



# Case Study

## Revolutionizing Construction Insights with Centralized Data

A study on how Oakwood Systems Group modernized data management for ARCO Construction, driving operational efficiency and improved decision-making through a unified data warehouse solution.

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### Introduction

ARCO Construction, a leading construction firm headquartered in St. Louis, MO, embarked on a transformative journey to modernize their data infrastructure and improve decision-making capabilities. ARCO faced numerous challenges due to fragmented and inconsistent data scattered across multiple systems and applications. To overcome these hurdles and enhance operational efficiency, the team at ARCO collaborated with Oakwood Systems Group to implement a state-of-the-art Enterprise Data Warehousing solution.

The project's primary objective was to consolidate disparate data sources into a unified, accurate, and accessible repository. By leveraging a modern data warehouse, the firm aimed to automate the extract, transform, and load (ETL) processes, ensuring consistent and high-quality data. This integration not only streamlined the development process but also significantly improved the performance of business

The new data warehouse was designed to optimize the querying of large datasets, providing faster and more reliable access to critical business insights. With regularly scheduled data refreshes, decision makers gained access to up-to-date information, enabling more informed and timely decisions. This comprehensive solution addressed their need for a centralized data repository, enhancing data quality and consistency across the enterprise.

Through this initiative, ARCO successfully transformed its data management practices, paving the way for greater innovation and agility in its operations. The collaboration with Oakwood Systems Group underscored the firm's commitment to leveraging advanced technology solutions to drive business success.



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## Business Challenges

The construction firm struggled with fragmented data across multiple systems, making it difficult to achieve a unified view. Key data existed in two core systems, requiring manual linking by developers for each new insight request. This data was often inconsistent and inaccurate due to varying business rules across the enterprise.

PowerBI reports were slow to load and refresh because calculations and aggregations were performed within the reports. Analyzing historical data was also challenging, as it was scattered across multiple systems like Procore and Viewpoint, with no automated processes to expedite data extraction and transformation.

Decision makers lacked access to comprehensive, timely intelligence, as existing reports contained outdated data and were slow to generate. This delay hindered real-time insights and stifled innovation, with data retrieval sometimes delayed by weeks.

## Solution

To address these challenges, the firm opted for a modern data warehouse solution. This solution aimed to integrate data from multiple sources, such as Procore and Viewpoint, into a single repository. By automating the extract, transform, and load (ETL) processes, the data warehouse ensured that data was systematically combined, transformed, and loaded without error. This consolidation eliminated the need for developers to manually link data, thereby accelerating their workflows.

The automated ETL processes also enhanced data consistency and accuracy before making it available for consumption. By applying consistent business rules across the enterprise, the solution significantly improved data quality, addressing a critical priority for the firm. This modern approach was poised to deliver substantial improvements in business operations.

## Solution (cont.)

Oakwood's solution also promised to boost the performance of existing reports by offloading aggregations and calculations to the data warehouse, rather than handling them within the reports themselves. Optimized for querying large datasets, the data warehouse enabled faster data retrieval. Regularly scheduled data refreshes ensured that decision makers had access to the most up-to-date information, facilitating quicker generation of reports and providing fresh insights.

## Conclusion

Oakwood's solution established a centralized, organized repository for all enterprise data, ensuring consistency and improved quality. This integration enabled faster, more reliable reporting and analytics. By comprehensively addressing ARCO's data challenges, the data warehouse solution significantly enhanced decision-making and operational efficiency, laying a strong foundation for future growth and innovation.

## About Oakwood

Our Team of seasoned professionals delivers unparalleled expertise in consulting and implementation services across the Microsoft Azure stack, ensuring our clients harness the full potential of their technology investments. With a commitment to excellence and a passion for driving business success, Oakwood Systems stands at the forefront of technological innovation, helping businesses navigate and excel in today's fast-paced digital landscape.

