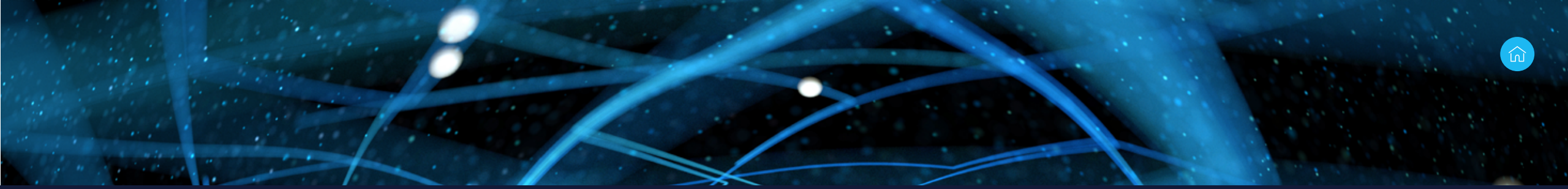
The Intelligent Enterprise Advantage:

Turning Data

into Trusted, AI-Driven Decisions

Capgemini × SAP × snowflake



Executive summary

Enterprises are under unprecedented pressure to make faster, better decisions in a world defined by supply chain volatility, geopolitical risk, and rapidly shifting customer expectations. Traditional approaches that separate ERP core systems from analytics platforms create latency, complex integration, data duplication, and fragmented governance which slows down innovation and undermines trust in analytics. Even modern data and AI platforms, and the organizations that implement them, still follow this outdated pattern. Even more important is a circular view on the topic. Where does the action, the next step in the process apply? And how can AI Agents be used to automate next steps, based on simulations and predictions that are checked and approved by humans?

The newly announced integration between SAP Business Data Cloud and Snowflake changes this situation. Through SAP Snowflake, an SAP solution extension, and SAP Business Data Cloud Connect for Snowflake, enterprises can now combine semantically rich SAP data with Snowflake's unified data, AI, and collaboration capabilities through bidirectional, zero-copy data sharing. This creates a single, governed, AI-ready business data fabric spanning SAP and non-SAP data without costly replication and latency.

Building on this foundation, Capgemini helps clients materialize their technology potential to create accelerated business outcomes. With integrated SAP and Snowflake teams under its Insights and Data business line, Capgemini is a global leader in AI, data and SAP transformation. In addition to this, the Insights and Data business line adds strengths such as data quality and migration capabilities of Syniti. Capgemini orchestrates end-to-end journeys from strategy to scaled AI-powered operations.

This white paper starts with a lighthouse supply chain use case, then broadens to an enterprise-wide use case portfolio, and finally explains the solution architecture, Capgemini's role, and a pragmatic engagement blueprint.

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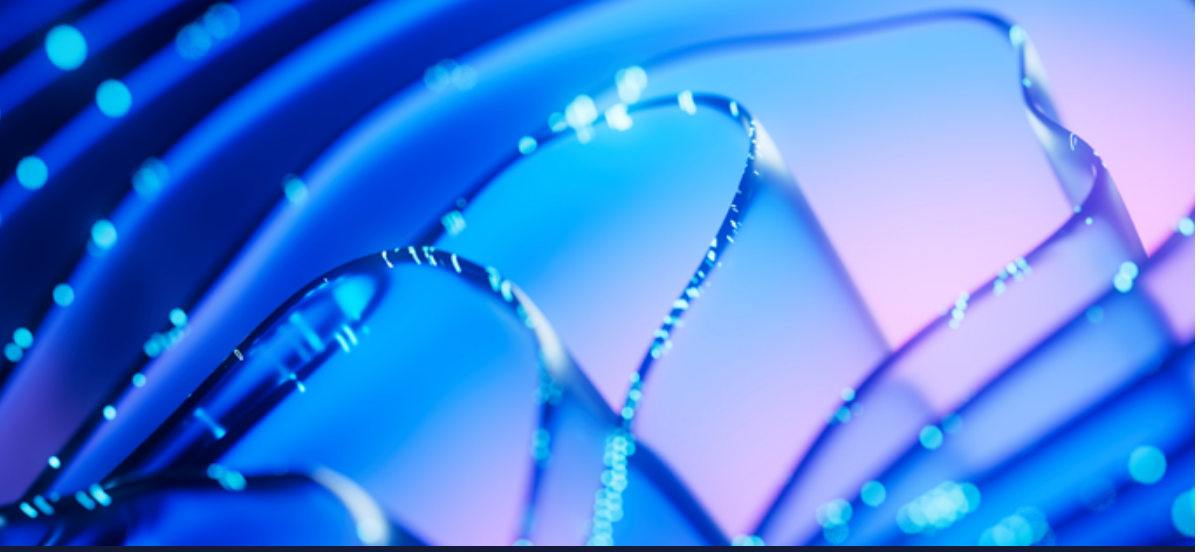


