Automated Industry Data Model Banking

Microsoft Solutions Partner

Infrastructure (Azure)
Data & AI (Azure)
Digital & App Innovation (Azure)
Security
Biz Applications

Celebal Specialization and Strength

CELEBAL TECHNOLOGIES

Microsoft
AI Partner Of The Year 2023
Global

databricks
Partner Of The Year 2022 & 2023
Asia Pacific and Japan
2 YEARS IN A ROW

databricks
Migrations Partner Of The Year 2023
Asia Pacific and Japan

databricks — Partner of the Year 2022 — Asia Pacific and Japan

databricks — TOP CONSUMPTION PARTNER — Asia Pacific and Japan

databricks — REGIONAL SYSTEM INTEGRATION PARTNER — India — 2 YEARS IN A ROW

Microsoft — Singapore Partner — 2023

Microsoft — MALAYSIA PARTNER AWARDS 2022 — Azure Data & AI Partner of the Year

Microsoft — COUNTRY PARTNER OF THE YEAR India — 2 YEARS IN A ROW — 2021 AND 2022

Partnerships

- Microsoft Solutions Partner
- databricks Elite Partner
- SAP Silver Partner
- Red Hat Ready Business Partner

Advanced Specialization

- AI & Machine Learning
- Analytics
- Infra and Database Migration
- Kubernetes
- Cloud Security
- Low Code No Code
- Intelligent Automation

