Bytecode Case Study:
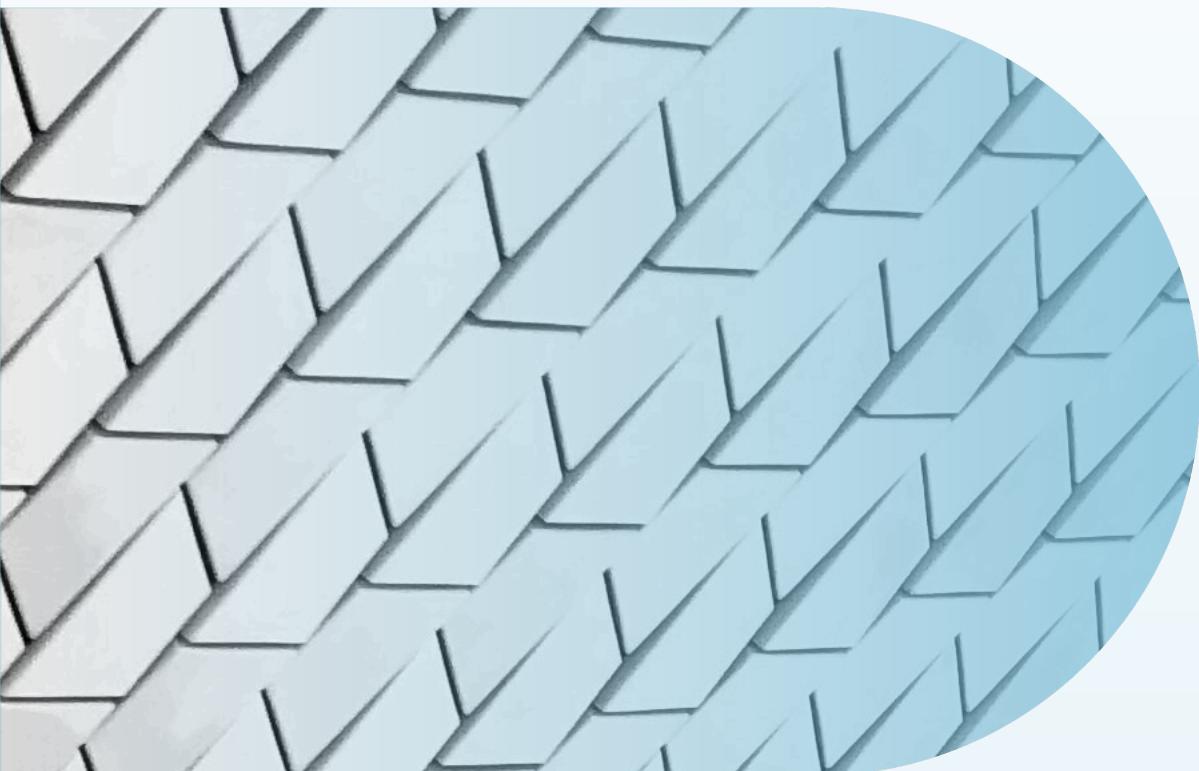
SailPlan

SailPlan provides a leading data analysis and optimization platform for the maritime industry, aiming to manage operations across cruise, shipping, and offshore supply industries. They help customers use and develop an operating model for thorough and timely analysis, increasing efficiency and sustainability in their respective organizations. They enable shipowners, fleet operators, ship managers, and governments to unlock strategic business outcomes powered by their rich fleet instrumentation data.

The Opportunity: Leverage an Ocean of Data

The world depends on the maritime industry to transport the vast majority of international trade. Each day, thousands of massive ships travel the seas delivering materials and finished goods across continents, fueling the global economy and connecting markets. However, the industry is under increased pressure to balance its essential role in fueling commerce with the urgent need to reduce its fuel consumption and environmental impact.

SailPlan has created a data platform capable of helping ships measure, report, and ultimately reduce their emissions. Each vessel using the SailPlan platform is outfitted with thousands of edge sensors that collect data from across the engine room, helping ship engineers pinpoint opportunities to reduce emissions without sacrificing performance. With SailPlan's platform, ship operators can improve their Carbon Intensity Indicator (CII) ratings and reduce EU Emissions Trading System costs.

As a startup, the first version of SailPlan's platform was built using bespoke code and disparate data sources, with pipelines, data analysis, and products tailored to the needs of individual clients. As the company began to scale, the lack of a centralized data analytics process capable of harmonizing diverse vessel data sources began to limit the company's ability to effectively serve its customers. SailPlan's developers had to recreate code from scratch every time they added a new vessel or client, impacting the company's ability to onboard new customers. The variation of sensor data became overwhelming and difficult to manage, reducing the company's ability to maximize the use of the data at its disposal or explore new use cases like predictive analytics.

SailPlan knew it needed to simplify and enhance its data management by consolidating its data on a more adaptable and powerful data solution to better position the company for the future. It also wanted to build out its visualization capabilities to enable self-service analytics for ship engineers and fleet managers back on shore, which would increase user adoption and retention. By leveraging a single, flexible, and powerful data platform, SailPlan would gain the adaptability required to quickly add new vessels and customers, along with the ability to easily integrate new features into their platform.

The Solution: Looker and Bytecode IO

Thanks to Bytecode, BigQuery, and Looker, SailPlan now has the data foundation it needs to deliver more value for its clients now while setting the stage for future innovation:

- Bytecode IO worked with SailPlan to model and visualize fuel consumption, engine performance, and emissions data in Looker. With these key metrics, SailPlan's customers are able to monitor and analyze the most critical aspects of vessel operations in real time.

- Bytecode IO collaborated closely with the SailPlan team to help enhance their internal expertise in data engineering and CI/CD best practices. Bytecode IO also helped deepen SailPlan's understanding of Looker by showcasing Looker's functionality, advanced features, and complex LookML code patterns. As a result, SailPlan now has the confidence it needs to manage BigQuery and Looker on its own without requiring outside support.

- By embedding LookML dashboard directly into its platform, SailPlan is able to help differentiate its solution from other products on the market and provide more value to clients, enhancing its customer retention and acquisition.

- SailPlan is now positioned to implement advanced analytics along with new capabilities such as performance optimization and predictive maintenance to further help its customers improve engine efficiency, reduce fuel costs, and meet emissions standards.

The Results: Setting Sail Towards the Future

SailPlan decided to leverage Google Cloud Platform's BigQuery as its data warehouse and dbt to homogenize data, making it easier to integrate data from different sources across multiple vessels. SailPlan chose Looker as its business intelligence platform thanks to robust semantic modeling capabilities that would ensure consistent and reliable reporting.

SailPlan worked with Bytecode IO, the #1 Google Cloud Platform data partner, to design and implement the comprehensive data solution. Thanks to Bytecode IO's deep technical expertise, the company would be able to deploy the new solution faster and more efficiently while allowing its developers to remain focused on supporting customers and innovating new capabilities.

Bytecode IO worked with SailPlan to seamlessly integrate Looker, dbt, and BigQuery into the SailPlan platform. Bytecode IO also provided a series of Looker training sessions so the SailPlan team could learn how to create new dashboards to meet specific client needs and enhance their existing reporting processes.

Results At A Glance:

Optimized data workflows and analytics with Google Cloud Platform stack implementation

Enhanced decision-making with embedded analytics and visualizations

Empowered SailPlan with BigQuery and Looker best practices for future self-sufficiency