Transforming Manufacturing Efficiency with Microsoft Fabric

Client
A Mid-Sized Precision Parts Manufacturer in the USA

Industry
Manufacturing

Objective
Streamline data management, enhance real-time decision-making, and leverage predictive analytics to improve operational efficiency

Challenges

The client faced significant challenges in managing their data across fragmented systems:

1. Siloed Data Sources:

Data from ERP (SAP S/4HANA), MES (Rockwell FactoryTalk), IoT sensors, and CRM (Salesforce) were stored separately, making it difficult to get a unified view.

2. Delayed Insights:

Static Power BI dashboards could not provide real-time visibility into production line performance and supply chain disruptions.

3. Reactive Maintenance:

Lack of predictive maintenance capabilities led to frequent unplanned equipment failures, increasing downtime and operational costs.

4. Inefficient Decision-Making:

Leadership struggled to make data-driven decisions due to inconsistent reporting and delayed access to actionable insights.

Solution

Xylity implemented Microsoft Fabric as a unified data platform to address these challenges and optimize the client's operations:

1. Data Consolidation and Integration

- Integrated SAP S/4HANA, Rockwell FactoryTalk, and Salesforce into Fabric's centralized lakehouse using its Data Engineering capabilities.
- Connected IoT data streams from PTC ThingWorx to Fabric for real-time monitoring. Standardized and cleaned data using Fabric's Data Factory, ensuring consistency across systems.

2. Real-Time Analytics

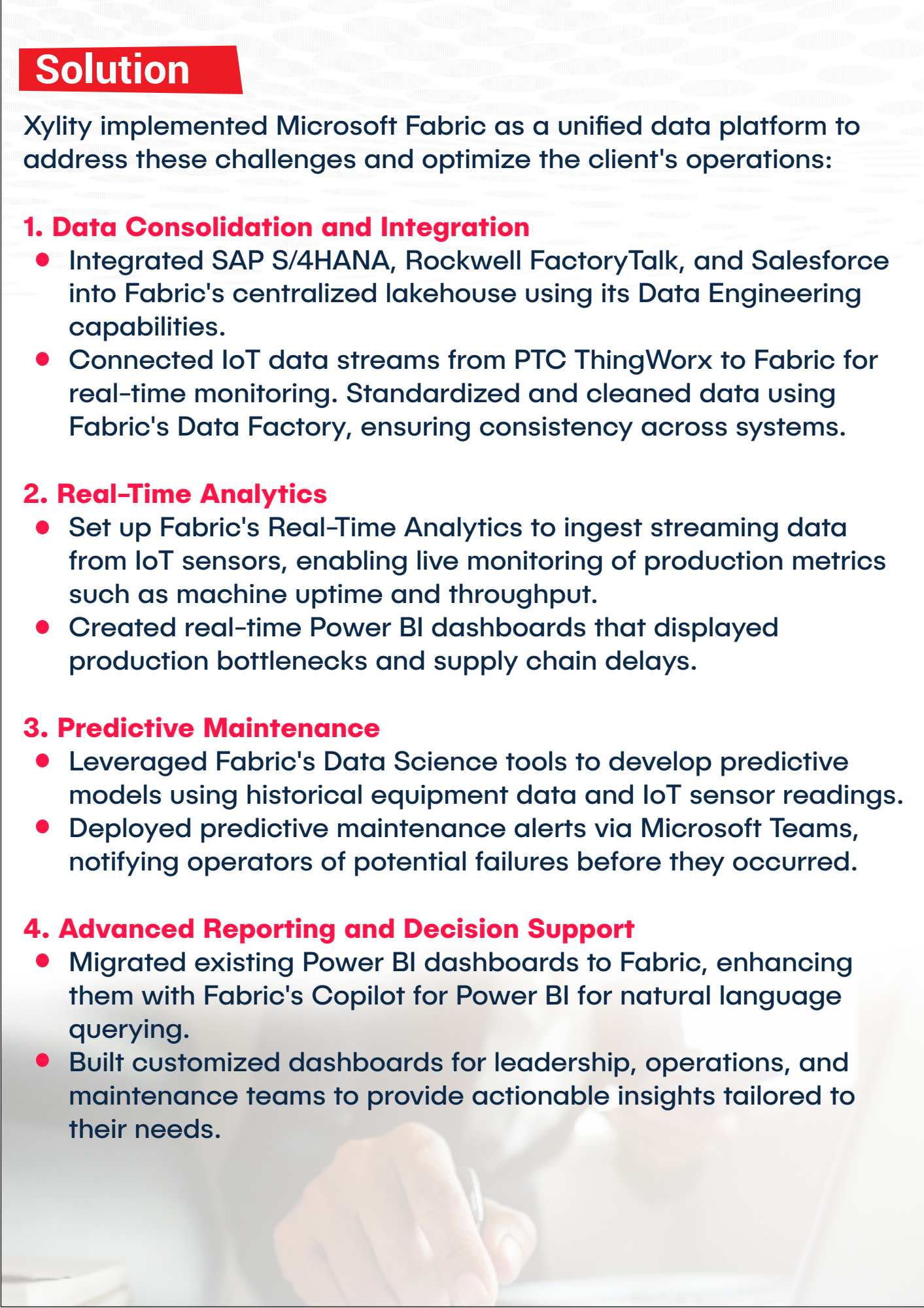
- Set up Fabric's Real-Time Analytics to ingest streaming data from IoT sensors, enabling live monitoring of production metrics such as machine uptime and throughput.
- Created real-time Power BI dashboards that displayed production bottlenecks and supply chain delays.

3. Predictive Maintenance

- Leveraged Fabric's Data Science tools to develop predictive models using historical equipment data and IoT sensor readings.
- Deployed predictive maintenance alerts via Microsoft Teams, notifying operators of potential failures before they occurred.

