

Objective:

Implement Tredence's Supply Chain Control Tower for 'End to End Visibility' across Supply Chain & connected insights to better manage planned/unplanned events. In the pilot, we start with key areas while laying a foundation for future additions and use cases.

Key Challenges Addressed:

In addition to providing real time visibility across supply chain, Tredence's Supply Chain Control Tower uses best in class AI/ML forecasting models and optimization solutions to predict events, understand impact and recommend actions across various levels of Supply Chain operations.

Tredence's control tower leverages several Azure components including App services, data factory, data bricks workspace and blob storage to effectively deploy the control tower operations.

Some of the key features which help quickly sense problem and take optimal mitigation steps are listed below:

- Simplified alert management, Self-Service Deep Dive & Root Cause Analytics; diagnostics & alerts
- KPI Library along with Inbuilt catalog of ready to use simulation delivering cross Functional action recommendations
- Evolved AI/ML powered models with improved prediction/prescription accuracy and efficiency

Implementation Plan

The break-up of the implementation plan is as below:

1. **Week 1-2:** Spent on 'discovery' to understand the business key objectives, data sources, downstream applications as well as KPI Definition/Identification
2. **Week 2-6:** Laying the data foundations - Data Modeling, Aggregate Layers for Dashboards. Detailing on the needed decision support systems.
3. **Week 7-8:** Application development - Web Portal UI/Dashboard, Front-end and Back-end
4. **Week 8-10:** UAT & Rollout of the control tower solution

This implementation uses the following native Azure components:

- **Azure Git:** Allowing changes to the repository in a controlled way, allowing coordination between many people without accidentally overwriting or corrupting files
- **App Services:** The monitoring web app and python backend code is hosted on azure Linux app services. Both the apps can be scaled automatically or manually on demand.
- **Microsoft Azure Data Factory:** Used to fetch the status information of Data factory pipelines to track.
- **Databricks Workspace:** Databricks is used to run python notebooks to calculate KPIs related to various functional areas
- **Cosmos DB:** With the flexibility of schema and changing nature of data, NoSQL helps accommodate requirements.
- **Azure Blob Storage:** Used to take back up of data and restore the control tower, also used to store weekly reports for executives.