

Case Study

Plastic Solutions Provider Unifies Multi-Site Data with an Enterprise Data Warehouse on Microsoft Azure



Customer Overview



Customer

A specialty plastics solutions provider



Profile

A leading manufacturer of high-performance plastic solutions engineered for manufacturers and end-users across North America.



Industry

Plastics Manufacturing



Services

Centralized Data Warehouse, Power BI Reports, Data Marts for Sales, Marketing, Finance & HR | Azure Synapse

Business Need

Rapid growth through multiple acquisitions left the organization with a fragmented data landscape – multiple ERP systems operating in silos with no unified view of performance across 13 sites.

- **Isolated Data Silos:** Multiple ERP systems (D365 F&O, GP, NAV, Epicor, IQMS) functioning independently with no unified reporting.
- **No Centralized Repository:** No single data warehouse to consolidate data from all 13 sites for holistic performance visibility.
- **Inconsistent Data Standards:** Diverse data formats, structures, and quality levels across systems prevented reliable cross-site reporting.
- **Manual Reporting:** Business stakeholders relied on manual, time-consuming processes with no self-service BI capability.
- **Slow ERP Onboarding:** Each new acquisition required significant manual effort to integrate new ERP data into existing workflows.
- **No Real-Time Insights:** Lack of near real-time data visibility across Sales, Finance, Inventory, and HR hindered decision-making.



Solution and Approach

Synoptek implemented an Azure-based data engineering solution following an Agile methodology – designing automated, metadata-driven pipelines to unify data from five ERP systems into a centralized enterprise data warehouse.

Data Discovery & Assessment

Analyzed the data landscape across all 13 sites – understanding sources, formats, volumes, and transformation requirements for each ERP system.

Centralized Data Warehouse

Built on Azure Synapse with Azure Data Lake Storage Gen 2 – providing a single source of truth for Sales, Finance, Inventory, and HR data across all sites.

Metadata-Driven ETL Pipelines

Dynamic, configurable pipelines storing metadata centrally and controlling execution via rules – no manual intervention required for new ERP integrations.

Master Pipeline & Data Marts

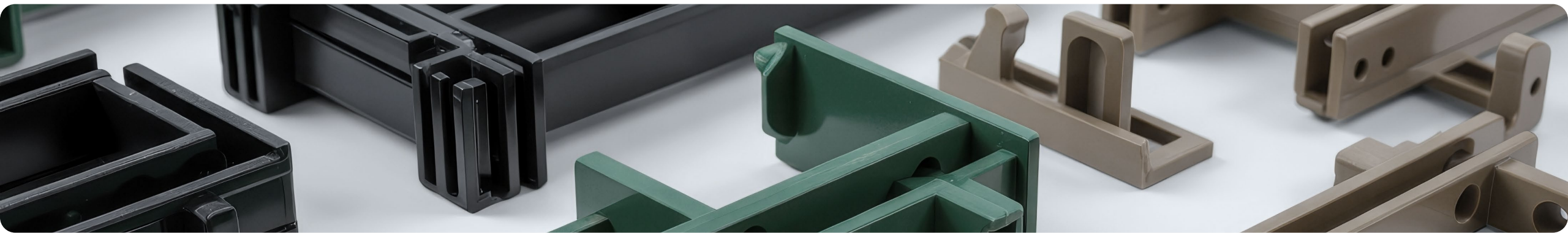
Orchestrated end-to-end workflows via a master pipeline with modular design. Tailored data marts for Sales, Marketing, Finance, and HR business functions.

CI/CD & Audit Logging

Azure DevOps CI/CD automates deployments across Dev, Test, and Production. Full audit logging and error handling built into every pipeline.

Power BI Self-Service Reporting

User-friendly Power BI reports with near real-time data. Shared model with pre-built KPIs for Revenue, Finance, Inventory, and Stock management.



Acquisition Framework

A repeatable 2–4 week proof-of-concept framework enables rapid onboarding of new ERP systems following each acquisition – with a structured 6-step process from mapping to sign-off.

01 Map Entities & Attributes

Identify tables and column mappings for new source entities to EDW data model.

✓ Updated mapping for new ERP integration

04 Load to Data Warehouse

Source → Data Lake (Raw) → SQL Pool (Staging) → SQL Pool (EDW)

✓ Data mart loaded with 1-year historical data

02 Define Business Rules

Define source system criteria, historical data load requirements, and transformation rules.

✓ Business rules for all entities & measures

05 QA Validation

Execute test cases, validate new source data, perform integration testing across all source systems.

✓ Validated EDW and Power BI model with new source

03 Merge Master Data

Determine master data template, extract to Excel, push merged data to EDW via Synapse pipeline.

✓ Merged master data for new system

06 UAT & Sign-off

Users validate reports and provide sign-off for production deployment.

✓ Sign-off document for production release

Business Benefits

The Azure data warehouse delivered measurable improvements across reporting, decision-making, and data operations, transforming how the organization manages data across 13 sites.

Single Source of Truth

Centralized Azure data warehouse consolidates data from all 13 sites and five ERP systems, eliminating fragmented reporting.

Eliminated Manual Reporting

Automated data pipelines replaced time-consuming manual processes, freeing business teams to focus on analysis over data gathering.

Near Real-Time Business Insights

Stakeholders across Sales, Finance, Inventory, and HR now access up-to-date data without waiting for manual extracts.

Self-Service BI for All Business Units

Power BI reports with pre-built KPIs empower teams to answer their own questions without IT dependency.

Faster Acquisition Onboarding

A repeatable 2–4 week framework enables new ERP systems to be integrated into the data warehouse with minimal effort.

Scalable, Future-Ready Architecture

Azure Synapse scales to accommodate growing data volumes as the organization continues to expand through acquisitions.

Consistent Data Quality Across Sites

Metadata-driven pipelines enforce standardized formats and validation rules, ensuring reliable, trustworthy data for decision-making.

About Synoptek

Synoptek is the first IT Managed Experience Provider (MxP™), delivering AI-enabled automation, strategic modernization, and experience-led outcomes. Its services span Cloud and Agile Infrastructure, Business Applications and Platform Development, Customer and Employee Experience, and Cybersecurity. With a business-first approach and a global delivery model, Synoptek helps organizations optimize operations, accelerate transformation, and achieve measurable results—guided by a culture rooted in growth, ownership, inclusiveness, and philanthropy.



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