INDIA | USA | CANADA | APJ | MIDDLE EAST | AUS

2800+ Employees	800+ AI experienced professionals	500+ AI Certifications

Industries We Serve

- Manufacturing
- Retail & CPG
- Financial Services
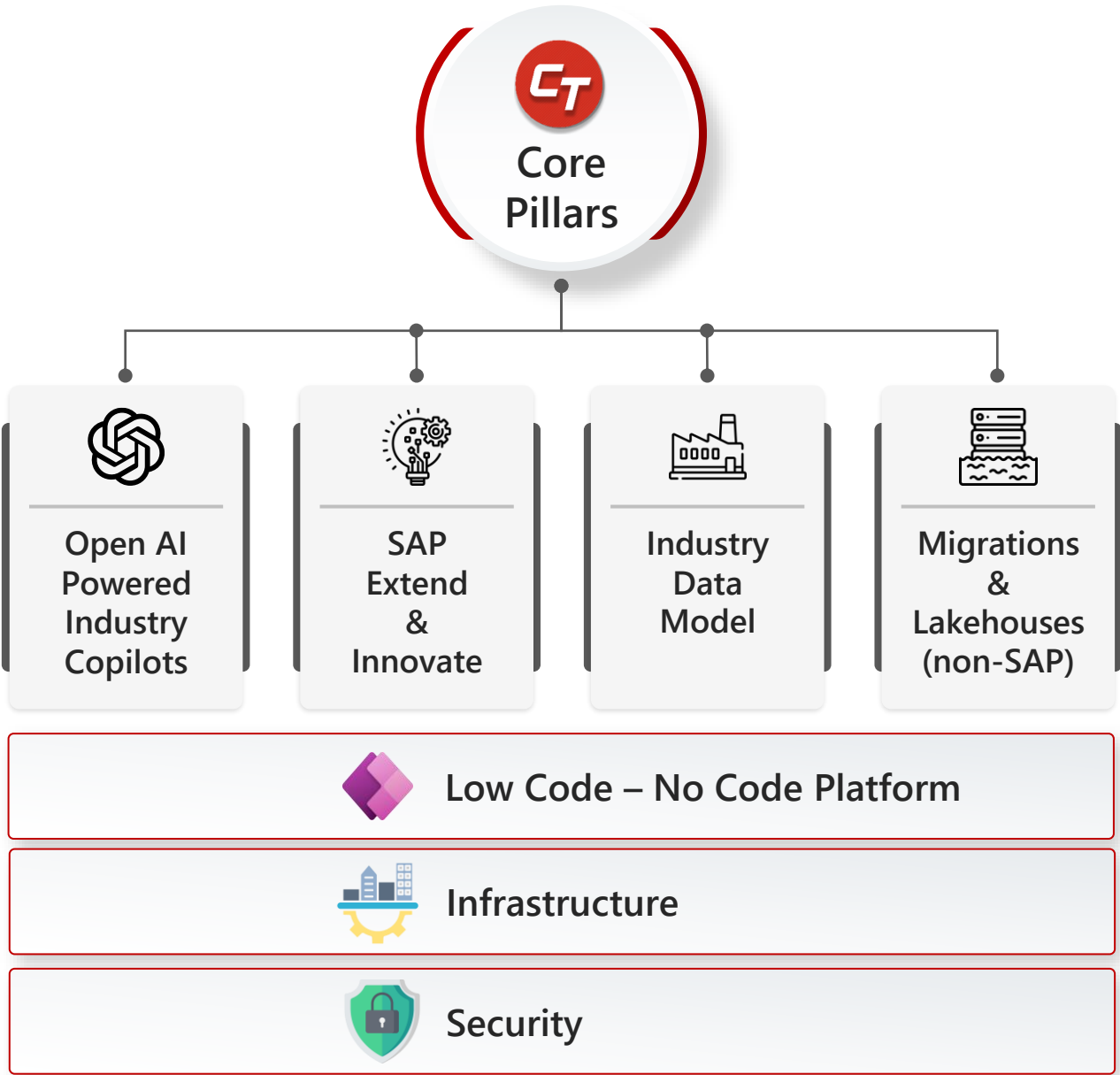- Energy & Sustainability
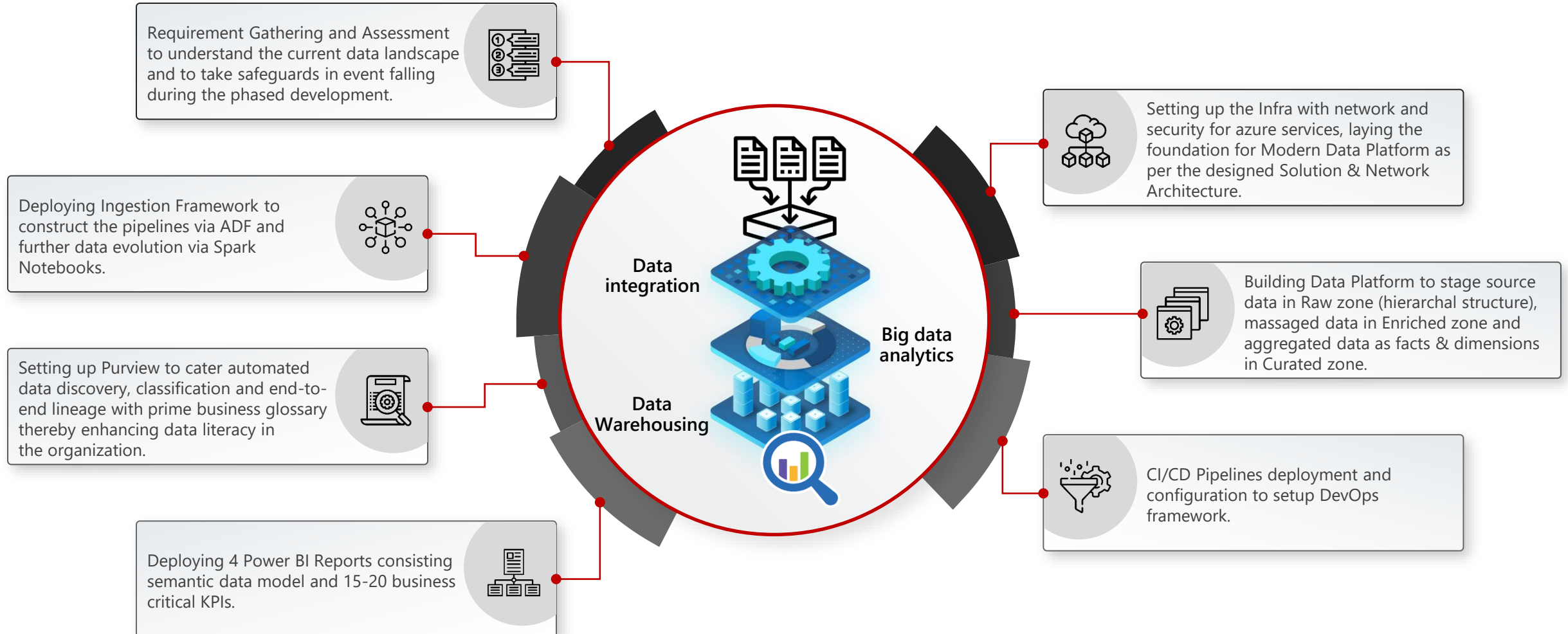- Healthcare & Life Sciences
- Media & Entertainment

