

CLIENT SNAPSHOT

Luminar Lights Up Data Transformation with Bentley Ave Data Labs

INTRODUCTION

Luminar Technologies, a leader in automotive lidar technology, embarked on a mission to modernize its data infrastructure. A key component of this initiative was the implementation of a centralized data platform to empower better data management and analytics capabilities. This case study explores how Bentley Ave Data Labs, a specialist in data solutions, partnered with Luminar to achieve this goal.

COMPANY BACKGROUND

Luminar is a company at the forefront of automotive technology, developing innovative solutions for the future of transportation. Recognizing the growing importance of data in optimizing operations and driving business insights, Luminar sought to leverage a modern data platform.

CLIENT OPPORTUNITY

After expanded investment in AI model development, Covera's cloud computing cost profile continued to expand. To reduce cost and risk related to cloud services, Covera built an on-premises data center. With technical consideration, Covera would be able to:

THE CHALLENGE

Luminar faced limitations with its existing data infrastructure, which led it to seek a partner for its data transformation initiatives.

- **Limited Scalability and Flexibility:** The current platform was highly structured and traditional data warehousing. It couldn't handle the growing volume and variety of data Luminar was generating. They were looking to better support different data types.
- **Inefficient Data Processing:** Processing complex data files took significant time, hindering data availability for analytics. Therefore, the Luminar team sought to increase performance capabilities.
- **Lack of a Centralized Platform:** The absence of a centralized data platform created challenges in data management and accessibility.



HEADQUARTERS

Orlando, FL

INDUSTRY

Automotive Technology

BENTLEY AVE DATA LABS SERVICES

Data Migration

Advisory Services



“After using the Bentley Ave Data Labs team for this project, we’ll seek them out for all my data projects going forward.

I still get the personalization because I always work directly with a partner in the firm, but where they really stand out is who they staff the project based on. The level of support is superior.”

BRYAN PHAM

Director of Enterprise Applications and Data Platform, Luminar Technologies

SOLUTIONS PROVIDED

To address these challenges, Luminar partnered with Bentley Ave Data Labs. The collaboration focused on several key areas:

- **Data Platform Migration:** Migrating data from a traditional data warehouse to a cloud-based Data Lakehouse platform (Databricks) to improve scalability and flexibility.
- **Data Pipeline Development:** Implementing efficient data pipelines to automate data ingestion, transformation, and loading processes.
- **Advanced Analytics:** Enabling advanced analytics and machine learning capabilities to extract valuable insights from the data.
- **Framework Development:** Bentley Ave collaborated with Luminar to develop a custom data pipeline framework within the Databricks environment. This framework streamlined data processing and facilitated efficient data movement, governance and hygiene.
- **Expertise and Guidance:** Bentley Ave's team of data architects and engineers provided expert guidance and support throughout the migration process. They ensured a smooth transition and addressed any challenges that arose.

RESULTS & OUTCOMES

The collaboration between Luminar and Bentley Ave Data Labs resulted in significant improvements in Luminar's data infrastructure:

- **Enhanced Performance:** Data processing times were significantly reduced, with complex files loading in under an hour compared to days previously.
- **Increased Efficiency:** The new framework streamlined data pipelines, leading to faster data delivery and improved overall data management efficiency. It was also used as the launch point to trigger building other data pipelines at an accelerated pace.
- **Scalability and Flexibility:** The migration to Databricks provided the scalability and flexibility Luminar needed to support its growing data volumes and future data initiatives.

The successful collaboration between Luminar and Bentley Ave Data Labs demonstrates the power of leveraging a modern data platform and expert guidance. By migrating to a scalable and flexible solution and a customized data engineering framework, Luminar unlocked the potential of its data to drive innovation, optimize operations, and establish the foundation for an upcoming international expansion.



“Before our data migration project, sometimes a lot of data volume would come in on a given day and the processing could take more than a day. That has now turned around and it’s less than an hour. It’s one of the biggest gains that we’ve achieved.”

KUNAL BASU

Data Architect, Luminar Technologies