

WHITEPAPER

From Legacy to Intelligence

Data Modernization with SAP Business Data Cloud (SAP BDC)

Sourav Banerjee
Director SAP Analytics, LTM

Surya Kumar
Director SAP Analytics, LTM

Vinod Bokade
Solution Architect SAP Analytics, LTM

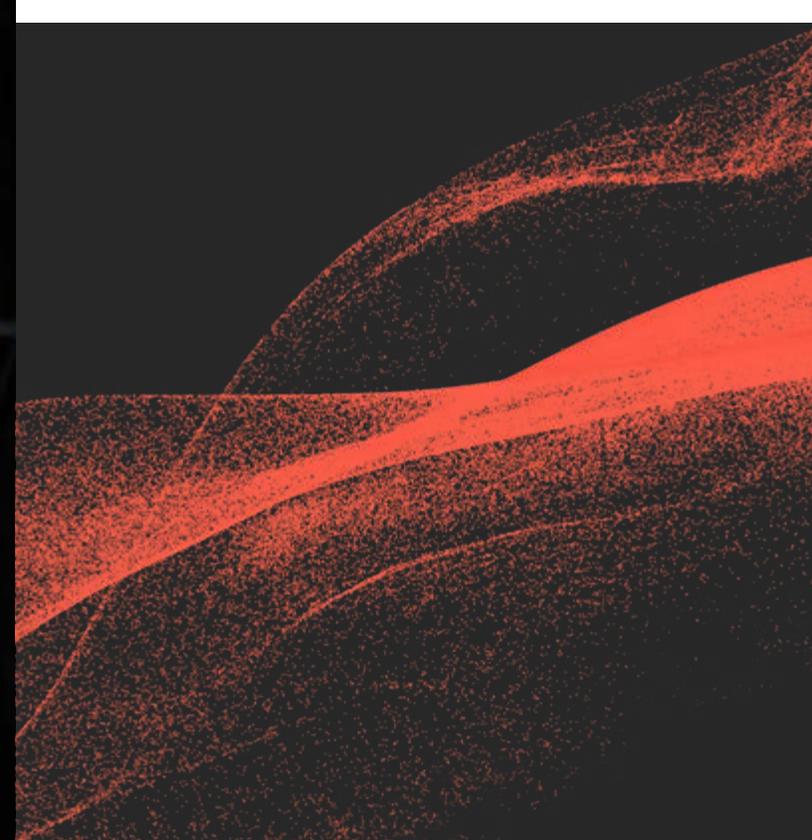


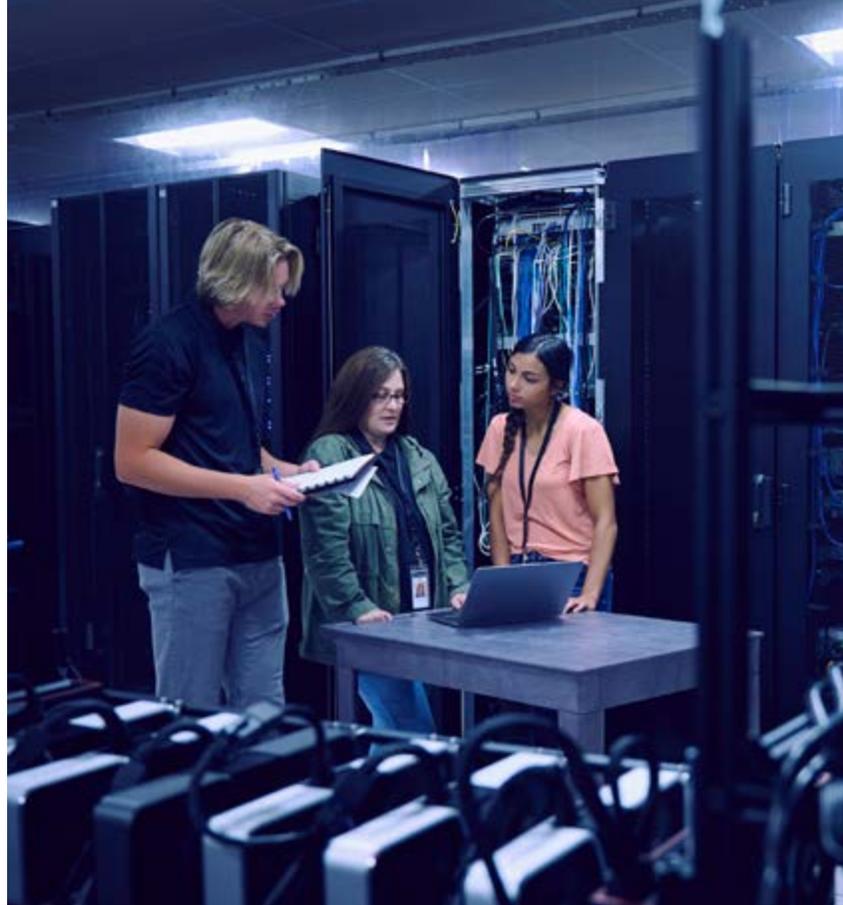
Table of Contents

Executive Summary	3
Introduction	4
Data Modernization Industry Trends	5
What are SAP Customers Doing?	6
SAP Roadmap: Navigating the Data Evolution Journey	6
Challenges in Data Modernization	7
Fragmented data landscapes	7
Lack of consistent business semantics	7
Growing need for seamless cloud and third-party data integration	7
Limited trust in analytics and insights	7
Strategic Framework for Data Modernization	8
The Right Path for Your Data Modernization Journey	9
1. Implementation Approaches	9
Greenfield	9
Brownfield: Phase-wise approach	9
Brownfield: Single-step approach	9
2. Migration approaches	10
Migrating the existing SAP Business Warehouse (BW) system into SAP Business Data Cloud	10
Migrating the existing SAP Datasphere system into SAP Business Data Cloud	11
Adopt SAP Business Data Cloud	11
Conclusion	11
About the authors	12
References	13

Executive Summary

As organizations modernize their SAP landscapes, there is growing urgency to move beyond SAP Business Warehouse (SAP BW) systems toward more flexible, scalable, and cloud-based data platforms.

