



# Supply Chain Control Tower on Azure

[www.sigmoid.com](http://www.sigmoid.com)





## About Sigmoid

---

# Sigmoid is an emerging leader in data engineering and AI solutions.



**750+**  
Employees



Work with **30+**  
Fortune 500 firms



**>97%**  
CSAT score



**200+**  
ML models operationalized



**5000+**  
Data pipelines built

Backed by

**SEQUOIA**

## Awards and Recognition

**500™**

Technology **Fast 500**  
2023 NORTH AMERICA  
Deloitte.

**\* ISG**

Provider Lens 2023 Quadrant

**Analytics Services**  
Rising Star, U.S. ★

Report releasing Jan 2024



**America's  
Fastest-Growing  
Private Companies**



**Open Source data  
solution provider  
of the year**



**FORRESTER**  
**Now Tech:**  
**AI Consultancies,**  
Q1, 2021 Report

Major Contender in

**EVEREST GROUP**

**Analytics and AI Services Specialists**  
PEAK Matrix (2022)

## Offices



New York



San Francisco



Dallas



Lima



Bangalore



Amsterdam

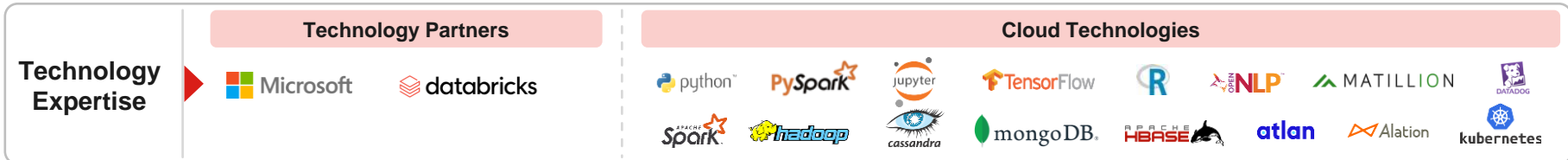
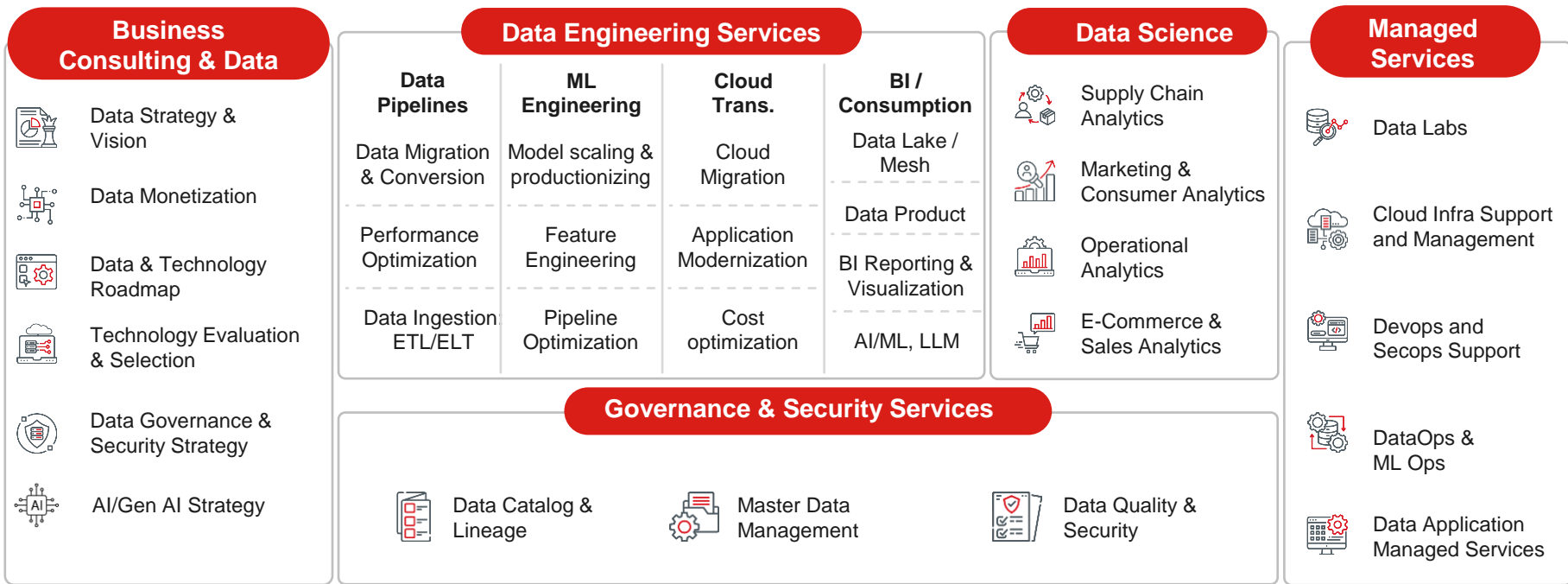


