



# Realizing the Power of Data on Cloud: Successful Journeys with a Trusted Partner

How we helped world-class organizations grow and gain competitive advantage in a data economy

# index

## **Power Sector**

Utilities Analytics platform improves performance

## **Networking**

Future-ready data platform increasing compatibility for next-gen tools

## **Publishing**

CCPA and other local regulatory compliances

## **Media & Entertainment**

Customer 360 Analytics for increased customer base and retention

## **Life Sciences**

Hybrid data lake to enable compatibility of next-gen analytical tools

## **Transportation & Logistics**

Data lake creation automated to reduce human intervention

## **Automobile**

Common connectivity platform for enabling data-driven enterprise

## **Banking & Financial Services**

Modernize the analytical platform reducing time-to-market

## **Life Sciences**

Data Strategy consulting to zero in on the best choice for cloud DWH

## **Retail**

Data retention and archival

## **Automobile**

Migration to a serverless cloud platform reducing costs

## **Media & Entertainment**

End-to-end Data Analytics platform for enhanced performance

# Introduction

The pandemic has brought in a new culture of geographically dispersed employees, virtually connected by telecom infrastructure and thus able to provide business continuity. In addition, virtualization of all project infrastructure and secure communication enabled working from remote seamless. This shift in the working model demonstrated not only cost advantages, but also brings to the fore the benefits of staying with the cloud. This sustainable model when scaled to various aspects in the project lifecycle would reap in more benefits and show a better bottom-line to be more responsible to the shareholders. The surge in the migration to the virtual infrastructure has provided the impetus to the organizations to move to cloud.

Data Security and Privacy have taken a front seat in the cloud era. Our clients and end customers want to ensure data security and monitor their cloud presence. The increasing amount of easily accessible data has also led to the necessity of Data Privacy and anonymization of data, in place, to shun off exploitation of sensitive data.

At LTIMindtree, we are obsessed with solving the clients' problems and guiding them to a successful future. We adopt an innovation

centered, automation-first approach to deliver cloud services to drive the tech-powered growth – @pace, @scale. Coupled with our accelerators, we have proved to be more powerful and valuable than ever before. We help our clients to modernize their data ecosystem, migrate data on to cloud and perform greenfield projects for solving problems. Our clients have enjoyed a seamless transformation without affecting the current operations till application sunset.

Our suite of tools and accelerators help accelerate your cloud modernization process saving months of efforts. We have created tools, to assist in various aspects of the migration journey such as pre-migration and remediation process post migration. It also includes governance, that helps with monitoring, notification and optimized performance of the data warehouse reducing overall costs.

We have compiled the best of our experiences with our client & customers' cloud journey that demonstrate benefits on cloud investments.

# Built Utilities Analytics Platform on AWS for Global Electric Company

## Client

A Fortune 1000 public utility based in Portland, Oregon. It is a vertically integrated electric utility company, which engages in the generation, purchase, transmission, distribution, and retail of electricity. The firm sells electricity and natural gas in the wholesale market.



## Challenges

- The client had a vast amount of siloed data across different business functions, which required a good amount of processing and cleansing to meet the business users' needs.
- Overall, the data platform was not dynamically scalable to handle the concurrent data load and deliver information as per business expectations.

## LTIMindtree Solution

- Developed end-state architecture and automated dataflow to ingest data from Oracle to s3 bucket onto Snowflake for data discovery and insight leveraging PolarSled framework.
- Used TableShift and ViewShift (LTIMindtree accelerators) to reduce migration time from over weeks to few days from Oracle tables and create equivalent on AWS.
- Serverless component snow pipe was then configured to read S3 events to ingest data onto stage table.
- Leveraged AWS as the core data storage to fully leveraging pay as you go pricing, auto scaling – up and across and data sharing with customers.

## Business Benefits

- **Seamless migration** of high-volume data over 16 weeks with >5 FTE effort reduction
- **30 to 50% reduction** in IT spend by providing better and efficient data platform
- **2x improvement** in performance

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## Key Takeaway

Combining robust capabilities across Cloud, Serverless Data warehousing, Big Data and Analytics helps boost revenues & maximize operational efficiency.

# AWS enabled Transformation for US-based Data-Driven Enterprise

## Client

Our client is a US-based multinational technology conglomerate corporation headquartered in San Jose, California. Integral to the growth of Silicon Valley, it develops, manufactures, and sells networking hardware, software, telecommunications equipment and other high-technology services and products.



## Challenges

- Technical debt in the existing data & analytics landscape due to legacy technology platforms.
- High cost of on-premise landscape; in addition to high management and support cost.
- Lack of support to the data science use cases delaying the transition from product-centric to customer-centric organization.