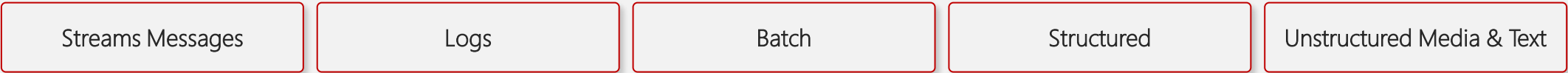# Celebal Core Pillars

Scope and Objectives

Theme: To construct and automate the different Data Lake solution that can be **versatile** with hybrid necessities, **apparent** with regards to data governance and lineage, **adaptable** concerning the immense size and variety of data and able to carry out the state-of-the-art advance analytics. In preference to give a logical approach to business choices, modern data fabric (enable controlled, secure and self-service economy) to deliver data model with business critical KPIs for subdomains.
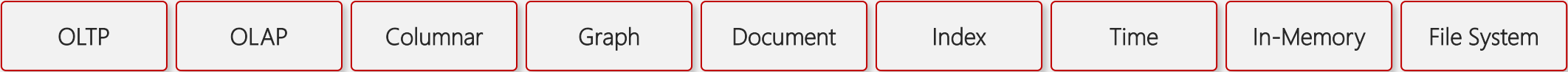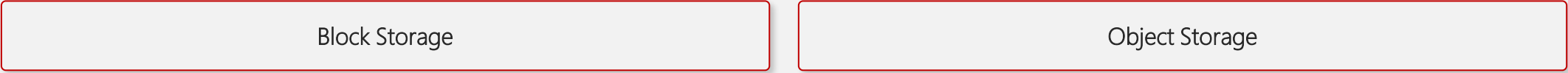
Requirement Gathering and Assessment to understand the current data landscape and to take safeguards in event falling during the phased development.

Setting up the Infra with network and security for azure services, laying the foundation for Modern Data Platform as per the designed Solution & Network Architecture.

Deploying Ingestion Framework to construct the pipelines via ADF and further data evolution via Spark Notebooks.

Building Data Platform to stage source data in Raw zone (hierarchal structure), massaged data in Enriched zone and aggregated data as facts & dimensions in Curated zone.

Setting up Purview to cater automated data discovery, classification and end-to-end lineage with prime business glossary thereby enhancing data literacy in the organization.

CI/CD Pipelines deployment and configuration to setup DevOps framework.

Deploying 4 Power BI Reports consisting semantic data model and 15-20 business critical KPIs.

