Accelerating Data Modernization with Microsoft Fabric

A Solution-Centric Approach by People Tech Group, a Quest Global company

Introduction

The explosion of data, rapid adoption of artificial intelligence, and the ongoing shift to cloud-native business models are pushing organizations to reimagine how they harness information. Legacy data platforms often struggle to keep up with the scale, complexity, and governance requirements of today's digital landscape. Enterprises need unified, secure, and scalable analytics solutions that not only streamline operations, but also create new opportunities for value.

Microsoft Fabric answers this need with a unified SaaS analytics platform, integrating data integration, engineering, warehousing, real-time analytics, and business intelligence—all on top of a secure, governed foundation. However, realizing the true potential of Microsoft Fabric requires more than a technical deployment. It demands a strategic approach that addresses data migration, architectural best practices, AI enablement, and organizational adoption.

People Tech Group (PTG), a Quest Global company, is a leading Microsoft Fabric Featured Partner specializing in guiding enterprises through every stage of their data modernization journey. This whitepaper explores the challenges and opportunities in analytics modernization, demonstrates PTG's proven frameworks and methodologies, and illustrates how organizations can accelerate time-to-value with Microsoft Fabric—backed by PTG's domain expertise.

Purpose of This Whitepaper

This document is designed for CIOs, IT leaders, data architects, and business decision-makers who are evaluating their next-generation analytics strategy.

Key objectives

01	02	03	04
Explain the core challenges facing organizations in data modernization	Present Microsoft Fabric's unified architecture and strategic value	Illustrate PTG's solution-led approach and end-to-end methodology for implementing Microsoft Fabric	Share practical guidance, common pitfalls, and best practices for maximizing business outcomes

The Need for a Modern Analytics Platform

Today's organizations contend with:

01 Disparate data silos across cloud, on-premises, and third-party applications

02 Increasing demand for real-time analytics and AI-driven insights

03 Complex regulatory and governance requirements

04 Escalating costs and inefficiencies in data management

Microsoft Fabric brings together all core analytics workloads—data integration, engineering, warehousing, science, and reporting—into a single, governed platform.

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# Solution Overview: PTG's Approach to Microsoft Fabric

At People Tech Group, we recognize that technology is only part of the solution. Our unique, solution-centric methodology ensures that your Microsoft Fabric deployment is aligned with business goals, future-ready, and operationally efficient

The diagram below illustrates how PTG implements a comprehensive data cloud architecture using Microsoft Fabric. (Architecture diagram is included for reference.)
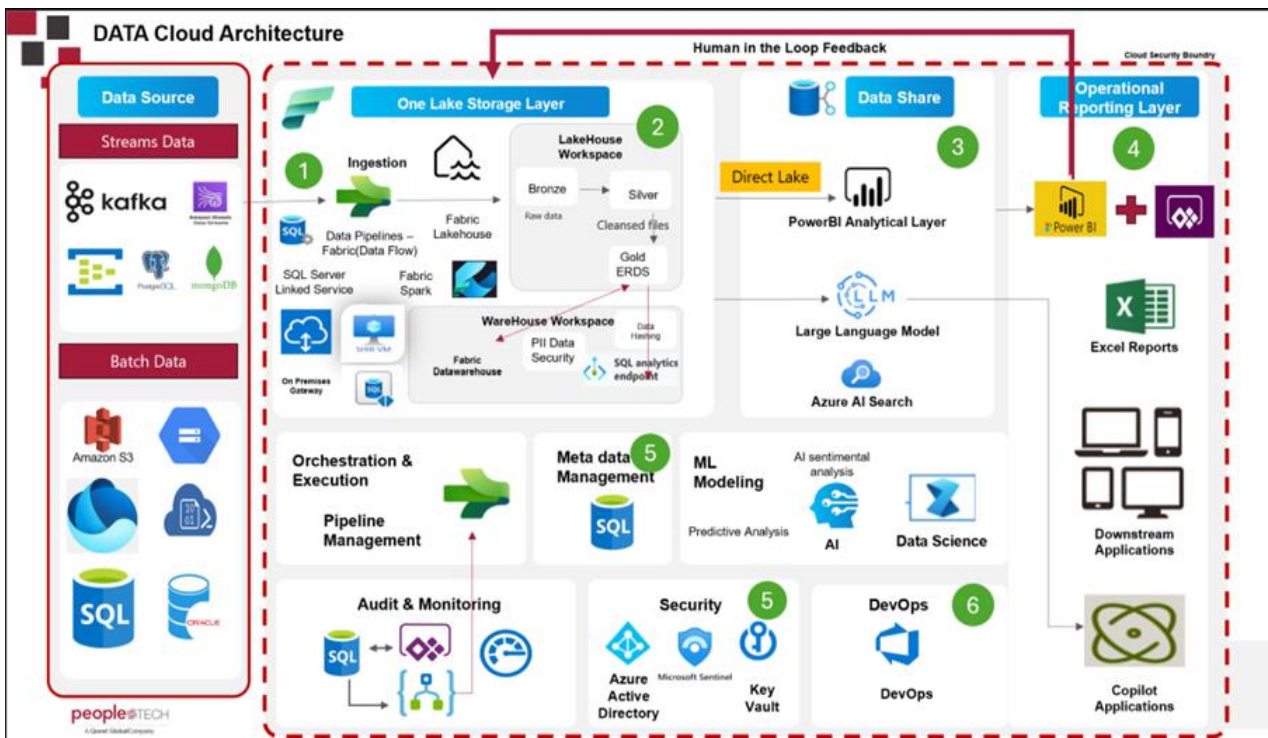
Microsoft Fabric: Unified Analytics, Compute, and Storage