01.

Lighthouse use case: risk-aware supply chain and production planning

Data has long been central to business outcomes. Multinationals rely on it to refine product design, improve risk models, set prices, and shape strategy. The novelty lies not in data's importance but in the difficulty of managing it. Firms now have to deal with unprecedented levels of volume, variety, and velocity. Daily life for a chief data officer (CDO) is a struggle to extract value while staying ahead of regulatory demands.

1.1 The business challenge

Consider a global manufacturer with multiple plants across several regions, a diversified supplier base, and contracts with large customers across Europe, the Americas, and Asia. The company's core operational data—customer orders, production orders, bills of material, routings, inventory, and logistics documents—reside in SAP S/4HANA and connected systems. Yet many external factors heavily influence the feasibility and profitability of its plans: geopolitical crises, trade restrictions, port congestions, labor strikes, and severe weather events.

In such an environment, production planning and material flow decisions are often based on incomplete information. Planners work with periodic snapshots, spreadsheets, and isolated risk signals that reach them late. When disruptions occur, the company reacts with expedited shipping, manual rescheduling, overtime, or excess safety stock—driving up costs and undermining service-level commitments.

1.2 Target solution vision

The new SAP Business Data Cloud–Snowflake integration enables a different approach to planning and execution:

Unified internal view of reality

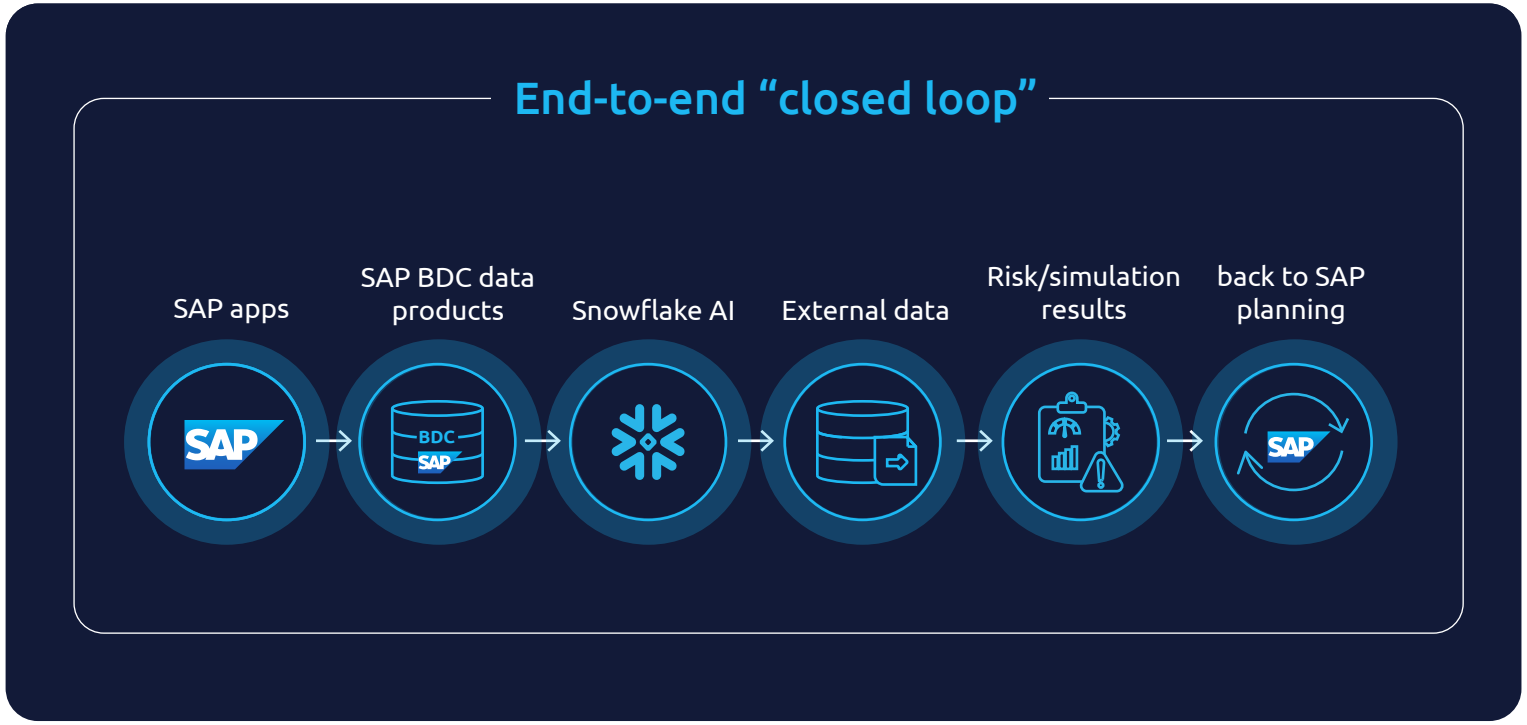
SAP Business Data Cloud (SAP BDC) creates and aggregates semantically rich Data Products from SAP systems, such as customer contracts and orders, plant and material masters, production orders, and inventory positions. This provides a governed, curated view of the internal supply chain state, updated in near real time.

Integrated external risk picture

Snowflake ingests and consolidates non-SAP and external data, including product telemetry, logistics events, carrier and port status, macro-economic indicators, news feeds, and weather data. Using its AI capabilities, the manufacturer can deploy models that predict delays, supply disruptions, and demand shifts, and simulate the impact of these events on material flow and production plans.