Data integration

Big data analytics

Data Warehousing

Data Management Lifecycle

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Data Lifecycle

| Ingest | Classify | Transform | Curate | Consume | Distribute | Archive |

Data Types

| Streams Messages | Logs | Batch | Structured | Unstructured Media & Text |

Data management & Processing

| OLTP | OLAP | Columnar | Graph | Document | Index | Time | In-Memory | File System |

Data Storage

| Block Storage | Object Storage |

Data Security

Data Governance

Reference Data Architecture

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Source Systems

- OLTP / ODS
- Warehouse
- Logs Unstructured Data
- Multimedia
- Automation IOT
- Cloud Services

- File Data
- DB Data
- ETL Extracts
- Streaming Data
- API Data

Data Ingestion

Staging Tier

Bronze Layer
Raw Data

Original Data

Tokenized Data

Silver Layer
Refined & Trusted Data

Common Formats, Data Validation, Cleansing, Aggregation & Transformation

Gold Layer
Discoverable Data

Data Wrangling, Discovery, Correlations, Exploratory Analytics

Reports, Dashboards

Applications

Data Science & Analytics

Storage

| Files | Relational | Document | Object |

Governance

| Metadata | Data Quality | Data Catalogue | Master Data |

Security

| Authentication | Authorization | Validation | Encryption |

Source Mapping for Data Models

Source Mappings to be provided by Client

Source_Table_Name	Source_Column_Name	Source_Column_Type	Sink_Table_Name	Source_Column_Name	Source_Column_Type
Employee	EmployeeId	string	Employee	EmployeeId	integer
Employee	EmployeeName	string	Employee	EmployeeName	string
Employee_Name	DateOfBirth	string	Employee	DateOfBirth	date
Employee_Name	DateOfDeath	string	Employee	DateOfDeath	date
Employee_Name	EmployeeStandardCostAmount	string	Employee	EmployeeStandardCostAmount	decimal
Employee_Name	EmployeeOvertimeCostArnount	string	Employee	EmployeeOvertimeCostAmount	decimal
Employee_Name	EmployeeHireDate	string	Employee	EmployeeHireDate	date
Employee_Name	HighlyCompensatedEmployeeIndicator	string	Employee	HighlyCompensatedEmployeeIndicator	boolean
Employee_Name	KeyEmployeeIndicator	string	Employee	KeyEmployeeIndicator	boolean
Employee_Name	ExemptEmployeeIndicator	string	Employee	ExemptEmployeeIndicator	boolean
Employee_Name	NonexemptEmployeeIndicator	string	Employee	NonexemptEmployeeIndicator	boolean
Employee_Name	AlienStatusId	string	Employee	AlienStatusId	integer
Employee	SexId	string	Employee	SexId	integer
Employee	GenderId	string	Employee	GenderId	integer
Employee_Name	RacialCategoryId	string	Employee	RacialCategoryId	integer
Employee_Name	EthnicCategoryId	string	Employee	EthnicCategoryId	integer
Employee_Name	EmploymentLeadSourceId	string	Employee	EmploymentLeadSourceId	integer
Employee_Name	SecurityClearanceId	string	Employee	SecurityClearanceId	integer
Employee_Name	SecurityLevelId	string	Employee	SecurityLevelId	integer
Employee_Name	PartyId	string	Employee	PartyId	long

Banking Process Cycle

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Channels	Mobile/ SMS Banking	Internet Banking	ATM/ POS/ Kiosk Banking	Handheld Devices	Call Center

Channels

Consumer Banking and Wealth Management				Corporate Banking and Trade Finance			
Savings & Checking	Term Deposits	Retail Loans	Mortgages	Current/ Overdrafts	Notional Pooling	Syndication	Bill Discounting
Insurance	Mutual funds	Financial planning	Structured products	Export/ Import Financing	Forward Contracts	Documentary Credits	Guarantees
Card management	Customer Information	DEMAT and online trading	Locker/ Strong Room	Commercial Lending	Limits and Collateral		

Functional

Standing Instructions	Sweeps/ Pooling	Payment Systems	Referral	Bill Payments

Business Components

Treasury	Asset Liability management	Liquidity Management	Fees/ Charges
Interest/Tax	Exchange rates	Bank management	Signature Verification
Inventory	Channel Rules	Discounts/ Preferential Pricing	Risk Management
Auto-Debit Credit	Business Intelligence	Document Management	Cash Management
Legal	Clearing		

Accounting

General Ledger	Multi-Currency	Transactions	Finance and Accounting	Audit and Compliance