This whitepaper emphasizes how SAP Business Data Cloud (SAP BDC) is emerging as a key enabler in this transformation—offering a unified, governed, and real-time foundation for enterprise reporting and analytics. It highlights built-in support for AI and machine learning features of SAP Business Data Cloud and describes how it empowers organizations to leverage advanced analytics and predictive insights. It also outlines a clear implementation and migration path for businesses looking to streamline reporting and prepare for SAP S/4HANA transformation.



One of the biggest challenges organizations face in gaining real-time insights across fragmented data sources and unlocking the power of AI is the lack of consistent business semantics—which limits trust in analytics and AI outcomes. SAP Business Data Cloud changes that with a unified, governed data fabric and a robust semantic layer,” said Thorsten Leiduck, SVP and Global Head of the SAP Business Data Cloud Ecosystem at SAP. “Together with LTM’s deep implementation and industry expertise, we’re turning fragmented data into trusted intelligence—empowering faster, more confident decisions across the entire value chain.

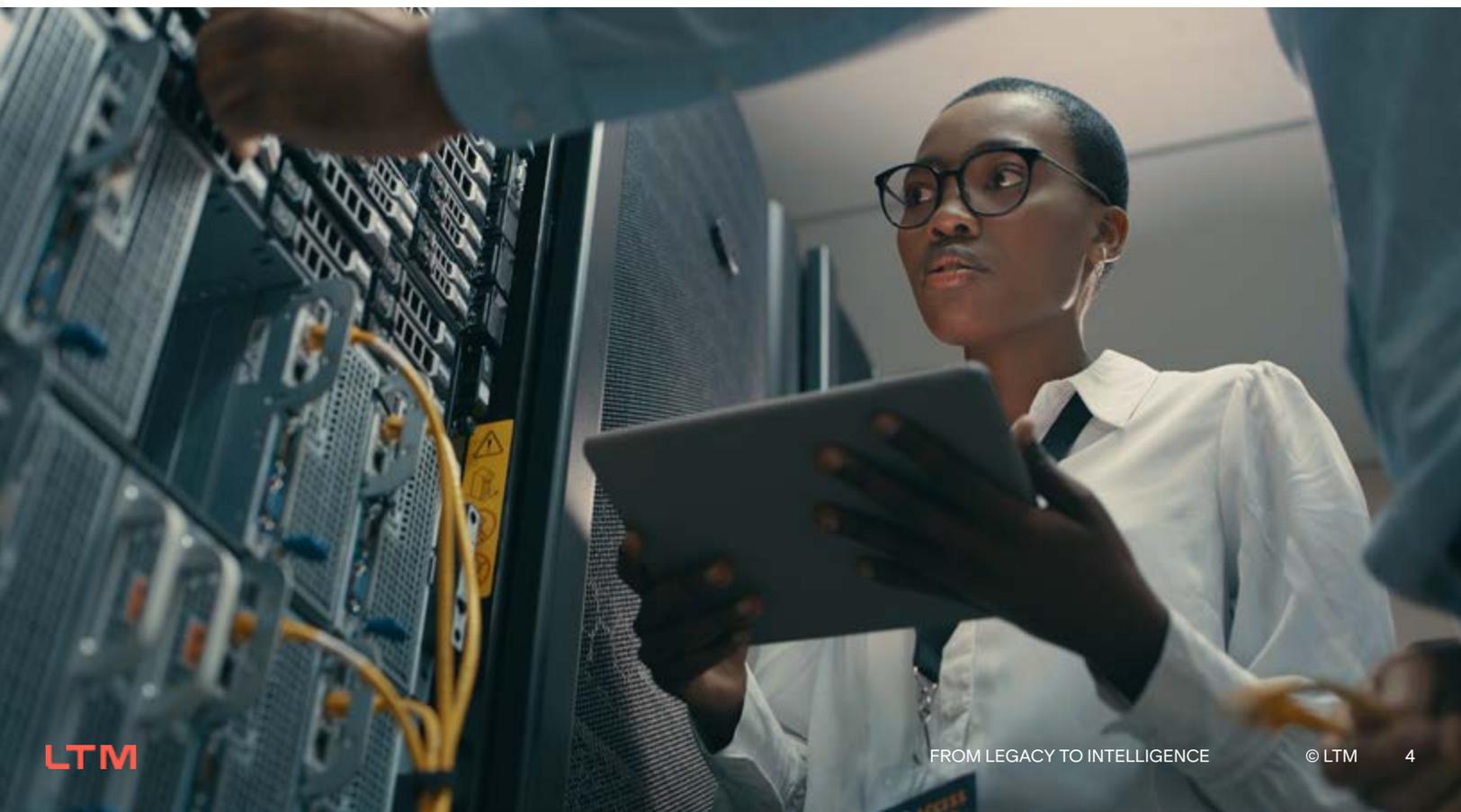
Thorsten Leiduck
SVP & Global Head of SAP Business
Technology Platform Ecosystem