Microsoft Fabric does it all – in a unified solution
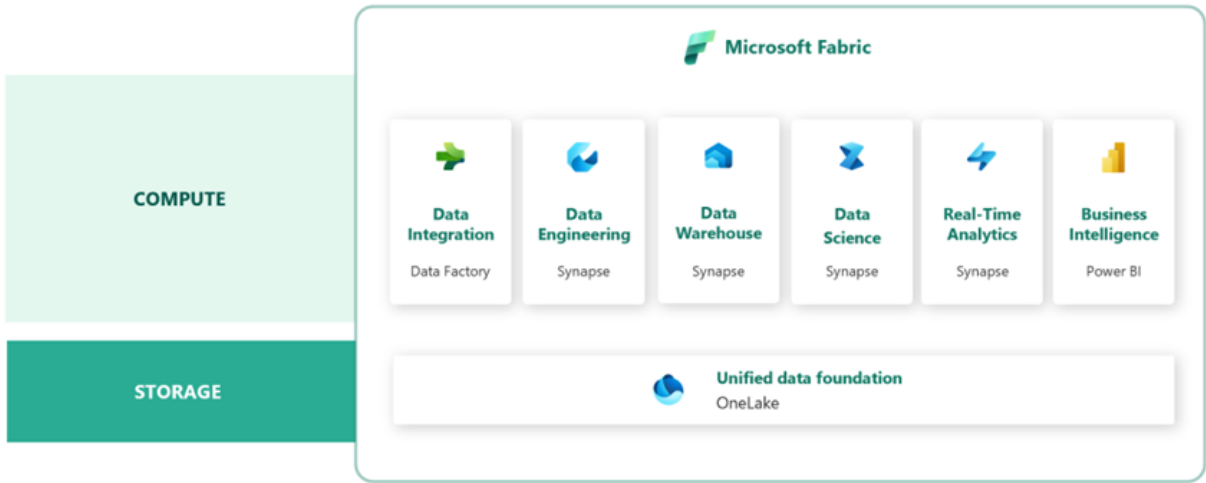
Microsoft Fabric brings together all core capabilities required for an end-to-end data platform—seamlessly integrating compute and storage under a single SaaS-native foundation

Fabric Core Components:

01

Data Integration (Data Factory):
Ingest data from virtually any source—cloud, on-premises, or streaming—using scalable, no-code/low-code pipelines for rapid onboarding.

02

Data Engineering (Synapse):
Cleanse, transform, and prepare data at scale with built-in Spark and SQL engines, enabling both real-time and batch processing.

03

Data Warehouse (Synapse):
Store and query structured enterprise data with high performance, elasticity, and security for analytics and reporting.

04

Data Science (Synapse):
Support advanced analytics, machine learning (ML), and artificial intelligence (AI) experiments with native notebook and ML tooling.

05

Real-Time Analytics (Synapse):
 Analyze streaming data as it arrives—delivering instant insights for operational dashboards, alerting, and IoT workloads.