## LTIMindtree Solution

- LTIMindtree helped in rationalization, consolidation and simplification of legacy landscape to a future-ready foundational data platform on AWS.
- Leveraged AWS as the core data warehouse platform to develop new capabilities in area of data science/analytics.
- Defined a hub and spoke data and ELT architecture to take advantage of native capabilities of AWS to deliver best in class price/performance.

## Business Benefits

- High volume and complex data migrated from multiple legacy platform
- Uninterrupted 200+ business applications migration in progress
- ~40% reduction in cost with faster time-to-insight with zero infrastructure management

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## Key Takeaway

Pivot from legacy technology to Cloud-Native Architecture and Applications to leverage benefits of cost, scale, and innovation.



# CCPA Compliance for US-based Major Publishing House

## Client

Our client is a multinational corporation based in Des Moines, Iowa, that provides business process outsourcing and customer data management to various industries worldwide. It is also the largest magazine fulfillment house in North America.



## Challenges

- Process data across regions without violating local data privacy regulations.
- Build from grounds up a CCPA solution with API integrations.
- Application of different anonymization techniques as per defined data use and global data privacy regulatory stipulations.

## LTIMindtree Solution

- Designed dynamic workflows to implement anonymization based on rule engine.
- Introduced Data Anonymization techniques based on PII discovery and data privacy laws.
- Built a Java microservices-based system on AWS with integrations to systems over the internet and with systems on premise.
- Used Terraform to create infra as code and integrate with AWS DevOps process for seamless deployment on many environments.
- Exposed APIs with OAUTH2 integrations, powered by Lambda for secure integrations with Java services.
- Enabled intuitive dashboard to track and monitor different steps of anonymization lifecycle.

## Business Benefits

- **Reduced efforts** by automating 21,000+ Delete Requests anonymized
- **Successful completion** under strict deadline of three months to process data and comply
- **20+ Applications** processed for Data Masking and anonymization

## Key Takeaway

Adding unique capabilities across Cloud, Serverless Data warehousing to comply with local and Global Data Privacy regulations.

# Consumer Analytics Data Lake using AWS for Global Media & Entertainment Company

## Client

The client is US-based mass media company headquartered in New York City. The company produces and licenses news, sports, and entertainment content for distribution through cable television systems, direct broadcast satellite operators, telecommunications companies, and online video distributors.



## Challenges

- Build a rich common data platform which would facilitate with Consumer 360 analysis across organization.
- Transform the existing data landscape into a true serverless cloud platform and reduce TCO.

## LTIMindtree Solution

- Built a data platform which would facilitate customer 360 analysis across the enterprise targeting different set of customers and distribution channels.
- Designed an architecture for data lake facilitating consumer analytics.
- Built AWS redshift copy command to extract DCM and video logs into data lake.
- Data-centric models for optimizing future opportunities, campaign performance, and revenue, ensuring long-term retention of FOX customers.
- Analytical data on campaign response of online consumer for business decisions.

## Business Benefits

- **Simplified and unified** access to data of over 100M+ viewers on AWS platform
- **30% increase** in campaign effectiveness program
- **5% increase** in customer conversion

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## Key Takeaway

Entwining the salient capabilities across Cloud, Serverless Data warehousing to have a pipeline for Consumer analytics enabling customer 360.

# Hybrid Data Lake on AWS for Next-Generation Analytics for Leading Pharma Manufacturing Company

## Client

The client is a US-based Fortune 500 multinational corporation founded in 1886 that develops medical devices, pharmaceuticals, and consumer packaged goods. It is one of the world's most valuable companies and is one of only two US-based companies that has a prime credit rating of AAA, higher than that of the United States government.



## Challenges

- High cost of on-premise landscape; in addition to high management and support cost.
- Need to transform the existing data landscape into a true serverless cloud platform.
- High TCO and turnaround time for report generation.

## LTIMindtree Solution

- Built an enterprise data gathering & reporting application using AWS redshift to provide scale, intuitiveness, and cost-effectiveness.
- Migration from the current legacy systems to an AWS platform using custom accelerators to reduce TAT.
- Provided a holistic AWS-based architecture for portal & data collection, data storage, data visualization and analytics, and integration with external systems.
- Developed Neo4j-based hierarchy management system for products and customers.

## Business Benefits

- **190+ person** months' effort saved a year in analyzing the existing portfolio
- **>20x acceleration** in data migration process
- **90% reduction** in report generation time

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## Key Takeaway

Harnessing capabilities across Cloud storage, Cloud Data warehousing to have a significant reduction in the processing time and total cost of ownership.



# Technology Modernization using AWS for Global Shipping Company

## Client

The client is a global container transportation and shipping company headquartered in Marseille, France.