Closed-loop, AI-driven recommendations

Predictions and recommended scenarios generated in Snowflake are shared back as Data Products accessible through SAP Business Data Cloud. SAP planning applications and digital assistants can then surface risk scores, scenario metrics, and recommended actions directly to planners within their usual workflows. Joule Agents can be triggered to implement the simulated scenarios into the standard processes. E.q. create a new production plan, trigger a maintenance order or supply new raw material from a different supplier.



1.3 Example scenarios

1 weather-driven logistics disruption

A severe storm is forecasted for a region hosting a major seaport, with high likelihood of port closure or heavy delays. Weather, geospatial, port data feeds along with other operational data assets land in Snowflake, where AI models flag likely disruptions on specific dates and routes. By combining this with SAP Business Data Cloud data on open sales orders, shipments, and plant capacities, the system identifies which customer deliveries and production plans are at risk.

The system proposes alternative routing, repositioning of inventory, or shifting production between plants, along with estimated impacts on cost and service levels. Planners use SAP-embedded applications, Insights Apps or copilots to review scenarios, compare trade-offs, and approve the preferred plan, which is then executed through standard SAP processes.

2 geopolitical event impacting suppliers

Geopolitical tensions escalate in a country where Tier-2 suppliers provide critical components. External risk signals and sanctions data along with supplier sentiment scores are processed in Snowflake and mapped to suppliers, parts, and bills of material using SAP Business Data Cloud's Supplier and Material Master Data Products. The system simulates potential lead-time extensions, capacity losses, as well as cost changes, and generates recommended mitigation plans—such as activating alternative suppliers, changing sourcing splits, or re-sequencing production.