06

Business Intelligence (Power BI):
Empower business users with interactive reports and dashboards, integrated natively with all other Fabric workloads.
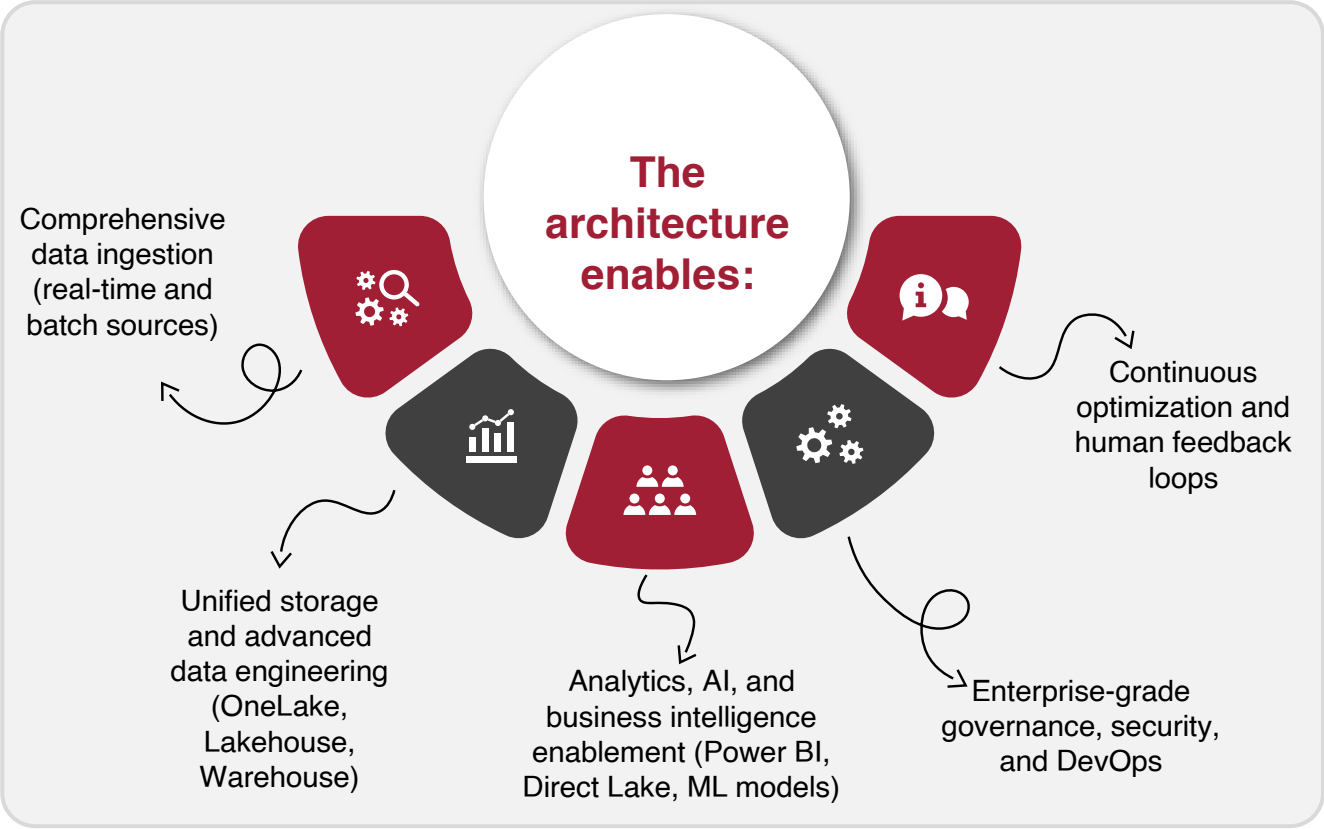
07

Unified Data Foundation (OneLake):
All Fabric workloads operate on top of OneLake, a single, governed, and secure data lake that ensures seamless data sharing, compliance, and governance across the enterprise.

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PTG's Solution-Led Approach: Enabling Modern Analytics with Microsoft Fabric

Successful data modernization is grounded in a robust, flexible, and scalable architecture. At People Tech Group, a Quest Global company, our Microsoft Fabric solution architecture is designed to address the full data lifecycle—from ingestion and storage to AI-driven insights and secure operational reporting.

The architecture enables:

- Comprehensive data ingestion (real-time and batch sources)
- Unified storage and advanced data engineering (OneLake, Lakehouse, Warehouse)
- Analytics, AI, and business intelligence enablement (Power BI, Direct Lake, ML models)
- Enterprise-grade governance, security, and DevOps
- Continuous optimization and human feedback loops

Real-World Value: PTG's Microsoft Fabric Solutions for Key Industries

People Tech Group, a Quest Global company, understands that each industry faces unique challenges on the path to digital transformation. Our Microsoft Fabric architecture and solution approach are designed to be industry-agnostic but rapidly adaptable to the specialized needs of Oil & Gas, Aerospace, Manufacturing, and Retail.