Introduction

Enterprises are increasingly prioritizing data modernization to support cloud strategies, real-time decision-making, and AI readiness. SAP customers are responding by shifting away from on-premise data warehouses toward more open and agile platforms.

In line with this shift, SAP is promoting SAP BDC as the central data foundation—bringing together harmonized data, business context, and governance in one cloud-native environment. This paper explores how SAP Business Data Cloud supports this evolution and enables customers to build a modern, scalable, and intelligent reporting landscape.





Data Modernization Industry Trends

As organizations pursue digital transformation, modernizing the data landscape has become strategic. Enterprises are adopting key data modernization trends that focus on cloud-native platforms, real-time integration, AI/ML readiness and decentralized data access.

Data Modernization Trends



Data Democratization



Real-time decision support



Data Governance and Compliance



Data Fabric Architecture



AI and Advanced Analytics



Cloud Adoption and Hybrid landscapes

Figure 1: Data modernization trends

02

SAP Roadmap: Navigating the Data Evolution Journey

01

What are SAP Customers Doing?

Currently most SAP customers are focusing on two major initiatives:

- Modernizing their existing landscape
- Moving towards cloud-based products and services

As a result, most organizations are running or planning to run transformations both for their ERP (possibly SAP S/4HANA), as well as planning and analytics (SAP Datasphere and SAP Analytics Cloud).

Initially, SAP Business Warehouse served as the backbone for structured data consolidation and enterprise reporting. SAP Business Warehouse/4HANA brought modernization through in-memory and leaner data modeling. With the rise of cloud ecosystems, and growing importance of data unification, data virtualization, real-time analytics and AI/ML, SAP evolved its strategy with SAP Business Data Cloud.

In today's data-driven world, enterprises face increasing pressure to unify and leverage data across fragmented landscapes. SAP Business Data Cloud (BDC) offers strategic solutions, that are scalable, integrated and provides a one-stop shop platform for data management. With features like built-in governance, semantic modeling and AI-ready architecture, SAP Business Data Cloud provides a centralized, cloud-based solution that simplifies data access and accelerates implementation and adaptability.