Decision-makers can see which customer contracts and product lines are affected, evaluate financial and operational impacts, and choose mitigation strategies that best protect revenue, margins, strategic relationships, and customer satisfaction.

3 demand spike from a strategic customer

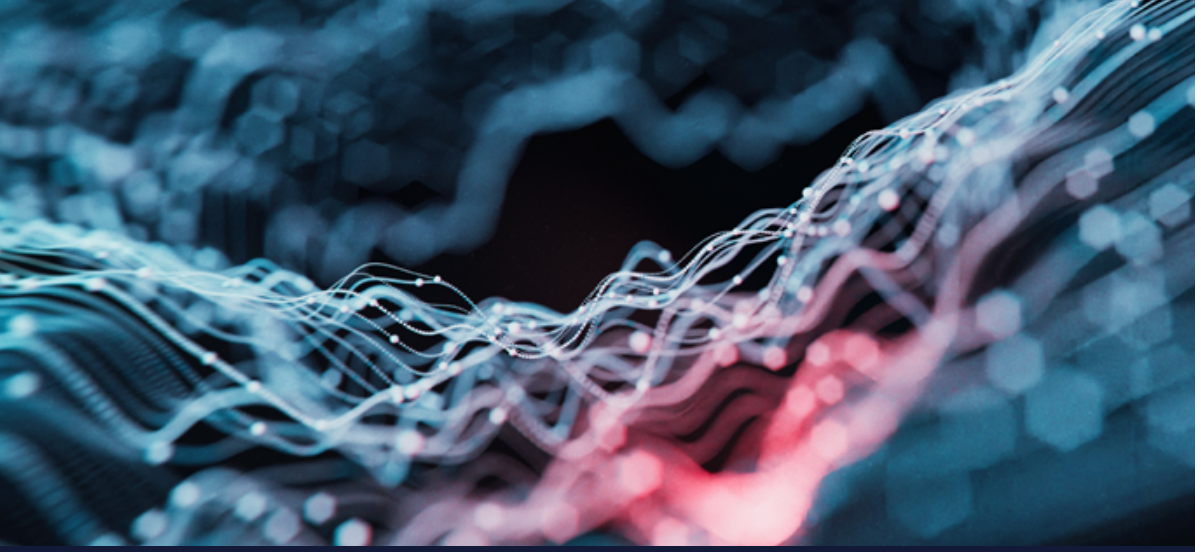
A strategic customer significantly increases orders for a high-margin product range. Sales and order data from SAP Business Data Cloud is combined in Snowflake with geospatial, market, and behavioral data to characterize the demand pattern. AI models assess capacity and inventory constraints, simulate trade-offs across customers and regions, and suggest a portfolio of actions—e.g., reprioritizing production, temporarily relaxing service levels for lower-priority segments, and adjusting replenishment policies.

Within SAP planning tools, planners see suggested production sequences, material allocations, and service-level implications, allowing them to quickly align operations with commercial priorities.

1.4 Expected business outcomes

Although actual results will depend on each organization, we have seen clients achieving the following:

- Shorter re-planning cycles—from days to hours—by giving planners near real-time, context-rich scenarios instead of manual, error-prone, and unreliable reports.
- Lower logistics and inventory costs through earlier detection of risks and proactive fact-based plan adjustments.
- Higher service levels and stronger adherence to customer contracts by prioritizing decisions based on actual business impact.
- Increased planner productivity and higher quality outcomes, as standard SAP tools surface AI-generated insights rather than forcing users into parallel tools and spreadsheets.



02.

Broader use case portfolio enabled by SAP–Snowflake

Beyond the lighthouse scenario from above, the SAP Business Data Cloud–Snowflake foundation supports a wide portfolio of AI-driven use cases across the enterprise, which will be briefly covered in the following section.

2.1 Intelligent supply chain and operations

- **Dynamic safety stock optimization** that adjusts inventory levels based on external risk indices, just-in-time inventory, demand signals, and lead-time variability.
- **Sustainability-aware planning** incorporating emissions factors and alternative transport or sourcing options to balance cost, service, and sustainability goals.