Basic Features

24*7	Multi-lingual	GUI	Single Sign On
Integration Framework	Purge	Access Control	Workflow (BPEL)
Reporting	Audit	Multi-Calendar	Scheduler

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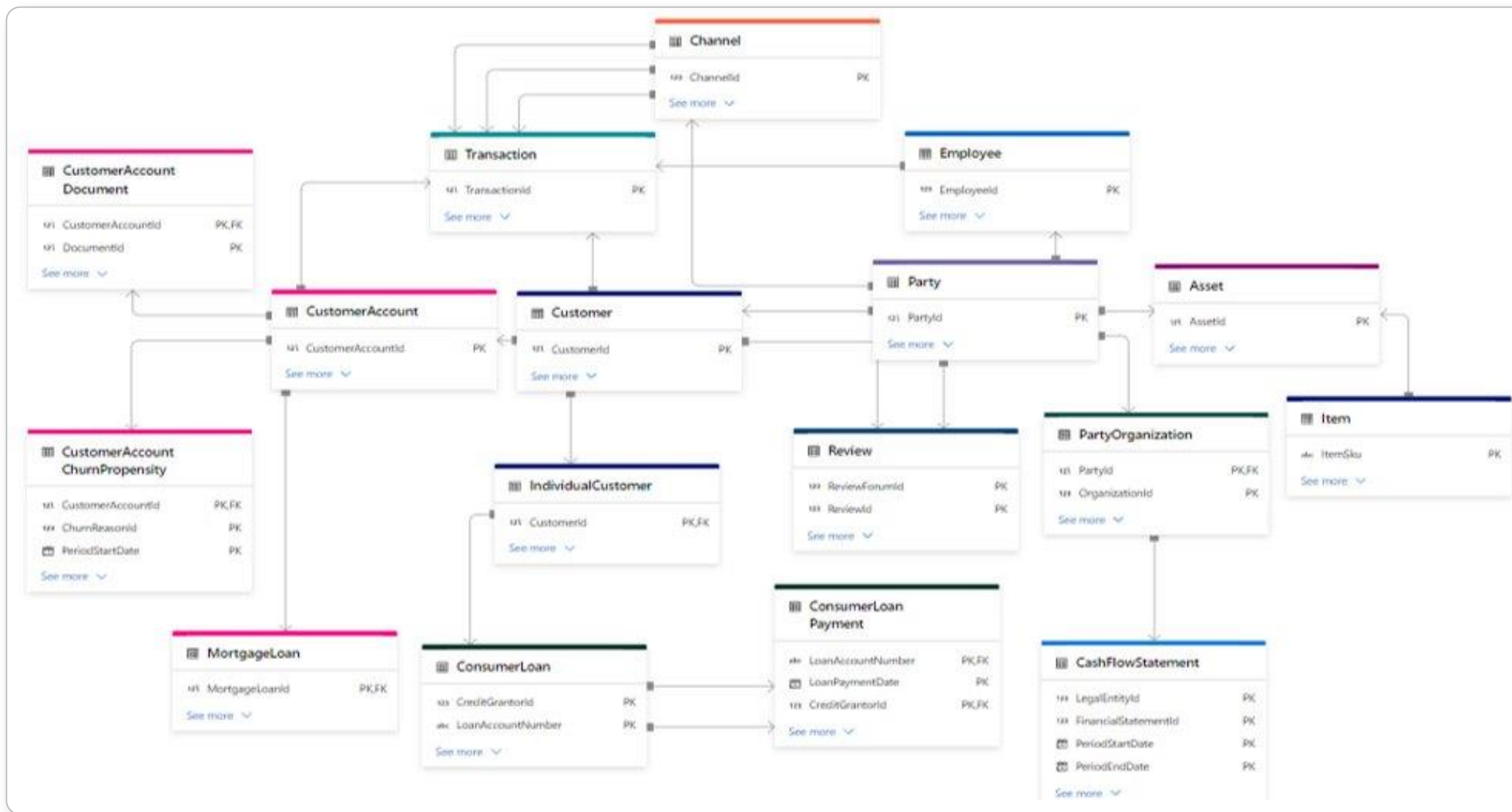
Customer Key Facts

Industry : Banking

Time to Market : 6 Weeks

ACR : $3500/Monthly

Dashboards

Summary, Retail-Transaction Dashboard

Operation Analysis

Assets Optimization

Challenges & Solution

✓ Analyze Overall Customers, Transactions, Liquidity Ratio, Accounts and Assets data.

