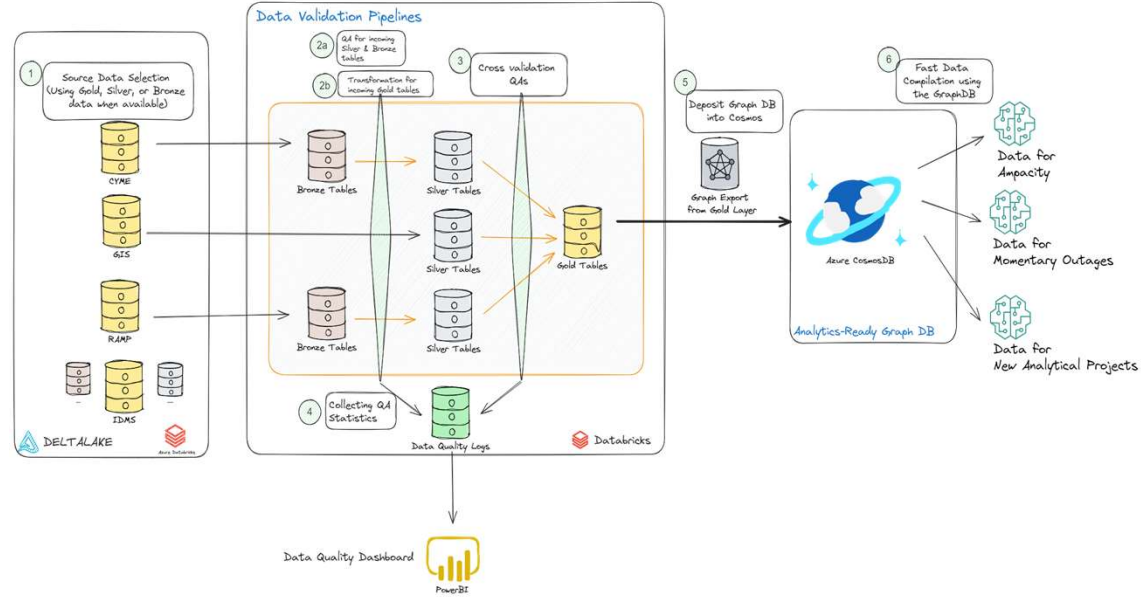
## Project Summary

**Problem:** Traditional approaches to organize and manage utility data creates limitations to rapidly apply advanced analytics, MLM and AI. Furthermore, they rarely provide sustainable pathways to solve data issues and gaps identified.

**Project Objective:** Establish a cloud-based analytics “storefront” (using CosmosDB) to query a comprehensive, analytics-ready graph database that is powered via automated data validation pipelines from enterprise data sources. E Source will leverage the storefront for preliminary analytics use cases that have been identified.

## Key Benefits

- Derive insights and answer questions faster and with greater precision
- Reduce initial data compilation *by weeks* for analytics projects
- Facilitate Ensure teams
- Seamlessly integrate disparate data sources through automatic pipelines without manipulating source data
- Transparently identify data quality issues and enable data owners to rectify them
- Monitor improvements to data quality and measure the *value of quality data*



## Core Project Team

- Shane Powell**, Data Analytics & Innovation Manager, Alabama Power
- Jesse Woods**, Manager of Data Analytics, Alabama Power
- Melanie Wemple**, Director of Client Success, E Source
- Ross Conner**, Director of Data Science, E Source
- Ali Vazifedoost**, Director of Machine Learning Engineering, E Source
- Hsiao-Chien Shih**, Data Scientist, E Source
- Kevin Lohier**, Data Engineer, E Source