

Optimizing Solar Giant's Parts, Inventory, and Finance with Power BI

ABOUT CLIENT

- Our client is a global leader in the solar energy industry, with over 5 GW of solar projects deployed worldwide.
- They specialize in innovative solar technology and engineering services, covering the entire project lifecycle—from design and construction to ongoing maintenance.
- Committed to sustainability and advanced technology, they provide reliable solutions that drive efficiency, lower costs, and support a greener future.

PROBLEM STATEMENT

The company highlighted multiple challenges in its workflow when we first sat together for a discussion. Here are the key issues we identified:

Lack of Revenue Metrics :

The finance team faced challenges tracking monthly revenue and key financial metrics, which made it difficult to produce accurate reports and make informed decisions.

Parts Usage and Inventory Tracking Misses:

The procurement and inventory teams lacked a system to track parts usage effectively, monitor multiple versions of parts, and identify unused or ordered items, leading to overstocking, stockouts, and delays.

Expense Tracking Across Departments:

The client struggled to monitor and analyze departmental spending without a comprehensive expense matrix, hindering financial oversight and resource allocation.

Industry

Energy, Utilities & Resources

Services Used

- Business Intelligence (BI)
- Data Analytics,
- Digital Transformation
- ETL
- Power BI

Region

North America

Function/Department

- Accounting and Finance,
- Facilities and Administration,
- Financial Planning and Analysis (FP&A)

Engagement Model

End to End Project Lifecycle Management

SOLUTION

Our team helped the client efficiently manage their data, streamline processing, and create insightful dashboards. Here's how we made it happen:

SQL Database Management:

- Our experts structured the client's data in a MySQL database with relational tables and schemas. This approach ensured data integrity and made it easy to access for subsequent processes.

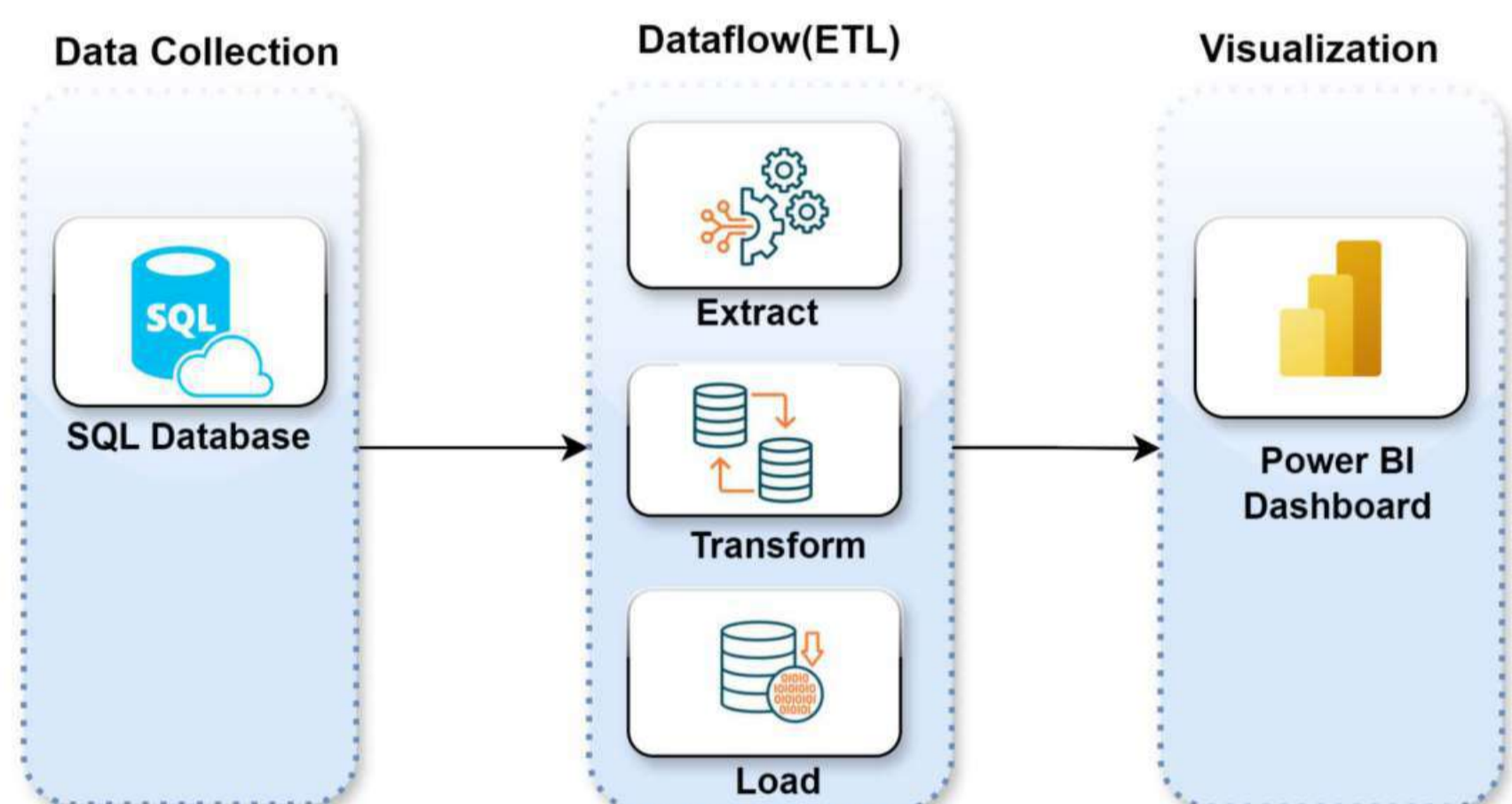
ETL Process (Extract, Transform, Load)

