

Technology Stack





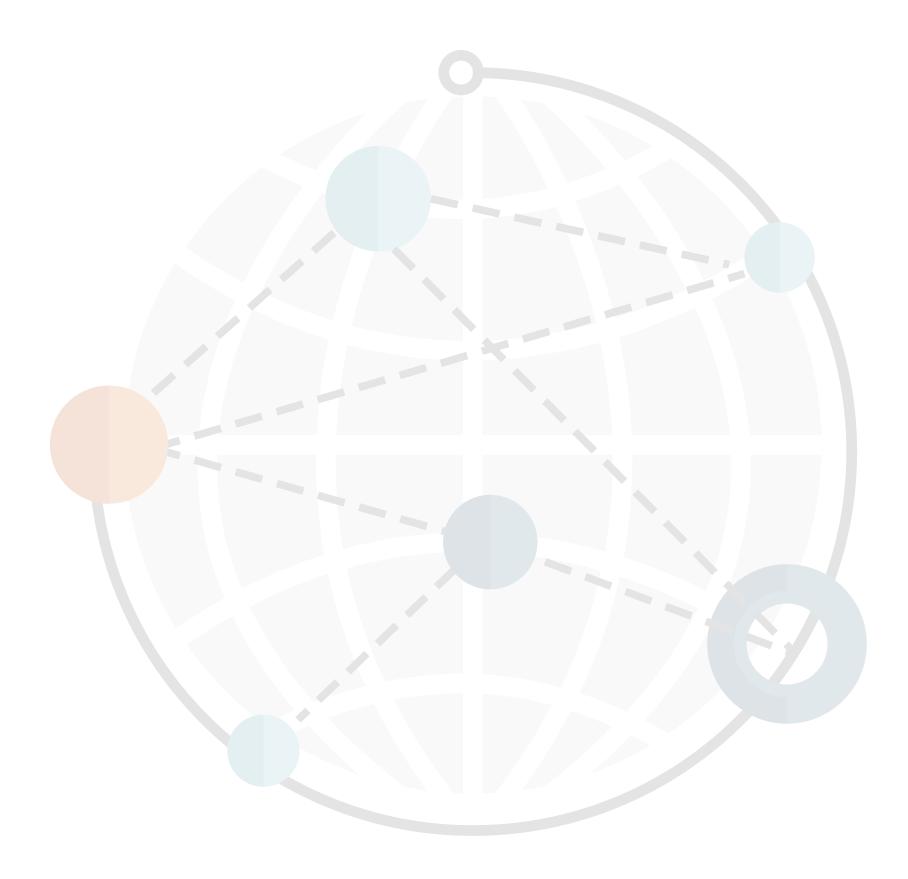
Details of Technology Stack [2/3]

Analytics and ML

- Data Analytics
- Advanced PI approach to evaluate competitors for the electronic market, that produces more accurate predictions for newest market products
- Rank-based replenishment system allowing efficient optimization of product distribution
- Prediction insights and forecast quality control based on Country, Location, Brand and Product Level dimension

Data Processing for Machine Learning:

- Semi-automated data cleaning processes and auto-outlier detection for receiving better data quality
- Fetching and aggregating real-time external data streaming from different sources to our data warehouse for anomaly explanation
- Monitoring data quality pipelines notifying about alerts in incoming data, allowing us to reduce the time for resolving problems with data sources



Details of Technology Stack [1/3]

Architecture and System Design

Greenfield Cloud-native Software Platform

- has given us a head start to create state-of-the-art solutions without constraints of existing systems or infrastructure
- API-driven, asynchronous and composable architecture
- provides flexibility and scalability across regions and product categories with techagnostic microservices communicating in event-driven manner
- e.g. Integrating with Locus for some locations, making Online Payment available to some dealers, etc.

User-facing Apps

GraphQL API for user-facing apps

- provides a simple but robust, handling ~3 million requests in last month, aggregation layer to create information-rich user interfaces.

Modular Web-based Operations Portal

- giving our Ops Teams and Suppliers the ability to interact with the Platform Native Mobile Apps
- providing performant and platform-native user interactions, while taking advantage of platform-specific capabilities

Infrastructure and processes

Observability for Reliability and Performance

- DevOps tools like performance alerts, Dynatrace provides transaction-level visibility on how systems are performing

Analytics and ML

Forecasting and demand planning accuracy is one key aspect of an efficient and predictive supply chain that strategically balances customer expectations for high service levels with cost, quality, sustainability, resilience, and agility and demand planning system is on modern day Al/ML stack powered by:

MLOps

- Automated ML and data integration pipelines that allow us to reduce errors during forecast deployment significantly
- "Canary" deployment process for better risk management while deploying new advanced models to production
- Developed infrastructure for backtracking and onboarding new ML models allowing us rapidly conduct experiments and test hypothesis

Machine Learning

- Demand forecast pipelines with active learning, allowing us to keep our finger on the demand pulse and keep the forecast flexible
- Baseline, boosting, and deep learning models in production to level out and identify occurring changes
- Feature importance analysis for better understanding the impact of various factors influencing demand forecast, decreasing the ML algorithms bias



Details of Technology Stack [3/3]

Backend Technologies

Amazon Cloudfront

AWS Elastic Search

EC2

Amplify

SES

AWS Pods and Clusters

PM2

MongoDB

BitBucket

Java 8

NodeJS

Swagger

Web Portal

ReactJS (CRA)

Redux

React Router Dom

Styled Components

Material UI

GraphQL

EsLint

Jest and Enzyme

Testing Library

Webpack

Nginx

Production Server

CSR (lient Site Rendering)

Mobile Application

XCode

Android Studio

Swift 5.0

Java 11

XCTest

Firebase App

DevOps / SRE

Server EC2

Cloud Front

Cognito

AWS Private Links

Cloud Mapping

Service Discovering

VPC

MongoDB

Secrets Manager

Amazon SES