2.2 Finance, risk, and performance management

- **Continuous planning and forecasting** leveraging SAP financial and operational data with external data in Snowflake, enabling near real-time forecast adjustments.
- **Liquidity and working capital optimization** through predictions of cash inflows (bank statements, reconciled to SAP) and outflows based on order, billing, and payment behaviors.
- **Early risk detection** by combining internal exposures with external risk, credit, and geopolitical data, feeding risk scores into SAP risk and compliance processes.

2.3 Customer, sales, and service

- **Customer 360 and churn prediction** by uniting SAP transaction history and service tickets with unstructured data such as call transcripts and external behavioral data.
- **Intelligent pricing and promotion analytics** using combined SAP and external data to simulate price and promotion impacts on volume and margin.

03.

Solution and architecture overview

3.1 Conceptual architecture

At a conceptual level, the architecture has three main layers:

1. SAP Business Data Cloud as the business data fabric
2. Snowflake
3. Bidirectional, zero-copy integration

1

SAP Business Data Cloud as the business data fabric

SAP Business Data Cloud provides a governed, semantically rich layer over SAP applications, turning operational data into reusable data products. These products carry business meaning—e.g., customers, contracts, materials, plants, cost centers—and governance policies, which can be shared consistently across consuming applications and analytics.

2

Snowflake

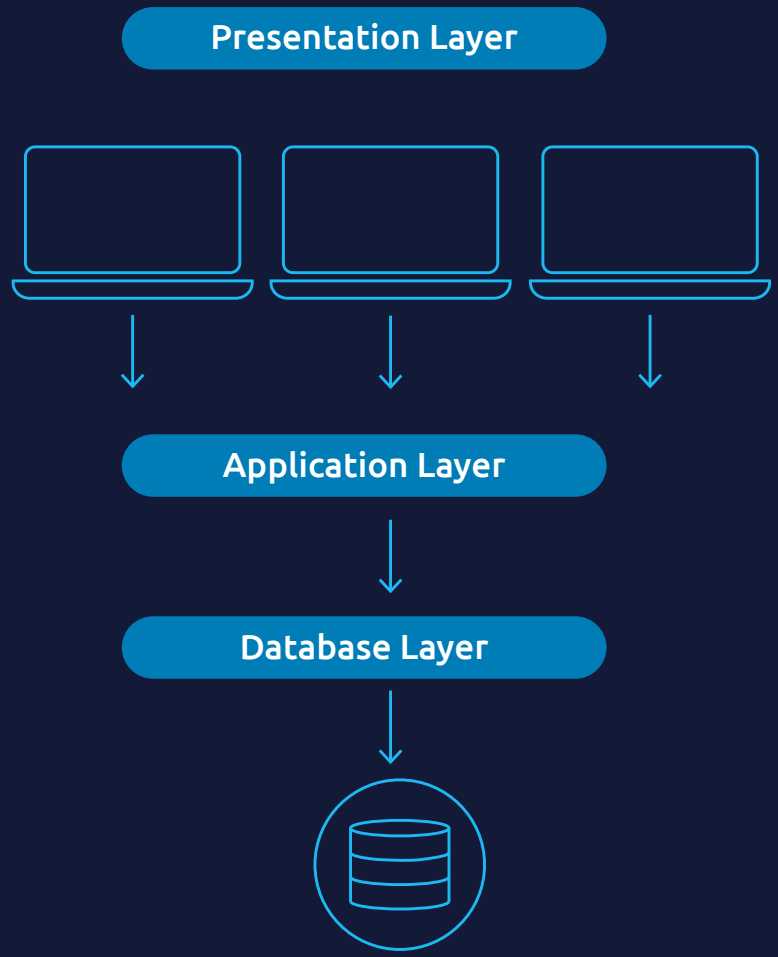
Snowflake offers a unified platform for data engineering, analytics, machine learning, and generative AI, including components such as Snowpark, Cortex, and external data via marketplace offerings. It is designed as an AI-ready data platform across clouds and regions, enabling teams to build and deploy AI applications and agents at scale.