✓ Automated Data Model are built by consolidating organization's Transactional data/Assets allocation data from various data sources like core banking, lending, CRM, etc.

Impacts

✓ The delivered solution along with the informative dashboards resulted in **reduced operational costs by 12%. Subsequently increasing the revenue by 5-7%.**

KPIs

1. Liquidity ratio
2. Earning Asset
3. Capital Adequacy Ratio
4. eChannel Transaction
5. Amount eChannel Transaction

6. Transacted Amount
7. Transaction Number
8. Transaction Count Per Day
9. Account By Region
10. Account BY Age Band

11. Account by Account Type
12. Earning Asset
13. Earning Asset Balance
14. Non-Performing loan
15. NPL vs Total Loan
16. And few more...

Report Snapshots - Banking

Pre-Requisites
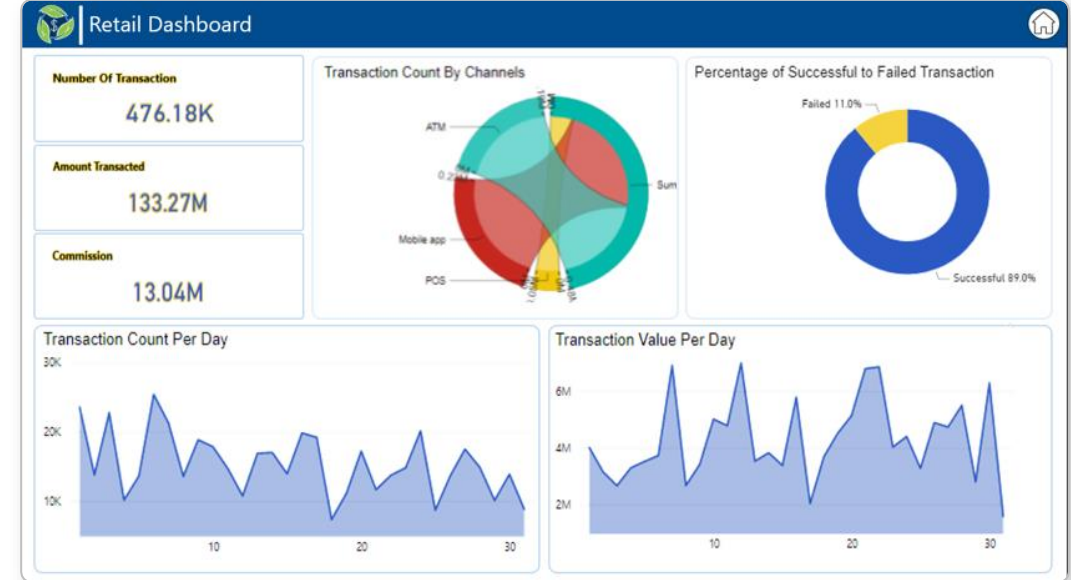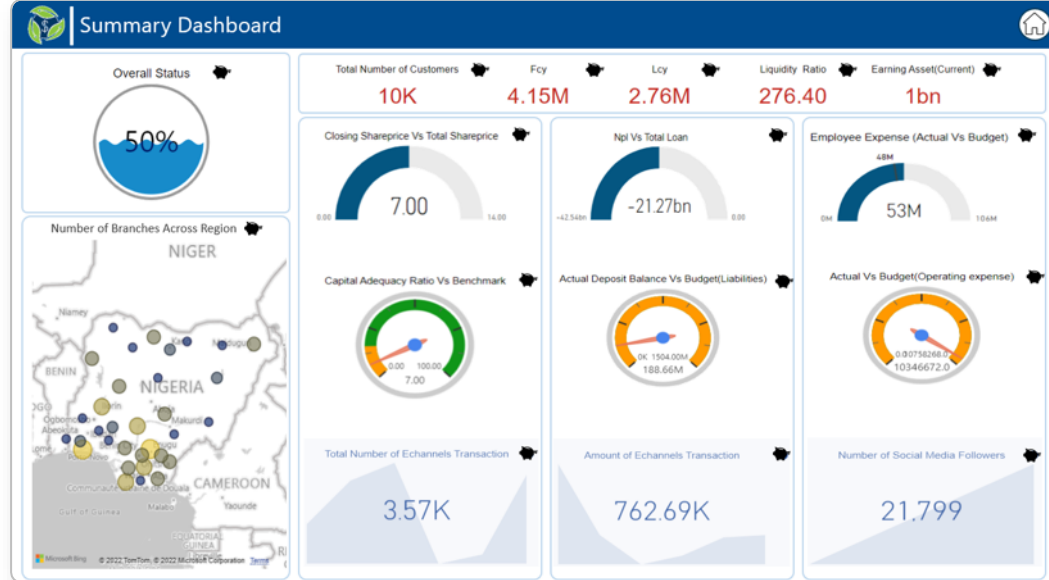
- ✓ Use SAP GUI to connect to the SAP System.
- ✓ Go to **System -> Status.**
- ✓ Check the release of the SAP_BASIS, ensure it is equal to or larger than 701.