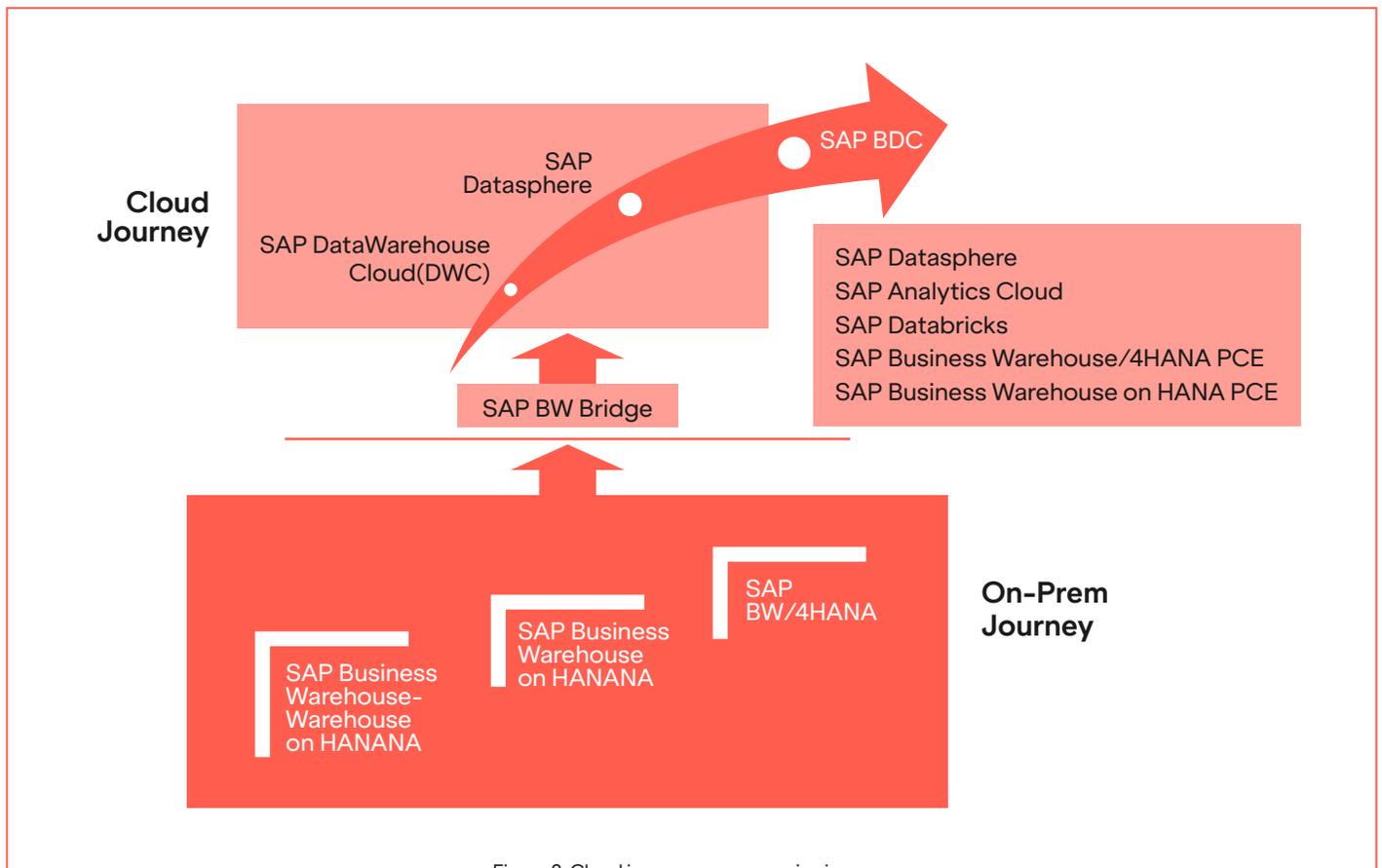


Figure 2: Cloud journey vs on-premise journey

Challenges in Data Modernization

Unlocking the full value of enterprise data is no longer optional; it is urgent and immediate. With growing pressure to deliver real-time insights and support predictive operations, organizations are facing a pivotal moment in their transformation journey. The shift is not just a technical upgrade; it is a strategic move for future-proofing their business and driving sustainable success.

Some of the typical challenges organizations face include:

Fragmented data landscapes

Consider a manufacturing environment where data from production lines, inventory and supply chains often reside in separate silos. This leads to inefficiencies, reporting delays and missed opportunities for optimization. In this scenario, a consulting team might be struggling to reconcile production data from SAP with demand forecasts in an external CRM system, causing delays in supply chain adjustments.

In this case, one can leverage SAP Business Data Cloud to provide leadership with a single and trusted view of real-time inventory data and production line status, improving operational efficiency.

Lack of consistent business semantics

Almost all organizations often use different definitions and calculations for KPIs across different geographies or departments. This inconsistency makes it difficult to create standardized enterprise-wide reports. SAP Business Data Cloud enables a consistent business semantic layer across the organization to align technical data with business requirements. This will ensure that all clients' IT and business teams speak the same language.

Growing need for seamless cloud and third-party data integration

As all organizations are embracing cloud platforms, they need a solution that has a scalable, low-latency approach to integrate diverse data with core SAP data.