3

Bidirectional, zero-copy integration

SAP Snowflake, offered as an SAP Business Data Cloud solution extension, and SAP Business Data Cloud Connect for Snowflake, provide bidirectional, zero-copy data sharing between SAP Business Data Cloud and Snowflake. This allows Snowflake workloads to access semantically modeled SAP data in near real time and enables SAP Business Data Cloud to consume AI-enriched results from Snowflake, without data replication.

Standard SAP L1 Architecture



3.2 Key architectural principles

The following design principles underpin a best practice approach:

Semantics first

Preserve SAP business semantics (objects, hierarchies, currencies, units) in SAP Business Data Cloud and expose them to Snowflake, instead of rebuilding logic downstream. This improves AI explainability and greatly reduces the time-to-value while building these use cases.

Zero-copy by default

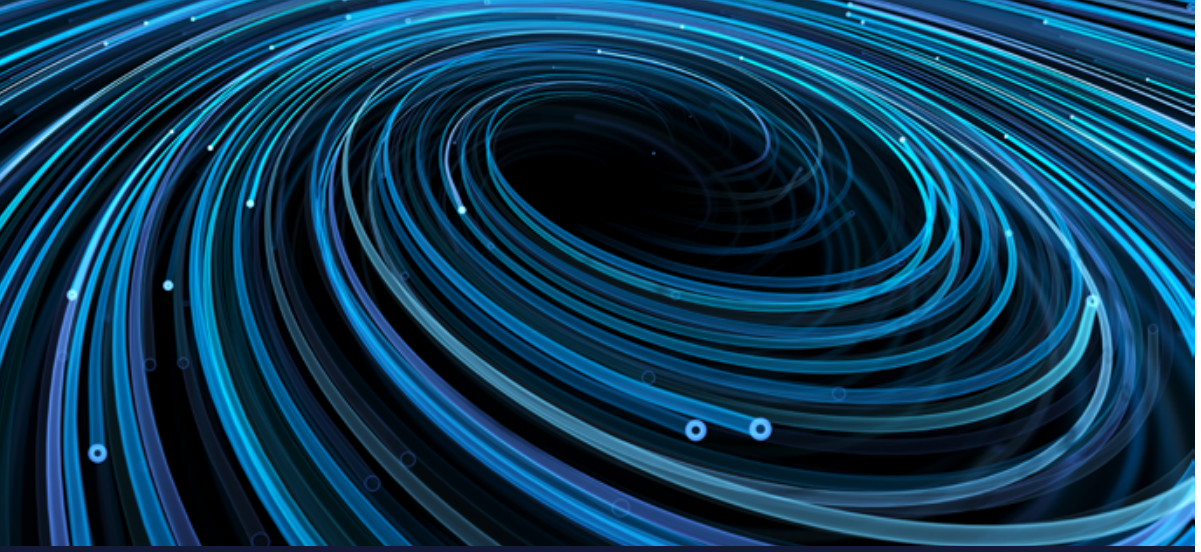
Use live data sharing rather than large-scale replication, to reduce latency, cost, and governance complexity. And, more critically, to allow business users to adapt to changing situations as fast as they happen in the real world.

Closed loop into processes

Predictions and insights flow back into SAP processes, not just dashboards. This is essential for turning AI into operational impact and business value.

Open ecosystem

Leverage the full product scope of Snowflake, including the marketplace, data and models as well as SAP's broader analytics and planning portfolio, while maintaining a coherent governance model across platforms.



04.

Why Capgemini is the ideal partner

4.1 Integrated SAP and Snowflake expertise under one roof

Capgemini's Insights & Data global business line brings together SAP experts, cloud data engineers, and AI specialists as a single integrated organization. Rather than treating SAP and Snowflake as separate technology towers, Capgemini designs and implements unified architectures where SAP Business Data Cloud and Snowflake form a coherent business data fabric. This reduces friction between ERP and data platform teams and accelerates delivery of cross-domain use cases.

