



# Cloud Data Warehouse Consulting & Implementation Roadmap for a Manufacturing Company

Digital  
Services

## Success Story

## Status Quo

The client is a leading manufacturer of pumps and other fluid management tools. With their strong expertise serving a vast array of customers over the years, the client has been extending their business across the globe. To modernize their data management system and leverage the data collected over the years, a sophisticated data storage system was needed which could support advanced analytics on non-traditional data and the ability to acquire 360-degree business insights.

## Project overview

Indium engaged in an initial Consulting engagement to help the client identifying the various components in their business ecosystem and the steps involved in transforming themselves into a Data-Driven Organization. The process yielded a detailed implementation roadmap and solution architecture, which formed the blueprint roadmap for building the Data and BI platforms. The implementation was carried out in 3 stages – the Data Model creation and Infrastructure setup, the Pilot phase with one data source, and the full migration of all data sources and development of the associated BI reports and dashboards.

## Business Requirements

- Transform the company into a data-driven organization.
- Migrate the data from on-prem databases to the cloud by building a data warehouse.
- Perform data visualization leveraging a business intelligence platform.

## Indium's Approach

Given the challenges the client faced in identifying the various components in their business ecosystem and the steps involved in transforming themselves into a Data-Driven Organization, Indium proposed an initial Consulting engagement to collaborate with all the stakeholders in

building a road map and solution architecture, which would then form the blueprint for building the data warehouse and business intelligence platform.

## Business Consulting

As a part of the initial Consulting engagement, the following activities were carried out:

- Indium's Consulting Team worked with the client team in identifying all the stakeholders who would be involved in this engagement.
- Once identified, the Team went about conducting discussions and workshops to collaborate and identify the various components of the client's current IT system that would need to be leveraged to effectively build the solution.
- A key consideration was the end goal of the Organization in embarking on this endeavour. These goals helped Indium's Consultants in designing the Data Platform in the most effective way to achieve those goals.

## Business

Consulting, Data Engineering, Data Visualization

## Domain

Manufacturing

## Tools

STRIM, Microsoft Azure, Talend, Power BI, Python, Oracle DB, Enovia PLM V6, Microsoft Dynamics AX

## Key Highlights

- Transformation of the company into a Data-Driven Organization, by enabling decision-making leveraging the business data points
- Ability to correlate between the various business metrics can improve proactive business decisions by 75%
- Reduction in Total Cost of Ownership (TCO) by over 50%

- For the Data Platform, the various source systems were identified and data from each source was sampled to plan for the data pipeline that would be required to extract the data from the source to the Data Warehouse. This helped the Team identify the ideal technologies that would be employed for this task.
- For Business Intelligence, KPIs were defined for the final reports and dashboards, which would ultimately be consumed by the stakeholders.

## Roadmap

At the end of the Consulting engagement, a comprehensive report was submitted to the client detailing the findings of the exercise and Indium's suggestions in the form of an implementation Roadmap. The Roadmap was segmented into three stages,

- The initial stage involved the design of the Data Model for the Data Platform. Parallely the cloud infrastructure for setting up the platform was also configured.
- The subsequent stage involved setting up the Data Warehouse and implementing a Pilot phase by migrating one data source into the Data Warehouse. This approach helped the Team perfect the plan they had created, by ironing out any roadblocks or risks that might creep up.
- In the final stage, all the sources systems were systematically migrated into the Data Warehouse using the best possible tools and with the necessary data standardization/ transformation. The Data Visualization required for the Business Intelligence was also setup in accordance with the pre-defined KPIs.

## Solution Architecture

Along with the implementation Roadmap, a detailed Solution Architecture with technology choices for each component was also created. Some of the highlights were,

- Custom APIs development for the data ingestion process from the Enovia PLM.

- Data Lake and a Data Warehouse setup leveraging Microsoft Azure Cloud. ADLS (Azure Data Lake Storage) identified for the Data Lake and Azure SQL DW identified for the Data Warehouse.
- STRIIM facilitated data integration with log-based Change Data Capture (CDC) from Microsoft Dynamics AX, Oracle ERP, and HRMS.
- The ETL process implementation using Talend and Python.
- Data Visualization implementation using Power BI.

## Potential Business Impact

- Building an entire Data Platform that could enable effective and efficient decision-making, leveraging the numerous data points from the business, could help transform the company into a Data-Driven Organization.
- Having a Data Lake/ Data Warehouse setup can improve the company's ability to correlate between the various business metrics and take proactive business decisions by nearly 75%.
- Data Management and Maintenance becomes more streamlined and economical by leveraging cloud infrastructure. Total Cost of Ownership (TCO) can reduce by over 50%.



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