## Challenges

- Build a DataLake on AWS for analytics and AI-driven dynamic pricing.
- Integrate data on-premise with the cloud for seamless end user access and reporting.
- Implement DevOps for reduced time to deploy while driving cost savings.

## LTIMindtree Solution

- Developed AWS Infra-as-a-code using Terraform-based scripts deployed using Jenkins.
- Smart Lift-&-Shift of Data from existing legacy systems to next-gen cloud storage.
- Leveraged native cloud capabilities and latest features such as Step Functions, Glue jobs, Athena and Sage ML for utilizing compute only when needed.
- Built a dynamic pricing model based on historical pricing and events such as season, comparative demand to dynamically calculate cost.

## Business Benefits

- **Accelerated replication** of ~100+ TB volume of data to AWS S3 over six months
- **Enhanced reporting** using improved 10+ apps and business application analytics
- **~30% reduction** in cost with faster time to insight

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## Key Takeaway

Deploying a hybrid Infrastructure integrating on-premise applications with the cloud; strategies to quickly adapt to market demands; better cost optimization and lower build lifecycle.

# Modernization to Data-Driven, Digital-Ready Enterprise for Swedish Manufacturer of Commercial Vehicles

## Client

A major Swedish manufacturer headquartered in Södertälje, focusing on commercial vehicles—specifically heavy lorries, trucks and buses. It also manufactures diesel engines for heavy vehicles, as well as marine and general industrial applications.



## Challenges

- Build a Common Connectivity Platform (CCP) for enabling data-driven enterprise.
- Integrate the data onto the unified platform to support consumption apps for ML and insights.
- Design a data governance mechanism to manage the data being migrated and consumed.

## LTIMindtree Solution

- Built a hybrid cloud data platform with next-gen, open-source technologies to achieve common connectivity platform.
- Enabled Data Monetization to implement key business use cases like connected devices, smart factory to achieve scale.
- Developed self-service BI to democratize data across the organization to business users.
- Addressed data quality and governance issues with meta data for Hub-and-spoke model for business units to consume the data.

## Business Benefits

- 2% revenue upliftment on contracts
- >10x acceleration in DQ process across the platform
- ~20% reduction in consumables malpractices

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## Key Takeaway

Combining robust capabilities across Cloud, Serverless Data warehousing and Analytics helps boost revenues and maximize operational efficiency.

# Analytical Platform Modernization for US-based Financial Services Firm

## Client

The client is one of the North America's oldest and largest financial institutions, headquartered in Providence, Rhode Island. It offers a broad range of retail and commercial banking products and services to individuals, small businesses, middle-market companies, large corporations, and institutions.



## Challenges

- A sustainable, scalable enterprise capability to manage data as an enterprise asset.
- Reduction in time taken to find data, increased trust of data to take right decisions.
- Faster time-to-market and considerable cost reduction and practical data democratization for innovation.

## LTIMindtree Solution

- Situational analysis to understand current DataStage landscape.
- Directly migrated around 100 + applications from Talend to DataStage version 11.3.
- Migrated over 1200+ data stage jobs and more than 15,000 transformations and 1500 + database jobs and shell scripts to Talend.
- Converted 11k jobs which in scope to Talend in accelerated, consistent and standardized manner through automation.
- Rigorous automated testing to match data not only in end points but also in intermediate stages.
- Enabled robust data governance including end-to-end Data Security, Quality, Catalog, Metadata, and Lineage using Mosaic Platform.

## Business Benefits

- **High volume 55+ TB data migration** from multiple platforms
- **~11K+ ETL jobs** converted from DataStage Talend to
- Simplification of the current data assets into future-ready analytics platform **in less than a year**

## Key Takeaway

Bringing together the next-gen capabilities of AWS and analytics services helps boost revenues and maximize operational efficiency.

# Snowflake on AWS Strategy & Architecture Assessment for US Multinational Pharma Company

## Client

Our client is a US-based multinational pharmaceutical and biotechnology corporation headquartered in Manhattan, New York City. It is one of the world's premier biopharmaceutical companies that develops and produces medicines and vaccines for immunology, oncology, and various other branches of medicine.



## Challenges

- Define and strategize the pathway for adoption of Snowflake as a Unified Data Warehouse.
- Estimate the total cost of ownership for the Unified Data Warehouse.
- Formulate the AWS-based architecture options and the end-to-end migration plan.

## LTIMindtree Solution

- Leveraged CloudStrategize framework to evaluate the existing data landscape using key axis of analysis, workshop and experience.
- Analyzed the existing inventory and current state architecture to understand the key pain points and expectations.
- Defined AWS on AWS- based architecture options and its comparison across the key seven principles of CloudStrategize framework.
- Prepared the cost estimates and migration roadmap to achieve the Unified Platform on AWS-based Cloud Storage.