London



Sao Paulo

# Enabling Business Transformation with Full-Service Capability Suite



# Sigmoid Capabilities - Experience in implementing data solutions in Azure

Sigmoid has worked with more than Five large customers to design, build and deploy solutions in Azure

## Data Processing & Transformation:

- **Azure Databricks:** Collaborative Apache Spark-based analytics platform to be used for big data processing and machine learning.
- **Azure HDInsight:** Managed cloud service for processing big data using popular open-source frameworks like Hadoop and Spark.

## Data Analytics & Visualization:

- **Azure Synapse Analytics:** Analytics service which will be used for analyzing large amounts of data using either serverless or provisioned resources.
- **Power BI:** Business intelligence tool to be used for creating interactive visualizations and reports.

## Data Storage & Management:

- **Azure Data Lake Storage:** Scalable and secure data lake for storing large amounts of structured and unstructured data would be considered.
- **Azure SQL Database:** Managed relational database service for structured data storage.

## Data Ingestion & Integration:

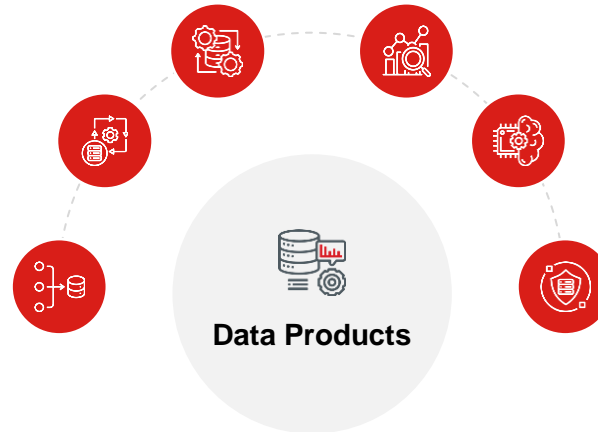
- **Azure Data Factory:** Creating data pipelines to move and transform data from various sources.
- **Azure Event Hubs:** Real-time data ingestion from applications, devices, or any data streams would be done.

## Machine Learning & AI:

- **Azure Machine Learning:** End-to-end platform for building, training, and deploying machine learning models.
- **Cognitive Services:** Pre-built AI services for vision, speech, language, and decision-making.

## Security & Compliance:

- **Azure Active Directory:** Identity and access management service.
- **Azure Policy & Blueprints:** Tools for implementing governance and compliance across Azure resources.



Sigmoid's implementation of solutions in Azure involves leveraging a combination of services and tools tailored to specific business needs. Sigmoid would collaborate between data engineers, data scientists, business analysts, and other stakeholders as it is essential to align the implementation with business goals and ensure success.





# Supply Chain Control Tower

---

# Supply Control Tower - Snapshot



Digital Control Tower (DCT) is a key building block of the NA Supply Chain Ambition: To become *best-in-class, flexible and agile customer/consumer centric* supply chain that delivers excellence in safety, quality and operational performance.