Capgemini combines industry expertise and advisory capabilities with deep implementation experience: from enterprise architecture and data strategy through to data engineering, AI model development, and managed services. This end-to-end ownership is crucial for realizing the full potential of the SAP–Snowflake partnership, which spans business processes, data governance, and technology.

4.2 Syniti-powered data quality and migration

High-quality, well-governed data is a non-negotiable requirement for trustworthy AI and analytics. Syniti, as a specialist in data migration, quality, and master data management for SAP environments, plays a pivotal role in Capgemini's approach. Syniti's ADMM platform and methodologies accelerate the consolidation, cleansing, and harmonization of SAP and non-SAP data as organizations modernize onto S/4HANA, SAP Business Data Cloud and Snowflake.

By embedding Syniti's DataFirst methodology and data quality driven steps into SAP–Snowflake programs, Capgemini helps clients avoid the "garbage in, garbage out" challenge that often undermines AI initiatives. Clean, governed data products from SAP Business Data Cloud, complemented by high-quality external and non-SAP data in Snowflake, give AI models a robust foundation and simplify regulatory compliance.

4.3 Deep industry expertise and accelerators

Capgemini has a long track record of delivering SAP-centric transformations and data programs across manufacturing, consumer products, retail, energy, life sciences, and financial services. Over time, this has resulted in industry-specific data models, KPI frameworks, and accelerator assets that can be applied to SAP Business Data Cloud–Snowflake initiatives.

In manufacturing and consumer products, Capgemini brings reference architectures for control towers, demand sensing, and integrated business planning that can be re-platformed on the SAP Business Data Cloud–Snowflake foundation. These assets reduce time-to-value by providing pre-defined data structures, logic, and dashboards that can be tailored to each client's context.

05.

Engagement blueprint: from vision to value

5.1 A phased journey

Capgemini applies a consistent, pragmatic, phased approach to all SAP Business Data Cloud–Snowflake initiatives:

1. **Vision and value framing**

   A focused workshop with stakeholders from business, IT, and data/AI, alongside experts from Capgemini, SAP, and Snowflake. During this workshop we identify priority domains, shortlist high-value use cases, and define value hypotheses and target architecture.

2. **Foundation and lighthouse use case**

   New technologies often requires business cases and mid-term funding commitments. Together with our partners, we establish the core SAP Business Data Cloud–Snowflake connectivity, including configuration of SAP Snowflake and SAP Business Data Cloud. Apply Syniti methods to profile and cleanse priority data objects. Deliver one or two lighthouse use cases to validate the architecture and demonstrate tangible value with the very first projects. That ensures long-term funding and a basis for success.

3 **Scale-out and industrialization**

Expand to additional geographies, business units, and use cases, reusing data products and components where possible. Implement robust data governance, MLOps, and FinOps practices to manage data, models, and cost. Embed AI outputs into SAP user interfaces and digital assistants to drive adoption.

4 **Operate and continuously innovate**

Transition into a managed services model where Capgemini operates the SAP Business Data Cloud–Snowflake data and AI landscape, monitors models, and continuously refines use cases. Our proven AI Fabric approach results in continuous roleouts, revalidation of existing data products and AI scenarios, as well as further innovation with new functionalities and rising demand.

5.2 Success factors and commonpitfalls

We have consistently observed three factors that drive all successful projects:

- **Business-anchored** sponsorship that owns value realization, not just platform deployment. Business first, technology second.
- **Strong data management** — including master data and quality—leveraging tools and expertise such as Syniti to automate and utilize AI features, to build a business and AI ready data fundament.
- **Joint ways of working** across SAP teams, data platform teams, and business stakeholders, to avoid siloed decision-making and duplicated efforts.

Common pitfalls include treating the initiative as a pure technology project, underestimating the effort required for data quality and semantics, and neglecting change management for planners and frontline users. Capgemini's experience across multiple large-scale SAP and data programs helps clients proactively avoid these issues.

06.