SAP System data

Component version	SAP NetWeave...

System: Component information

Software Compo..	Release	Level	High
SAP_BASIS	730	0008	SAPP

| Access approvals & Data Sources Integration will be dealt with high priority requiring Client SPOC from Infra, Security, CloudOps Team & Solution Architect. | Source field mapping as per the target objects to be provided by the client. | Power BI License to be purchased by Client for developers to deploy BI Reports/Dashboards as per the timelines. | All stakeholders (responsible for report matrices) shall give a sign-off on metrics before Celebal Tech creates the reports. | Access to Azure subscription & Remote database/data sources will be made available for Celebal Tech team | During UAT phase, dedicated SPOC or business user from Client side would be required till Sign-Off, to avoid any delays, cater any issues or revisions which will help expedite solution deployment & delivery. |

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Assumptions

- ✓ 1 fiscal year data from Data Sources would be considered for loading into Data platform.

- ✓ Source mapping would be provided by client.

Deliverables

- ✓ 4 Power BI reports/dashboards with 15-20 business critical KPIs.

- ✓ Landscape for in-scope Source Systems with ingestion framework and Data Layers.

- ✓ Documentations.

Features

- ✓ Power BI model is defined re-usable way for features like Q&A, communication between multiple users via comment. etc.

- ✓ Self-service features. Multiple data layers can be managed as per the use-cases and user groups.

- ✓ Integrable with other sources like Data streaming, unstructured data, AI&ML capabilities using Data platform.

Value Addition

Data Management

Lakehouse Architecture enabling multiple data layers to serve different use-cases.

Source Integration

Consolidation of multiple Data Sources.

Modern solution-built

Fully customizable to address specific business needs.

Deployment

Improving customer experience and business outcomes by 20% with Reducing cost by 20%.

Access Management

Easier access to source data for reporting and analysis.

BI Report

Readily usable KPIs and BI Reports enhancing Analysis and Productivity.

Design Customization

Simpler, customizable, and collaborative end-user interfaces.

Self-Service BI

Instant Decision making with Slide & Dice capability.

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The cost for one solution implementation is $12,500

Assumptions

✓ Total data volume to be copy from Source to Staging Layer is <= 1 TB(for historical data load and < 10 GB for daily incremental) covering 1 fiscal year data

✓ Total number of Source tables considered in scope is between 20-30 covering master and transactions

✓ Total 4 Power BI Reports/Dashboards with around 15-20 business critical KPIs.