1



One single place to manage all Supply Chain Analytics

23



Use cases/programs registered in JIRA via PIF

35%



Time savings in Report Generation & Collaboration

10



SCT is in the Top #10 most popular Dashboards at CPG Co.

2



Near real-time use cases

+108



New Business capabilities added in 2022

\$100k



Cost avoidance

\$1m



Additional revenue thanks to the visibility provided by the insights

272



Unique Users

\$120k



Projected Azure's cost in 2022

17K



Views across all dashboard in the last 90 days

~50+



Main data sources (Internal / External)

# Supply Control Tower - Offering at a glance

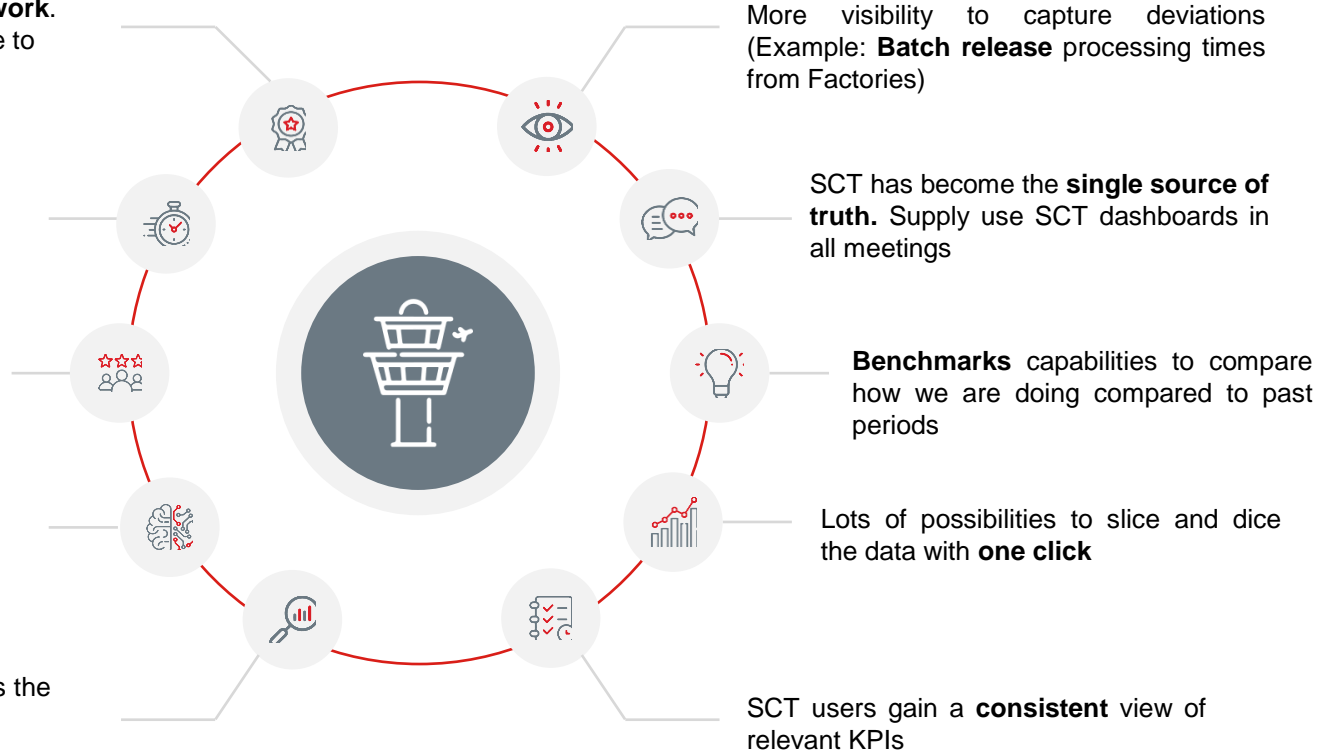
SCT eliminates the **guesswork**. Users have now the chance to base decisions on the right information