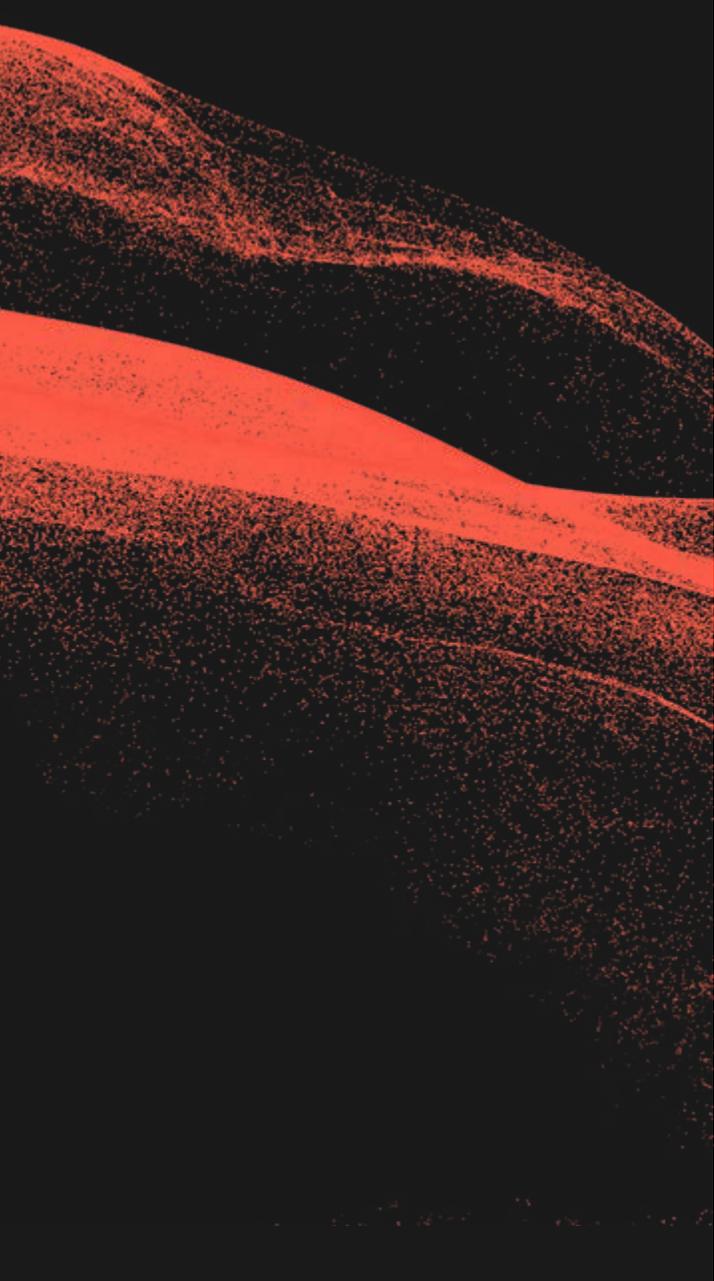
Traditional ETL pipelines are resource-intensive and slow to adapt, limiting response speed to business needs for real-time or ad hoc insights.

However, SAP BDC's native connectors make it easy for the team to integrate external cloud systems and third-party data sets into SAP analytics workflows to enhance analytics and decision-making.

Limited trust in analytics and insights

Many business users are hesitant to rely on analytics and insights because of inconsistent data quality, fragmented sources or past experiences with unreliable reports. Building trust requires establishing strong data governance and ensuring high quality and reliable information that business users can rely upon. SAP Business Data Cloud helps address this challenge by unifying SAP and non-SAP data into a trusted foundation providing governance and high-quality data. By leveraging AI/ML capabilities powered by SAP Databricks within SAP Business Data Cloud, the data science team can implement AI models across multiple business processes, helping modern enterprises unlock greater predictive capabilities and efficiency.





Strategic Framework for Data Modernization

To navigate today's challenges and meet the urgent demand for data modernization, organizations should prioritize the following strategic actions.

- 01 Assess the current landscape to answer questions like “Which systems are critical to take business decisions but difficult to connect today?”

- 02 Identify the most pressing challenges that the client is facing. Map bottlenecks caused by delayed or inconsistent data.

- 03 Explore how SAP Business Data Cloud could unify and accelerate the solution in alignment with challenges and needs.

- 04 Prioritize a high impact use case. Build a PoC using SAP Business Data Cloud to show quick value and buy-in.

- 05 Define a scalable roadmap by outlining a phased plan from initial PoC to enterprise-wide rollout.



The Right Path for Your Data Modernization Journey

While data modernization is essential for modern enterprises, the path to modernization is not the same for all enterprises. There is no one-size-fits-all approach. Understanding which implementation or migration approach is best-suited to your enterprise will help expedite and streamline your data modernization journey.