4. Advanced Reporting and Decision Support

- Migrated existing Power BI dashboards to Fabric, enhancing them with Fabric's Copilot for Power BI for natural language querying.
- Built customized dashboards for leadership, operations, and maintenance teams to provide actionable insights tailored to their needs.



Results

After the migration to Microsoft Fabric, the client achieved the following outcomes:

1. Unified Data Ecosystem

Consolidated data from ERP, MES, and IoT systems into a single source of truth, reducing reporting errors by 40%.

2. Real-Time Insights

Real-time production monitoring reduced response time to bottlenecks by 30%, significantly improving efficiency.

3. Reduced Downtime

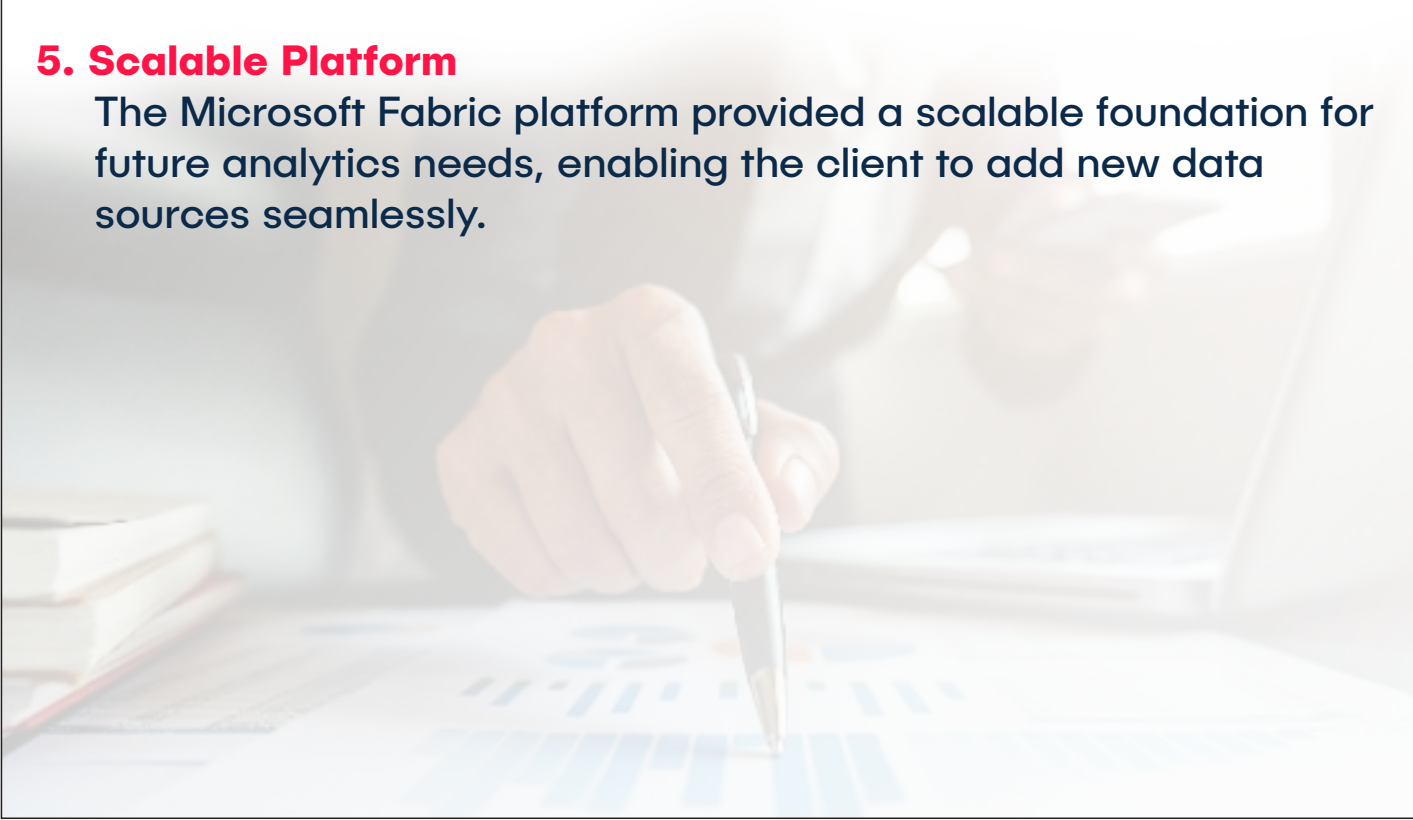
Predictive maintenance cut unplanned equipment failures by 18%, saving approximately $250,000 annually in downtime costs.

4. Faster Decision-Making

Natural language querying with Copilot for Power BI allowed managers to generate insights 50% faster, leading to quicker operational adjustments.

5. Scalable Platform

The Microsoft Fabric platform provided a scalable foundation for future analytics needs, enabling the client to add new data sources seamlessly.



Key Metrics

Metrics	Before	After Microsoft Fabric
Downtime from Equipment Failures	Frequent	Reduced by 18%
Decision-Making Speed	Slow	50% Faster
Annual Cost Savings	N/A	$250,000
Metrics	Before	After Microsoft Fabric
Data Integration Across Systems	Fragmented	Unified
Reporting Errors	High (40% inaccuracy)	Reduced by 40%

Microsoft Fabric transformed the client's operations by unifying their data, enabling real-time insights, and leveraging AI-driven predictive analytics. The migration, led by Xylity, not only addressed existing inefficiencies but also positioned the client for long-term scalability and innovation in their manufacturing processes.

Ready to transform your manufacturing operations with Microsoft Fabric?

Let's discuss how Xylity can help.

BOOK A FREE CONSULTATION!