Conclusion and next steps

The integration of SAP Business Data Cloud and Snowflake's AI Data Cloud marks a decisive step toward a truly unified, AI-ready enterprise data foundation. By eliminating the need and related costs, for complex ETL and data duplication, and preserving SAP semantics across AI workloads, the SAP–Snowflake partnership allows enterprises to move from reactive reporting to predictive and prescriptive decision-making powered by trusted business data.

Capgemini, with its integrated SAP and Snowflake capabilities, Syniti-backed data quality and migration expertise, and deep industry knowledge, is ideally positioned to help organizations convert this potential into concrete business outcomes. Together with SAP and Snowflake, Capgemini guides clients from an initial lighthouse use case through to industrialized AI-enabled operations across multiple processes like supply chain, finance, customer, and beyond.

About the authors

Frank Gundlich

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Frank Gundlich is a global data and analytics executive with more than two decades of experience shaping enterprise data, analytics, and AI strategies at scale. As Global Head of SAP Insights & Data at Capgemini, he leads large, multi-country teams delivering business-critical transformations across SAP Analytics, data platforms, AI/ML, and performance management. His work consistently bridges strategy and execution—connecting board-level ambition with architectures that work.

Frank is deeply rooted in the SAP ecosystem and has played key roles across advisory, product, and delivery functions at SAP, Datavard, and BASF. He is a recognized speaker at major industry events such as SAP Sapphire, SAP TechEd, and DSAG, and a trusted advisor to CFOs, CIOs, and CDOs navigating data-driven transformation. In the context of SAP Business Data Cloud, Frank brings a pragmatic yet visionary perspective on how enterprises can unlock value through the combined strengths of SAP, Databricks, Syniti, and Capgemini—turning complex data landscapes into governed, scalable, and insight-ready foundations for AI-powered decision-making.

About the authors

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Senior Alliance Director
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Edy Sardilli is a senior technology business and ecosystem leader with extensive experience in enterprise cloud, data, and artificial intelligence transformation. Across his career, Edy has held senior strategic business development and alliance roles at leading technology companies, including Google Cloud, SAP, VMware, Cloudera, and Pivotal Software. In these roles, he has supported global enterprises in advancing cloud adoption, modernizing data architectures, and integrating AI-driven capabilities within complex SAP-centric environments.

As an author and thought leader, Edy regularly contributes to industry discourse on generative AI, responsible AI adoption, and enterprise innovation.

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Marc Geall is a senior executive at SAP, currently serving as Head of Product Technology & Experience for SAP's Data and Analytics portfolio. In this role, he is responsible for shaping how SAP data and analytics technologies are designed, built, and experienced, with a strong focus on helping organizations become truly intelligent enterprises.

Marc brings deep cross-industry expertise spanning enterprise software, data platforms, and financial services. Over his career at SAP, he has held several senior leadership roles, including Chief Operating Officer for SAP's Data & Analytics organization, as well as executive positions across strategy, product, and platform organizations. His work centers on connecting business data, advanced analytics, and AI to drive trusted, real-world decision-making at scale.

About Capgemini

Capgemini is an AI-powered global business and technology transformation partner, delivering tangible business value. We imagine the future of organizations and make it real with AI, technology and people. With our strong heritage of nearly 60 years, we are a responsible and diverse group of over 420,000 team members in more than 50 countries. We deliver end-to-end services and solutions with our deep industry expertise and strong partner ecosystem, leveraging our capabilities across strategy, technology, design, engineering and business operations. The Group reported 2025 global revenues of €22.5 billion.

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About SAP

As a global leader in enterprise applications and business AI, SAP (NYSE: SAP) stands at the nexus of business and technology. For over 50 years, organizations have trusted SAP to bring out their best by uniting business-critical operations spanning finance, procurement, HR, supply chain, and customer experience.

For more information, **visit www.sap.com**

About Snowflake

Snowflake is the platform for the AI era, making it easy for enterprises to innovate faster and get more value from data. More than 11,000 companies around the globe, including hundreds of the world's largest, use Snowflake's AI Data Cloud to build, use and share data, applications and AI. With Snowflake, data and AI are transformative for everyone.

Learn more at visit **www.snowflake.com**