SCT provides **near real-time** updates to make decision much faster

SCT **empowers** everyone to explore the data using self-service approach

**Smart features:** Smart narratives, custom visuals, Time intelligence, UoM Conversion, Exception reports, Alerts, email distribution, AI-based analysis

**Enhanced User Experience:** SCT is the first platform to use infographics to communicate stories more efficiently





# Covered various use-cases via a “Supply Chain Control Tower”



## Leadership Dashboard



### Demand Planning

- Forecast Accuracy
- HEALTH Allocation Analysis
- IFCN Write-off Estimation
- Safety Stock
- IFCN Forecast Evolution
- Tracking Signal Report
- IFCN Allocation Analysis



### Service & Supply Planning

- PFR Overview
- POS Dashboard
- IFCN Stock Transfer Order Dashboard
- IFCN Inventory Dashboard
- Health Stock Transfer Order Dashboard
- Safety Stock
- Shipment Report
- Health Inventory Dashboard
- EMO OTIF



### Manufacturing Excellence

- Overall Equipment Efficiency - WIP
- Forecast vs. Plan vs Actual Production levels .



### Quality

- QA Dashboard
- Testing Workbench
- Ready for Testing Report



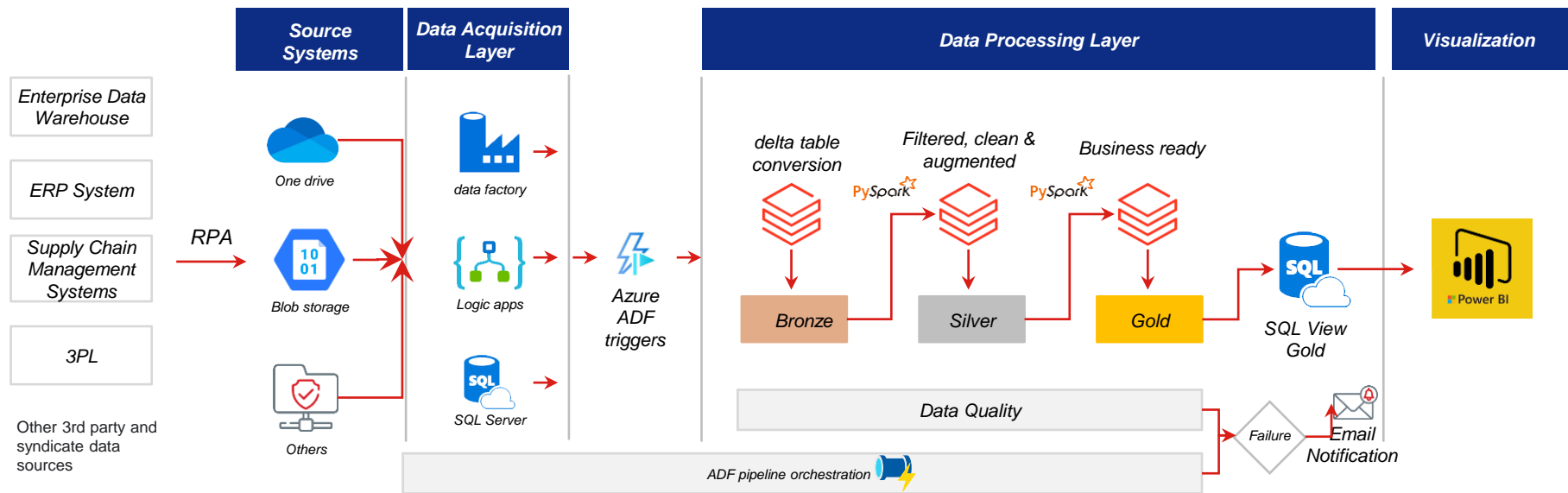
### Logistics & Distribution

- Shipment Report
- Current Day Expectation
- Projection Report
- OTW Report
- EDD Changes
- OBD Volume [Health & Nutrition]



# Reference Architecture

# Designed & executed a scalable Technical Architecture to manage the backend







# Success Story

---

# Integrated 50+ data sources and built a “Supply Control Tower” capability



## Consumer Packaged Goods



- Sigmoid helped drive the SCT agenda to drive (i) Supply Operating Model changes in short term (ii) Drive Network Optimisation in the medium term
- Initiated and implemented tech stack change from SQL to pySpark for reliability, scalability and performance.



