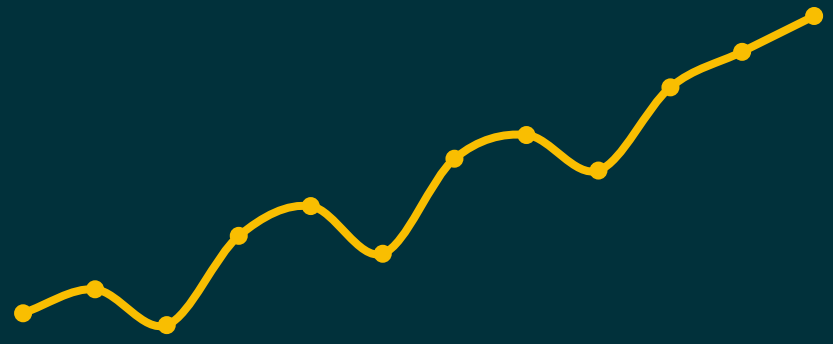
LTM

AI / ML ACCELERATOR

Demand Forecasting Accelerator

An automated framework for deploying the best time-series models at scale — forecasting demand across all SKUs at distributor level.

FORECASTED DEMAND



Predicting demand for the coming months across every Distributor–SKU.

SOLUTION OVERVIEW

Forecast demand at Distributor–SKU level

An AI/ML accelerator that selects and deploys the best time-series model for every distributor–SKU, end to end.

01

Data Ingestion

Ingests multiple data sources and predicts demand for the coming months across all SKUs at distributor level.

02

Model Selection

Selects the best ML model per Distributor–SKU based on the data pattern — capturing seasonality, trend and randomness.

03

Automated Pipeline

An Azure ML pipeline runs data analysis, preparation, model training and deployment — automatically, at scale.

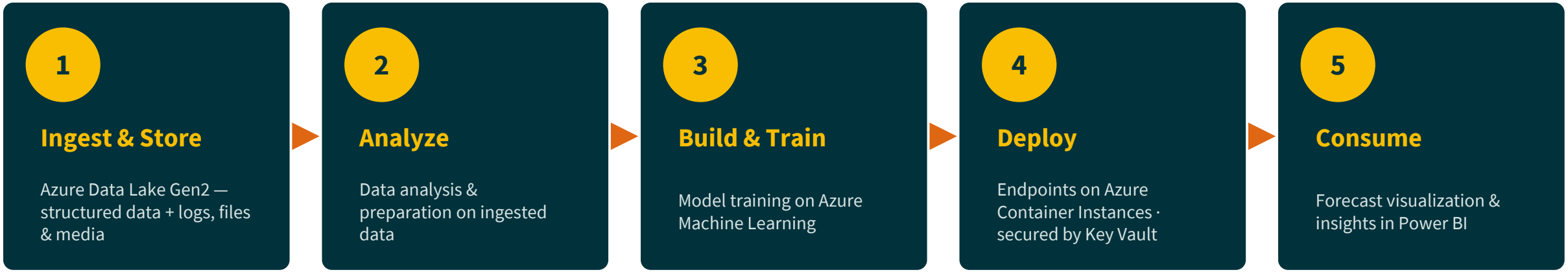
04

Deploy & Consume

Models are deployed as endpoints; metrics are logged at every phase in Azure ML for full experiment tracking.