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Oil & Gas: Unlocking Operational Efficiency and Asset Intelligence
- End-to-end asset visibility, predictive maintenance, regulatory compliance, operational dashboards
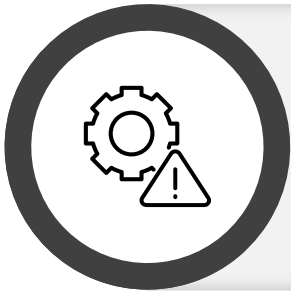
Aerospace Manufacturing: Enabling Precision, Quality, and Innovation
- Supplier and production integration, quality and traceability analytics, predictive quality, compliance-ready reporting
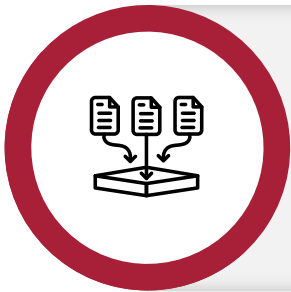
General Manufacturing: Driving Smart Factory Transformation
- Connected factory, bottleneck detection & OEE, demand forecasting, secure collaboration

Retail: Creating Real-Time, Personalized Customer Experiences
- 360° customer view, inventory & pricing optimization, personalized marketing, executive reporting

PTG's Implementation Methodology for Microsoft Fabric Modernization

Digital transformation is not a one-size-fits-all journey—especially for complex, data-intensive industries like Oil & Gas, Aerospace, Manufacturing, and Retail. People Tech Group, a Quest Global company, delivers Microsoft Fabric solutions through a proven, step-by-step methodology that de-risks modernization, accelerates adoption, and ensures business-aligned outcomes.

01 **Discovery & Assessment:** Stakeholder interviews, data and process inventory, readiness and compliance analysis, roadmap creation

02 **Solution Blueprint & Architecture Design :** Map workflows, design pipelines and data zones, integrate governance and DevOps

03 **Automated Migration & Data Modernization :** Automated migration, data quality and cleansing, phased transition Power BI

04 **AI/ML & Advanced Analytics Enablement :** Industry-aligned ML/AI, "human-in-the-loop" feedback, Copilot and Azure AI integration

05 **Operationalization, Governance, & Optimization :** Purview, Key Vault, and RBAC, monitoring, cost tracking, enablement workshops

06 **Continuous Improvement & Support:** Health checks, ongoing support, co-innovation with business users

Each phase is tailored to industry context and leverages PTG's use case accelerators for faster value delivery.

Optimizing Cost and Maximizing ROI with PTG's Right-Sizing Methodology

One of the biggest concerns for enterprises moving to a cloud-native analytics platform is controlling operational costs while maintaining performance, scalability, and compliance. Microsoft Fabric's flexible, capacity-based model offers the potential for significant efficiency, but only with expert sizing, proactive management, and continuous optimization.

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People Tech Group (PTG), a Quest Global company, uniquely combines industry expertise, proprietary accelerators, and Microsoft tools to ensure every Fabric deployment delivers optimal business value—without cloud cost surprises.

Data-Driven Sizing with Microsoft Fabric SKU Calculator

From day one, PTG leverages the Microsoft Fabric SKU Calculator to guide customers through an objective, scenario-based capacity planning process. Our consultants:

- Analyze real-world workloads and use cases: We capture specifics like data volumes, concurrency, report frequency, and AI/ML needs across business functions.

- Model average and peak/lean scenarios: The SKU Calculator lets PTG estimate the lowest viable Fabric SKU for both steady-state and peak loads, minimizing over-provisioning.

- Build transparency into the process: Customers receive clear, scenario-based cost projections, tailored to their environment, so budget expectations are aligned.

For example, we break down use cases (like Data Warehousing, Data Engineering, Real-Time Analytics, Power BI, and Data Science) by CU (Capacity Unit) minutes required, then recommend the lowest SKU that satisfies actual business demand—whether for daily operations, peak periods, or special events. We also factor in options for Business Continuity/Disaster Recovery (BCDR) where needed.