1. Implementation Approaches

Greenfield

This strategy is suitable in scenarios where there is no pre-existing SAP data warehouse, such as SAP Business Warehouse or SAP Datasphere. It allows for the utilization of all objects within SAP Business Data Cloud to their full potential, considering future AI/ML use cases. This approach provides comprehensive insights into SAP data and serves as a data lake solution for organizational analytics, planning, and AI/ML applications. Additionally, it offers greater flexibility and scalability for integrating with various data sources and third-party tools. By adopting this strategy, organizations can build a robust and future-proof data architecture tailored to their specific business needs. Furthermore, this method simplifies the process of implementing new technologies and innovations without the constraints of legacy systems.

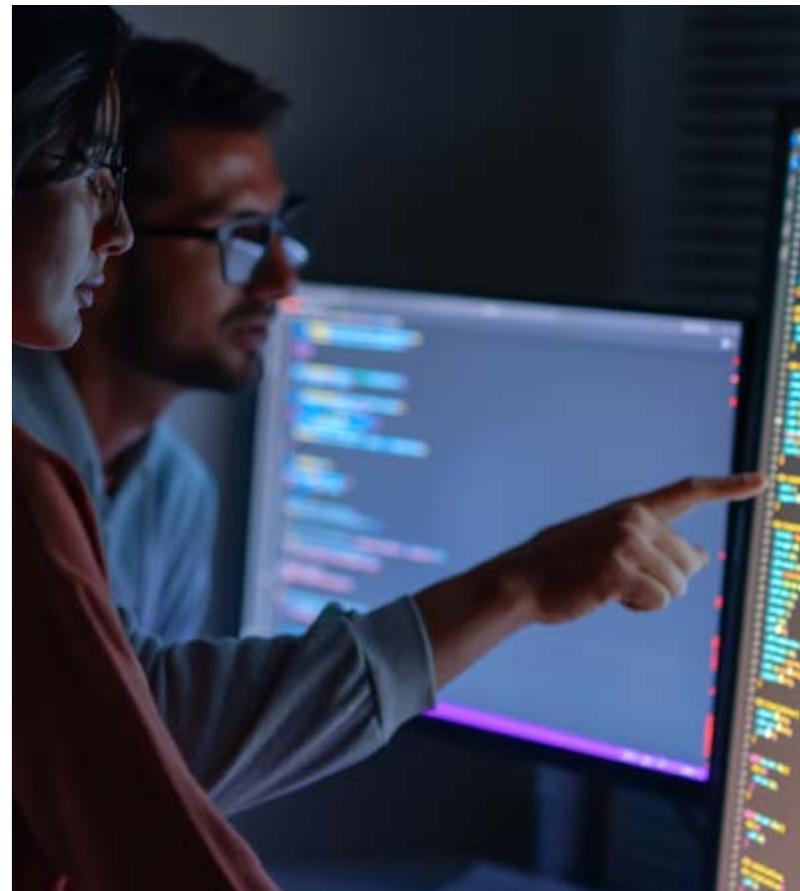
Brownfield: Phase-wise approach

A brownfield approach is more suitable for repurposing or enlarging preexisting structures or infrastructure. Unlike greenfield projects, which start from scratch, brownfield projects typically leverage pre-existing structures in order to maximize resource utilization and often require modernization adjustments.

In a brownfield project, both existing infrastructure (e.g. SAP Business Warehouse) and new solutions must integrate seamlessly. This environment requires careful planning and implementation to ensure that legacy systems co-exist with updated or modern technologies. The goal is to enhance functionality without disrupting ongoing operations. For example, a company may maintain its original system while implementing a new SAP Business Data Cloud system to leverage advanced data processing capabilities. Managing a brownfield project demands a comprehensive understanding of both old and new systems, as well as effective strategies for integration, data migration, and scalability.

Brownfield: Single-step approach

Integrating the current system with SAP Business Data Cloud offers enhanced functionality and modernization. The process begins with a one-time migration to SAP Business Data Cloud (SAP Datasphere), enabling data consolidation and performance optimization. Developers can also leverage SAP Datasphere for cataloging and semantic modeling. Post-migration, the legacy system can be phased out, ensuring that all future developments and enhancements take place within the SAP Business Data Cloud environment. This strategy delivers improved efficiency and a streamlined path to modernization.



2. Migration approaches

Migrating the existing SAP Business Warehouse (BW) system into SAP Business Data Cloud

Migrating an existing SAP Business Warehouse system does not necessitate a prior conversion to SAP BW/4HANA. Instead, it can be directly transitioned to SAP BW's private cloud through the use of SAP's comprehensive cloud migration tools and support services. In the context of SAP Business Data Cloud, the data product generator within SAP Datasphere creates data products that reference the migrated SAP BW data. This approach facilitates seamless integration with both SAP and non-SAP data sources, promoting data harmonization and enrichment.

The architecture diagram below provides details of SAP Business Warehouse system migration path to SAP Business Data Cloud.