HOW IT WORKS

Logical Architecture

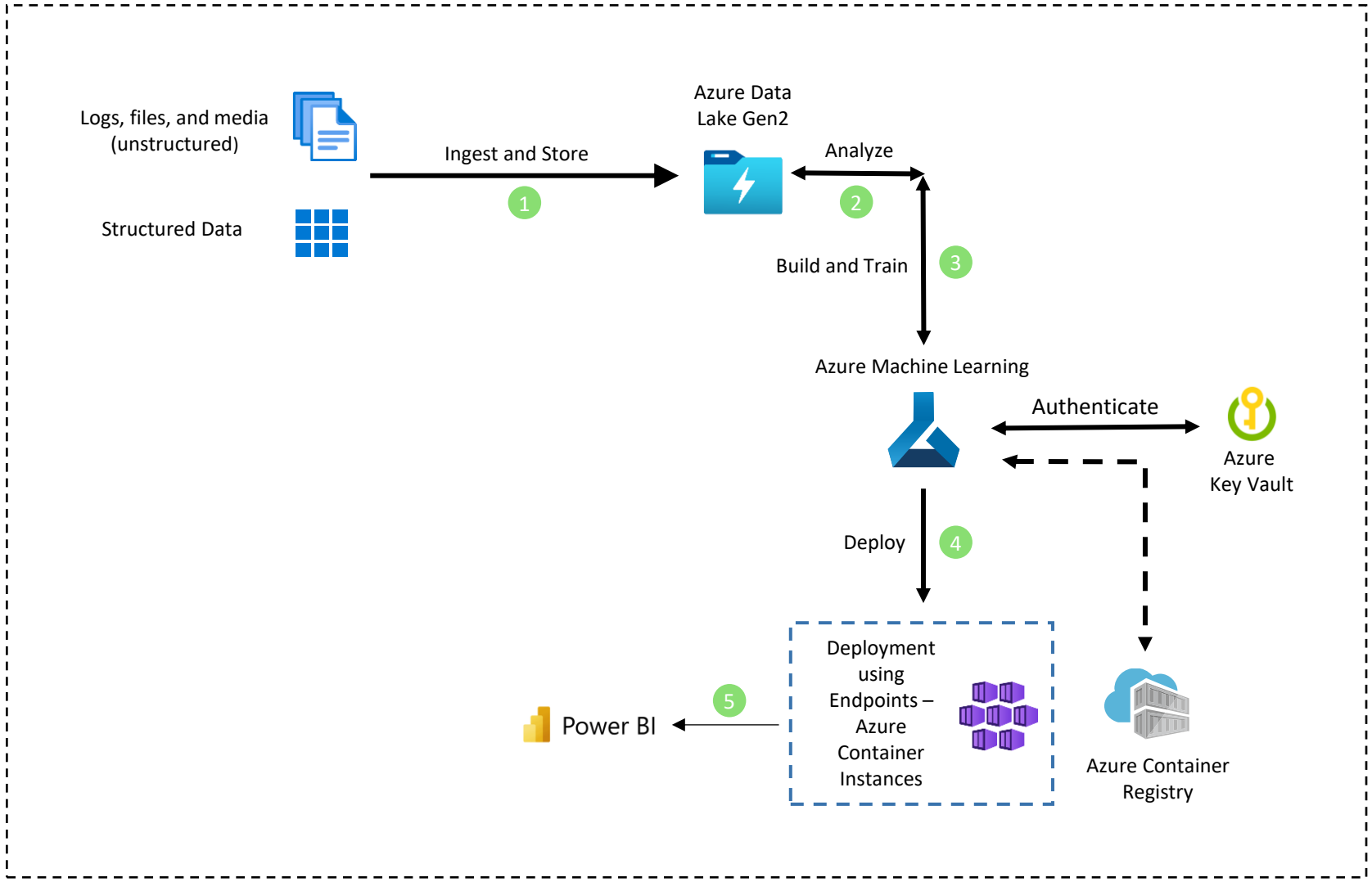


MAIN COMPONENTS

- Azure Data Lake Gen2 / Storage
- Azure Machine Learning
- Azure Key Vault
- Power BI
- Azure Container Instances
- Azure Container Registry

HOW IT WORKS

Technical Architecture



Main Components

- Azure Data Lake Gen 2/Storage Account
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Demand Forecasting Accelerator - Value Proposition

Scalable to Implement

Easy to scale implementation from the best Machine Learning models to predict the future demand

Built-in Framework

Reusable Framework and pipeline for preprocessing and training in Azure Machine Learning

Supply Chain Impact

Solution helps in Maintaining Safety Stock with improved Coordination among Manufacturing, Transportation and Warehouse Storage

This helps in Minimizing inventory, maximize production efficiency, streamline purchasing and optimize distribution

SUCCESS STORY · SUPPLY CHAIN

Demand forecasting at distributor level for a global FMCG leader

$50B+	150+	1M+	35+	65+	1,100+
REVENUE	COUNTRIES	OUTLETS	CATEGORIES	BRANDS	PRODUCTS

SOLUTION APPROACH

- Improved secondary-sales service fill for the General Trade market at Distributor–SKU level to cut non-moving / slow-moving inventory.
- Built ML algorithms to forecast sales demand at Distributor–SKU level for the next month.
- Piloted in one market, then scaled the algorithms to all-India coverage.
- Close to 9.6 billion computations at distributor–pack level.

IMPACT

< 24 hrs
Demand estimation turnaround

9.6B+
Computations at distributor–pack level

↑ Accuracy
Significant improvement in forecast accuracy

Pilot → Scale
One market scaled to all-India

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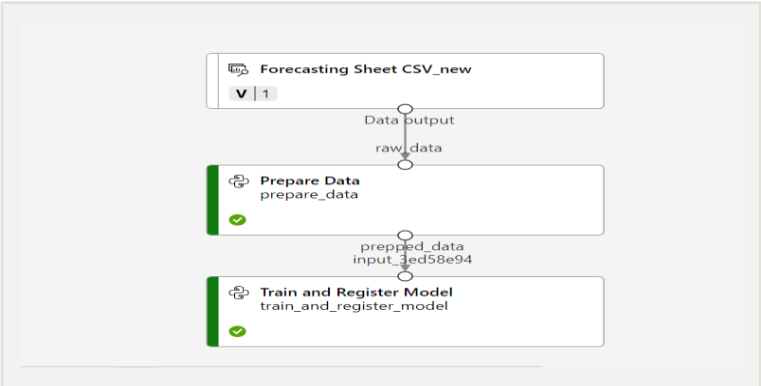
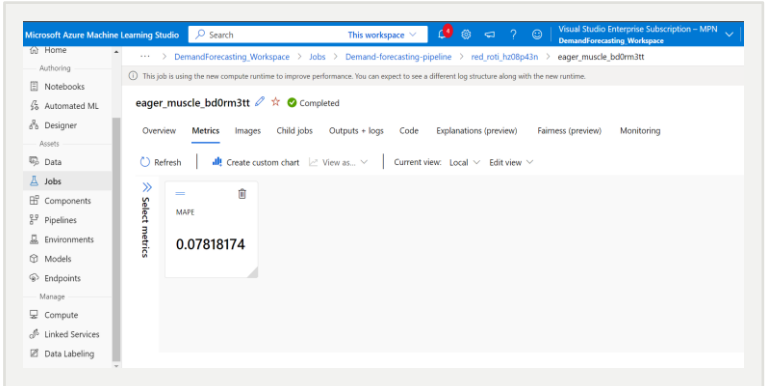
PROOF