Capacity Planning and Ongoing Optimization

Right-sizing isn't a one-time event. PTG continues to work with our clients after go-live to:

➢ **Segment and prioritize workloads:** Mission-critical analytics and periodic reporting are resourced differently, ensuring each gets the capacity it needs—no more, no less.

➢ **Monitor and alert on actual usage:** Using real-time dashboards and automated alerts, we help customers avoid surprises and take corrective action before thresholds are exceeded.

➢ **Enable dynamic scaling:** If usage spikes or drops, we recommend adjustments, so you pay only for what you use.

➢ **Quarterly optimization reviews:** PTG holds regular reviews with business and IT to recalibrate capacity as usage patterns or priorities shift, leveraging insights from Microsoft and in-house telemetry.

Transparent ROI and Strategic Cost Management

Unlike legacy data platforms with opaque cost structures, Microsoft Fabric—when deployed with PTG's methodology—enables ongoing cost transparency and ROI tracking:

➢ Track cost per business outcome: PTG helps you quantify value delivered (e.g., cost per analytics user, cost per predictive model, or cost savings from downtime reduction).

➢ Continuous improvement: Our approach links business KPIs directly to platform consumption, empowering data leaders to demonstrate the impact of analytics investments

Outcome:

Organizations who partner with PTG enjoy a cloud-native analytics platform that's always right-sized for business demand, cost-effective, and fully aligned with their financial and operational goals. This data-driven approach ensures a faster, more predictable return on investment—and frees up resources for ongoing innovation.

With PTG's right-sizing and optimization practices, you move beyond "cloud sprawl" to a truly modern data estate: transparent, accountable, and always tuned for business value.

Mini Case Studies: Microsoft Fabric in Action

01 **Oil & Gas:**
Predictive Maintenance & Asset Optimization

02 **Challenge**
A global oil & gas operator struggled with unplanned downtime and high maintenance costs due to disparate sensor data and legacy SCADA systems across hundreds of wells.

03 **Solution**
The traditional one-to-many cube approach does not scale well as data volumes, data sources, and metrics expand across the enterprise.

04 **Results:**
20% reduction in unplanned outages, millions saved in maintenance, easier regulatory reporting.

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01   **Aerospace Manufacturing:**
Quality Analytics & Supplier Collaboration

02   **Challenge**
An aerospace manufacturer needed better part traceability and real-time quality monitoring.

03   **Solution**
PTG integrated ERP, MES, and supplier data into Fabric's Lakehouse, deployed quality anomaly detection, and automated lineage for audits.

04   **Results:**
30% fewer late-detected incidents, faster root cause analysis, simpler compliance.

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01   **General Manufacturing:**
Smart Factory & OEE Optimization

02   **Challenge**
A manufacturer faced bottlenecks and low OEE due to siloed data and manual reporting.

03   **Solution**
PTG ingested machine telemetry, automated OEE dashboards, and applied predictive analytics.

04   **Results:**
15% OEE improvement, reduced bottlenecks, enhanced team collaboration.

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01 **Retail:**
Real-Time Inventory & Personalized Offers

02 **Challenge**
A retailer lacked unified inventory and personalized offer capabilities due to fragmented data.

03 **Solution**
PTG unified all data streams in Fabric, powered real-time inventory and AI-driven marketing.

04 **Results:**
18% fewer stockouts, 25% higher campaign response, faster decision-making.

Conclusion

Modern analytics platforms like Microsoft Fabric are fundamentally reshaping how organizations manage, govern, and extract value from their data. However, as leading enterprises in Oil & Gas, Aerospace, Manufacturing, and Retail are discovering, the true differentiator is not the technology alone, but the expertise and methodology behind its implementation.

People Tech Group (PTG), a Quest Global company, stands at the forefront of data modernization—combining deep domain experience, proven accelerators, and a solution-driven mindset to help clients achieve transformation at scale. PTG's approach to Microsoft Fabric is practical, end-to-end, and tailored to industry realities, ensuring that modernization is aligned with business priorities, compliance requirements, and future growth.

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Whether it's reducing downtime through predictive maintenance in Oil & Gas, enhancing quality and traceability in Aerospace, optimizing factory efficiency in Manufacturing, or driving personalized engagement in Retail, PTG delivers results that go beyond dashboards—enabling smarter decisions, greater agility, and sustained competitive advantage.

Ready to transform your data into business value? Partner with People Tech Group, a Quest Global company, to accelerate your Microsoft Fabric journey—securely, efficiently, and with measurable outcomes.

For more information or to schedule a strategy session,

Visit: www.peopletech.com