- Extract: We extracted relevant data from specific tables and fields in the database, focusing on what was needed for analysis.
- Transform: Our team cleansed and formatted the extracted data, removed irrelevant records, calculated new metrics, and combined tables into comprehensive datasets.
- Load: The transformed data was then loaded into Power BI, ready for analysis and visualization.

Custom Power BI Dashboard Setup:

- The team imported the processed data into Power BI and built dynamic, interactive dashboards.
- These dashboards pictured actionable insights, including key metrics like monthly financial analysis, parts query performance, and operational expense breakdowns.

TECHNICAL ARCHITECTURE



Database SQL: We wrote SQL queries to filter, aggregate, and organize the client's data.

ETL in Power BI Dataflows: Minimal data transformations were carried out in Power BI Dataflows after extracting the data.

Integration: The cleaned and transformed data was seamlessly connected to Power BI for real-time visualization.

Dynamic Dashboards: Our team developed user-friendly dashboards that helped the client visualize KPIs and improve business decisions.

BUSINESS IMPACT

- The company's monthly financial tracking improved by 30%, allowing the client to generate accurate reports and make informed decisions quickly. This ensured better alignment with overall financial goals.
- Parts usage was analyzed in detail, leading to a significant reduction in related inefficiencies. This minimized operational delays and improved resource availability for ongoing projects.
- Inventory monitoring was streamlined, reducing overstocking and stockouts by 35%. This optimization ensured timely procurement, reduced waste, and kept project timelines on track.
- Departmental expenses were monitored more effectively, with a 45% improvement in tracking and analysis. This provided deeper insights into spending patterns and allowed for better financial planning across departments.

Power BI setup across departments has greatly improved the client's solar energy operations. Financial monitoring is more accurate, supporting better decisions. Parts tracking and inventory management are now streamlined, reducing inefficiencies and ensuring resources are available when needed. Expense tracking has improved, strengthening financial control and resource allocation. Even being associated with a unique industry, these changes have made operations smoother and set the client up for long-term success.