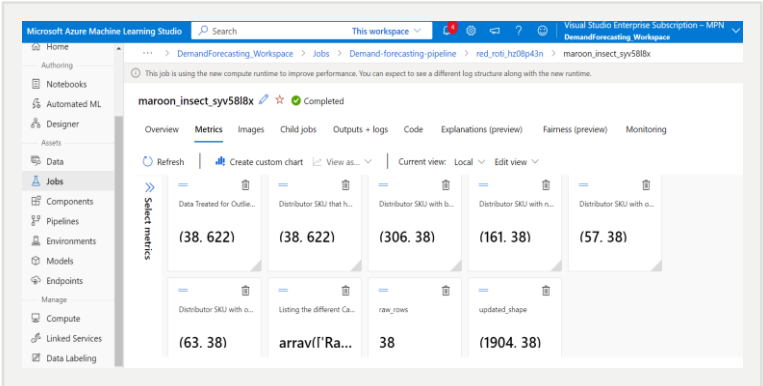
The Accelerator in Action



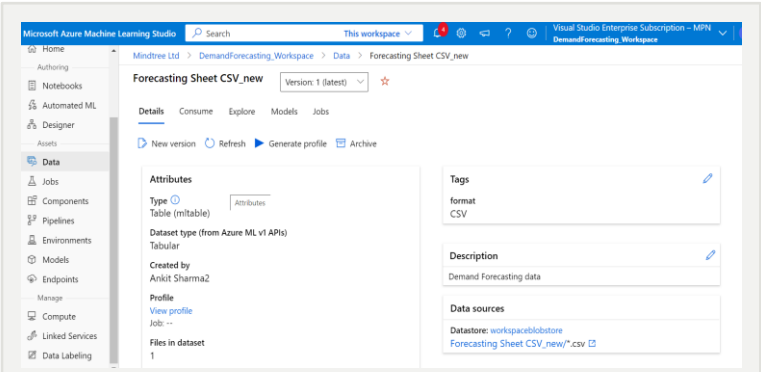
ML pipeline for data preparation & training



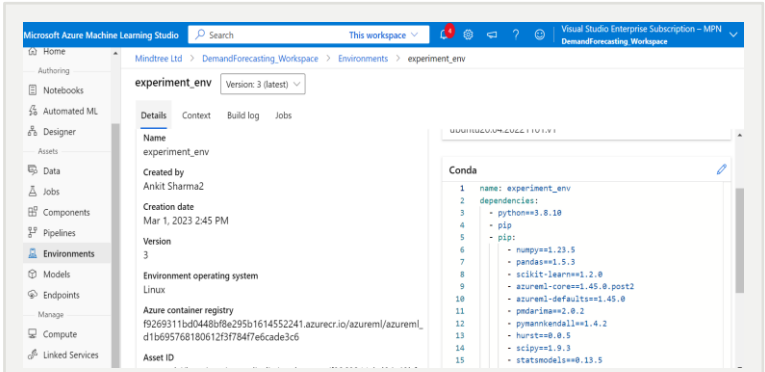
Metrics logged — data preparation phase



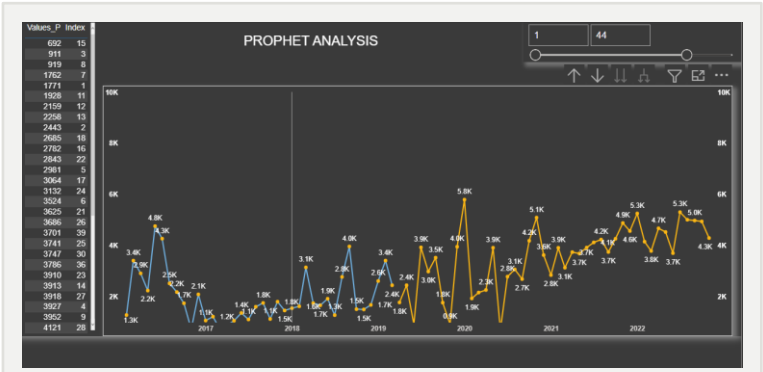
Metrics logged — model training phase



Data stored in Azure Blob Storage



Environment created for deployment



Forecasted demand visualized in Power BI

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Thank you

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