

# Terracon Improves Data Analytics Capabilities with Snowflake on Azure



## Introduction

Architecture, Engineering, and Construction (AEC) companies struggle to consolidate data from various teams to obtain a single source of truth for projects. Snowflake's data warehousing solution, combined with Azure technologies like Data Factory, Blob Storage, and Power BI, help companies extract insights, build interactive reports, and gain a holistic view of their operations for better decision-making and optimized outcomes.

## About the Customer

Our client, Terracon, is a prominent consulting engineering firm founded in 1965. With a workforce of over 6,000 employees, the company specializes in offering environmental, facilities, geotechnical, and materials services. With 175 locations across the United States, Terracon provides innovative and technology-based solutions to their clients. Their nationwide network of resources enables the company to serve a wide range of industries and deliver high-quality services consistently.

## Challenges

Terracon gathered data related to their revenue, employee chargeability, working hours, and more. They sought to generate reports based on this information, but encountered challenges like:

- Disparate data that was separated between 3-5 different cubes which limited analytical capabilities
- Statistical reports that were not actionable and suffered from information latency
- No restriction of access to reports based on roles
- Incapable architecture to accommodate semi-structured/unstructured data
- Time-consuming report generation with performance lags

## Technology Stack

- Snowflake
- Azure Analysis Services
- Azure Data Factory V2
- Power BI
- Azure BLOB Storage
- Power BI XMLA Endpoints
- Power BI Paginated Reports

## Solution

After careful consideration and analysis, CloudMoyo sought the implementation of Snowflake and Azure technologies:

- Built a short and long-term analytic strategy per the business needs
  - Created end-to-end architecture and roadmap
  - Implemented Azure cloud-based data architecture using Snowflake
  - Used on-premises data integration connectors to copy bulk data from source systems to Azure Data Lake
  - Modelled data as a single tabular cube hosted in Azure Analysis Services
  - Developed Power BI reports for all line of business
- Devised a cutting-edge ETL/DWH design using Azure Data Factory V2 and Snowflake
- Consolidated multiple cubes for implementing Enterprise Data warehouse on Snowflake
  - Created custom connectors to enable the connectivity from Oracle On-prem data source a Blob storage to Snowflake Data Warehouse
  - Developed an improved and intuitive dashboard design

## Value Delivered

Terracon's decision to implement Snowflake on Microsoft Azure was a game-changer. What set this approach apart is that it is futuristic, scalable, and configurable to accommodate new data sources for analysis going forward. The implementation provided several more benefits to Terracon:

- Faster, easier access to Power BI based reports for all business lines
  - Adopted future-proof, scalable and economically viable modern data architecture following ELT methodology
  - Intuitive dynamic dashboards with self-service BI capability
  - Advanced causal analytics to scrutinize historical data for predictive recommendations
  - Unlocked the possibility for expansion and growth with minimal maintenance
- Enhanced security with role-based access to reports
- Increase in efficiency due to the new architecture's capability to accommodate semi-structured and unstructured data
  - Increase in data security with Time Travel feature of Snowflake
  - Reduction in allocation of IT support requirements with no maintenance concerns

## About CM

CloudMoyo is a global digital engineering firm at the intersection of cloud and AI. Our transformative solutions utilize the power of the cloud, digital transformation through the use of AI, and end-to-end contract intelligence solutions. Headquartered in Bellevue, Washington, we have a nationwide presence with an innovation center in Pune, India. CloudMoyo is a leading Icertis partner, utilizing our domain expertise in implementing Icertis Contract Intelligence (ICI) solutions. We pride ourselves in providing consulting services, implementation, ongoing transformation, operations, and support services.

A Microsoft Partner, CloudMoyo utilizes our Azure cloud and data democratization expertise to help transform complex data landscapes and deliver actionable insights. Our native app expertise facilitates end-to-end transformation of the customer experience to drive new revenue. The CloudMoyo Application Framework & Analytics Frameworks (CAF) empower our customers by democratizing their data and utilizing accelerators to expedite project development. Through Low Code, No Code, we also empower everyday business users to build their own productivity applications.

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