## Client Overview and Requirements

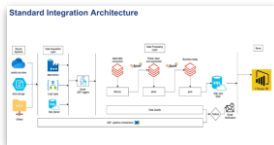
- The client is a leading multinational consumer goods company and a producer of health, hygiene and nutrition products.
- The requirement was to build a decision-making platform that enables a real-time, integrated, and omniscient supply chain through end-to-end visibility and predictive / prescriptive analytics
- Earlier solution was bunch of complex SQL queries which were non-performant and incomplete
- Current systems don't deliver insights across organization

### Datasets & Sources Used

Order Allocation Report	Partial Fill Rate Report	Transportation Shuttle Reports
Carrier Assignment	Inventory Under QC Check	Order Forecast Reports



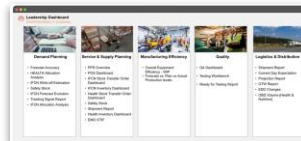
## Sigmoid's Approach



**Technology Architecture to Automate data from 50+ sources**



**Last-mile Performance Dashboard (Early / At-risk)**



**Multiple Use-cases under Supply Planning, Quality & Distribution**



**Unassigned Shipment Risk Report & Risked Dollars**



**Enhanced Order Management Summary**



**Jointly Developed CT Product Roadmap Vision with client**

**Business Impact**

**90 %**

reduction in as-is report efforts

**3%**

improvement in OTIF levels across in-scope Modern Trade accounts

**80 %**

Solution coverage across all NA Warehouses





# Engagement Models

---

# Sigmoid's Engagement Models

## Project Based



- Starts with consulting/scoping (2-3 weeks)
- Delivery Program Management
- Interim review
- Success criteria met and IP handover
- Option to continue with product support
- Fixed bid contract
- 3-5 months duration given complexity of problem

### Benefits

- Cost effective
- KPI/SLA/Outcome driven
- Suitable for Fixed scope of work
- Less overheads

## Staff Augmentation



- Understanding of skill requirements
- Profile match and rate card
- Onboarding and monthly billing
- Focused training based on client tech stack
- Project Management support
- 10% backup resources unbilled and trained

### Benefits

- Scalability
- Flexibility in resourcing
- Ability to change/redefine scope

## Hybrid-Flexi Model/Data Labs/CoE



- Mix of project and staff augmentation engagements
- Requirement gathering
- Requirement classification - as project or staff augmentation
- Joint delivery plan
- Secure resources internally from Sigmoid and bill monthly
- Dedicated PM, Engineering Managers
- Dedicated Management Consultant(s)
- Dedicated Team Leads and Product Owners

### Benefits

- Cost effectiveness by focus on output
- Ability to change/redefine scope/Change requests
- Risk/Reward linked to KPI/SLA

# Thank you



Email: [surabhi.s@sigmoidanalytics.com](mailto:surabhi.s@sigmoidanalytics.com)



Website: [www.sigmoid.com](http://www.sigmoid.com)



**'India Future Unicorn Award'**  
in Data Science category by Hurun India

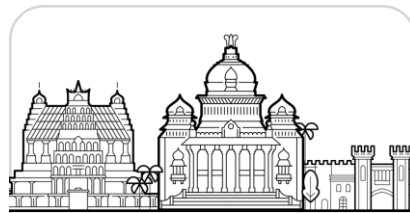
## Global presence:



**USA** (NY, SF, Dallas, Chicago)



**EU** (Amsterdam, London)



**India**  
(Bengaluru)



**LATAM** (Lima)