



# Nestlé USA modernizes its infrastructure and creates a centralized data lake for its enterprise analytics needs

Nestlé USA, a division of Nestlé S.A., the world's largest food and beverage company, had multiple on-premises and siloed systems to store and manage its data. These unintegrated systems and all business functions operated in siloes, which led to multiple versions of duplicate data and non-standard key performance indicators and measures for reporting. The arrangement hampered collaboration between business functions and created an environment for multiple "versions of the truth." Plus, Nestlé found it difficult to build an advanced analytical engine or unified reporting because of the additional effort needed to constantly aggregate data from the siloed systems.

Since December 2018, however, Deloitte and Nestlé have collaborated on the Nestlé USA modernization program to develop and maintain a Microsoft Azure Data Lake in the cloud, tearing down siloes and providing reusable data assets that can be used by all business functions, subject to data confidentiality rules.

# What happened next

Deloitte worked with Nestlé to define their data and platform modernization vision, strategy, and roadmap. Based on that work, Nestlé selected the Microsoft Azure stack for its analytics needs. The team started identifying and prioritizing artificial intelligence/machine learning (AI/ML) use cases, then conducted a pilot for a couple of use cases in a few lead markets, which were later scaled and deployed to markets nationally and globally. One of the solutions, called Sales Recommendation Engine (SRE), is now used by 1,500+ sales representatives every week and is driving a significant increase in sales.

Deloitte delivered data lake solutions using an agile methodology and a phased implementation approach. This also helped Nestlé with its global distribution deal with Nestlé Coffee Products (NCP) and extended the data lake to integrate newly merged NCP data. Deloitte has since worked with Nestlé to build other solutions to address challenges, such as sales forecasting, order prioritization, and modernization of data pipelines, so that Nestlé could decommission legacy siloed systems and integrate data into a unified data lake. The integrated data lake enabled Nestlé to ideate and implement new analytics use cases, which were hard to build and execute in the older siloed systems.

User-persona-centered design guided the solution development during the data lake program. To instill confidence in the system and increase adoption, Deloitte provided sustainment services with 24/7 support to improve data quality and high availability of the lake.

Over the years, the Deloitte and Nestlé teams have hardened the infrastructure and delivered a well-managed, scalable data lake. Nestlé also now enjoys strong continuous integration/continuous development (CI/CD), DevSecOps, and MLOps processes. Combined with Deloitte's cloud accelerators, Nestlé has significantly reduced its time to production and gained efficiency in development efforts.

# The wins



Successfully transitioned **800+ sales representatives** to use the SRE app for prioritizing store visits based on recommendations from the engine built by Deloitte. Nestlé drove **3% additional sales** in their major customers through the SRE.



Successfully integrated structured and semi-structured and unstructured data from **10+ sources** into Nestlé USA's data lake to drive SKU assortment performance by analyzing changes in pricing, volume, competitor pricing and promotions.



Migrated legacy logistics reporting platform to the Nestlé data lake to create advanced self-serve BI Platform for generating key reports (3PL) for **1,000+ third-party vendors** for on-time delivery of Nestlé products from warehouse to shipping partner



The Nestlé data lake is the cornerstone for **400+ operational reports serving 800+ sales users by integrating 15+ data sources**. The dashboards include the summarized reporting for executive leadership and detailed reporting for analysts.



Strong **CI/CD, DevOps, and MLOps** processes (including automated data testing, code review, security vulnerability checks) are in place to minimize platform failures and decrease time to production.

# By the numbers



50% faster

The data ingestion solution, backed with multiple utilities such as an ingestion framework with built-in audit capabilities, significantly decreased the time needed to ingest data sets and enabled rapid development.



2,000+ user adoption increase

The centralized data lake implementation led to smooth onboarding of business users from the sales, supply chain, and e-commerce functions.



17 siloed systems decommissioned

Several siloed systems decommissioned as a result of the migration from legacy systems to a centralized data lake. This includes SQL Server/Oracle DB.



\$200+ million in business value generated

In the last four years, an estimated cumulative \$200+ million worth of business value has been generated through projects and programs in the data lake.

“Deloitte, a key collaborator in our data and platform modernization program, has guided us with a data lake vision, strategy, and roadmap. Bringing in a best-in-class cloud talent pool, Deloitte has helped Nestlé USA set up its data lake and implement a scalable cloud analytics solution that empowers our business to make data-driven decisions and become an insight-driven organization.”

– Rosana Rodrigues, Business Intelligence & Analytics Leader, Nestlé USA

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