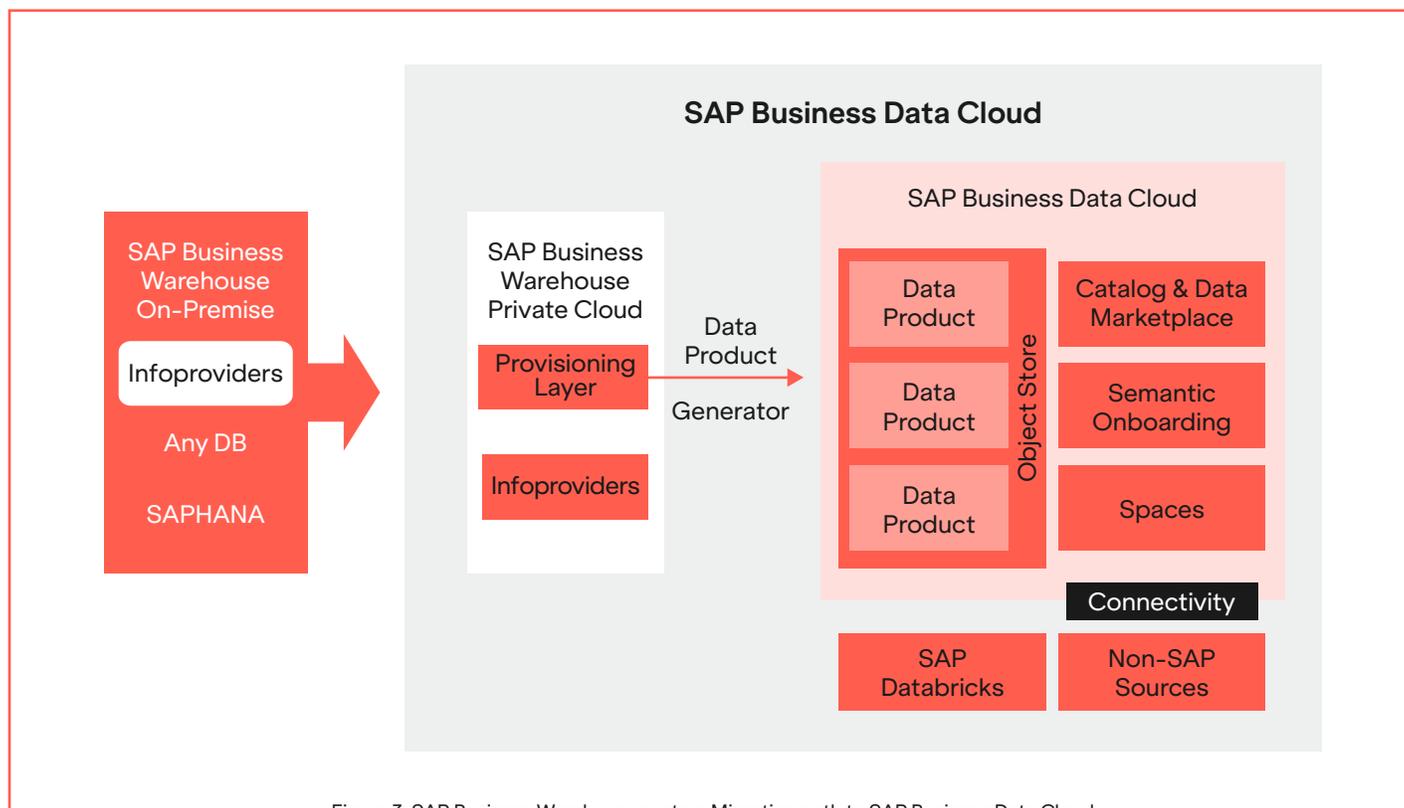


Figure 3: SAP Business Warehouse system Migration path to SAP Business Data Cloud

Enterprises could progressively migrate SAP Business Warehouse use cases to SAP Datasphere. This strategy expedites access to SAP BW data via SAP BW data products and also enables the seamless integration of AI and ML applications on existing SAP Business Warehouse datasets. The transition enhances data utilization efficiency and fosters innovation in data-driven decision-making processes.

Migrating the existing SAP Datasphere system into SAP Business Data Cloud

SAP Datasphere serves as the central component of SAP Business Data Cloud (BDC) and is anticipated to become increasingly vital within the SAP Business Data Cloud ecosystem. Both independent tenants of SAP Datasphere and SAP Business Data Cloud benefit from a comprehensive and well-defined roadmap, which ensures ongoing improvements and new capabilities. Currently, SAP Datasphere provides an optimal environment for developing customized data products, enhancing advanced data management, and utilization.