## Business Benefits

- **Built efficient TCO** calculator to derive final cloud usage/compute cost
- **Developed business Case** across the variable to justify the investment
- **Defined key architecture** options along with its comparison and recommendation

## Key Takeaway

Building a business case-led Snowflake on AWS adoption plan to harness new capabilities and realization of 'data as an asset', thereby reducing the overall platform management cost.

# Data Retention & Archival for Ecommerce & Cloud Computing Giant Client

## Client

The client is a multinational conglomerate, which focuses on e-commerce, cloud computing, digital streaming, and artificial intelligence. It is one of the big five companies in the US information technology industry. It is referred as "one of the most influential economic and cultural forces in the world", as well as known as the world's most valuable brand.



## Challenges

- Maintain a knowledge base of policies, category, and location of data.
- Assess the IT compliance with the Data Privacy Regulations of different geographies, where the client has operations.
- Implement a globally-applicable data minimization & retention policy.

## LTIMindtree Solution

- Metadata stewardship using custom algorithms
- Automated impact analysis and notification
- Scan data warehouse at defined intervals, as configured, and raise an event for processing
- Hosted 200+ applications on AWS
- Rules-based anonymization and deletion workflows using drools
- Customized data retention policy with historical changes
- Batch job-based asynchronous event notification & deletion

## Business Benefits

- **200+ applications** hosted for centralized data retention management
- **7 LOBs covered** for data lineage maps creation
- **~65% reduction** in efforts by automation

## Key Takeaway

Bringing together the next-gen capabilities of AWS and Analytics services to enable the organization to comply GDPR Policies and Data Retention.



# Digitization of Data Platform to Cloud-based Data Hub for Japanese Multinational Auto Major

## Client

The client is a Japanese public multinational conglomerate manufacturer of automobiles, motorcycles, and power equipment, headquartered in Tokyo, Japan. They are the world's largest motorcycle manufacturer and the world's largest manufacturer of internal combustion engines.



## Challenges

- Reduce high cost of on-premise landscape in addition to high management and support cost.
- Transform the existing data landscape into a true serverless cloud platform.
- Build framework to monitor and manage data pipelines.

## LTIMindtree Solution

- Designed framework for one-time data ingestion from on-prem data lake to Cloud Data Lake.
- Designed and developed Micro Batch data pipeline on AWS Glue in python to ingest structure and semi-structure data from various sources in a highly productive way.
- Built multi-layered datahub on S3 to provide data to data scientist and business analyst.
- Robust framework to build on-fly EMR cluster to processes data to a curated zone.

## Business Benefits

- **30TB+ data migrated** from on-premise to cloud
- **2Mn + semi-structured files**, 30-40 GB daily high data volume
- **60% cost reduction** compared to on-premise

## Key Takeaway

Pivot from legacy technology to Cloud-Native Architecture and Applications to leverage benefits of cost, scale and innovation.

# Centralized Content Metadata and Enabled Data Analytics

## Client

The client is a pay television network, which is the oldest and longest continuously operating subscription television service in the United States



## Challenges

- Establish an end-to-end Data & Analytics platform to handle the company's work streams in a highly performant, scalable and agile way.
- Alert service to monitor the ETL processes and outputs and generate alert when processes break.

## LTIMindtree Solution

- Analysis of as-is system to ensure that the internal systems have the data and the pipelines capable to ingest the data.
- Built unified data platform on AWS as main data processing and storing tool.
- Dynamic, consistent, and controlled provisioning of quality data for consumption by Downstream Applications, BI tools.
- Designed and implemented tool to alert for scheduled task failures, major spikes in data.
- Demonstrations provided to help customers in onboarding to the new environment.

## Business Benefits

- **10,000+ hours** of content synced to their titles
  - **50% improvement** in reporting of job failures
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## Key Takeaway

Leveraged the key benefits of the scalable data storage and platform to create a centralized data storage and leverage next-gen content analytics to become more customer-centric.



LTIMindtree is a global technology consulting and digital solutions company that enables enterprises across industries to reimagine business models, accelerate innovation, and maximize growth by harnessing digital technologies. As a digital transformation partner to more than 700+ clients, LTIMindtree brings extensive domain and technology expertise to help drive superior competitive differentiation, customer experiences, and business outcomes in a converging world. Powered by nearly 90,000 talented and entrepreneurial professionals across more than 30 countries, LTIMindtree — a Larsen & Toubro Group company — combines the industry-acclaimed strengths of erstwhile Larsen and Toubro Infotech and Mindtree in solving the most complex business challenges and delivering transformation at scale. For more information, please visit [www.ltimindtree.com](http://www.ltimindtree.com).