Adopt SAP Business Data Cloud

- Convert your contract at renewal or earlier.
- Re-wire your tenant to an SAP Business Data Cloud tenant by mid-2025 as part of a managed service.
- Use SAP data products and intelligent apps for custom data solutions.
- Integrate business AI with Joule and Just Ask through advanced data science and ML/AI use cases.

Conclusion

As enterprises accelerate their shift to the cloud and prioritize data-driven decision-making, the need for a unified, scalable, and AI-ready data platform is more critical than ever. SAP Business Data Cloud (BDC) emerges as a strategic cornerstone in this transformation—enabling real-time analytics, consistent business semantics, and seamless integration across SAP and non-SAP ecosystems. Data modernization with the right partner can accelerate and streamline an organization's data modernization journey. This is not a mere technological upgrade; it is a paradigm shift in how data is harnessed to drive business outcomes. Whether enterprises embark upon a greenfield innovation path or a phased brownfield modernization, SAP Business Data Cloud offers the architecture, tools, and intelligence needed to unlock operational efficiency, improve trust in analytics, and fuel next-gen innovation through AI and machine learning.

The time to act is now. Enterprises that invest in a future-proof data platform today will lead tomorrow; they will be more agile, more intelligent, and more resilient in a rapidly changing digital world.

About the authors



Sourav Banerjee

Director SAP Analytics, LTM

Sourav is a Director for SAP Analytics applications mainly SAP Datasphere, SAP Analytical Cloud (both analytics and planning) and SAP Business Data Cloud. He has strong experience in delivering end-to-end business solutions in the data and analytics space. Apart from technical expertise, he has strong experience in pre-sales which includes deal analysis, solution presentation, negotiation, staffing, planning and fulfillments.



Surya Kumar

Director SAP Analytics, LTM

Surya is a thought leader with a flair for data and analytics as well as digital and cloud technologies in delivering global SAP programs across NA, Europe, and Asia-Pacific regions. He is an architect with 21+ years of experience in delivering large SAP projects in the energy and utilities, insurance, life sciences and manufacturing sectors. He has strong experience as a CoE leader overseeing areas such as competency management, pre-sales, solution strategy and talent transformation



Vinod Bokade

Solution Architect SAP Analytics, LTM

Vinod is a certified SAP Business Warehouse/4HANA and HANA Consultant with 20 years of experience in SAP S/4HANA embedded analytics, SAP BW/4HANA, SAP Analytics Cloud reporting, and DataSphere. He has contributed to SAP S/4HANA projects and is a certified Safe® 5 Practitioner from Scaled Agile, Inc. His expertise includes creating business requirement specifications, designing and executing test plans, and implementing data product modeling.



References

BARC Perspective: SAP Business Data Cloud (BDC) – Breaking Tradition and Embracing Data Products, Dr. Carsten Bange, Larissa Baier, Kevin Petrie, Jacqueline Bloemen, Shawn Rogers, BARC, 2025 <https://barc.com/sap-bdc-barc-perspective/>

Why Becoming Data-Driven Might Not Be Enough, Soumendra Mohanty, Forbes, 2023 <https://www.forbes.com/councils/forbestechcouncil/2021/08/10/why-becoming-data-driven-might-not-be-enough/>

SAP aims to unify data for AI, analytics with new SAP Business Data Cloud, Anirban Ghoshal, CIO, 2025 <https://www.cio.com/article/3823989/sap-aims-to-unify-data-for-ai-analytics-with-new-business-data-cloud.html>

The AI-Native Enterprise. And The Changing Role of CIO, Sanjay Srivastava, Forbes, 2025 <https://www.forbes.com/sites/sanjaysrivastava/2025/08/31/the-ai-native-enterprise-and-the-changing-role-of-the-cio/>

What SAP's Business Data Cloud Means For Enterprises, Robert Kramer, Forbes, 2025 <https://www.forbes.com/sites/moorinsights/2025/04/09/what-saps-business-data-cloud-means-for-enterprises/>

Exploring SAP Business Data Cloud, SAP <https://learning.sap.com/learning-journeys/exploring-sap-business-data-cloud>

Introducing SAP Business Data Cloud, SAP <https://learning.sap.com/courses/introducing-sap-business-data-cloud>

LTM is a global technology services and consulting company and the business creativity partner to the world's largest and most disruptive companies. We bring human insights and intelligent systems together to help enterprises across industries rewire their business models, accelerate innovation, and drive AI-centric growth. With our integrated operations, transformation, and business AI services, we design and deliver solutions that create new productivity paradigms and new roads to value. Together with 87,000 employees across 40 countries and our global network of hyperscaler partners, LTM - A Larsen & Toubro company - shapes business outcomes for over 700 clients, helping them to not simply outperform the market, but to Outcreate it.