



# Build and deploy intelligent data apps at scale

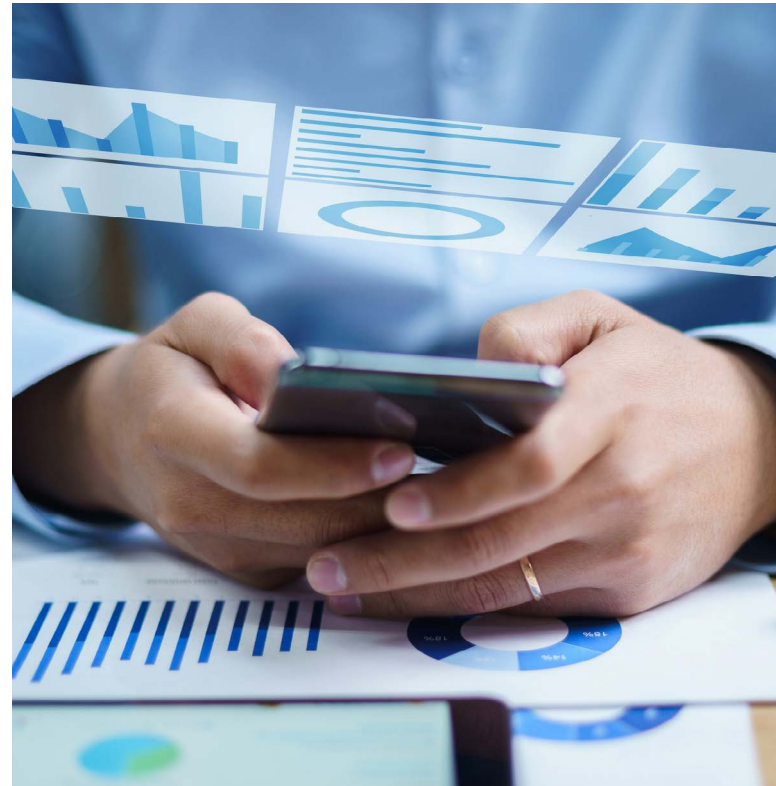
Empowering  
architects to build  
next-generation apps



# How intelligent data apps drive the data economy

Intelligent data apps turn every user into an expert with AI-infused insight—and organizations leading the way in the data economy know how to build and deploy these apps at scale. Their businesses continuously optimize operations, their workers make better decisions faster, and their customers get more personalized experiences. Are you keeping pace?

Building and deploying intelligent data apps at scale requires **a new kind of data landscape architecture**—one that enables you to store, process, and query all types of data and models on a single platform. This is why tens of thousands of SAP customers have moved to **SAP HANA Cloud**.





SAP HANA Cloud is the database-as-a-service (DBaaS) for modernizing your applications. As the cloud-native data foundation for SAP Business Technology Platform (SAP BTP), it offers fast in-memory data processing, a powerful multi-model engine, and flexible multi-tiering options. These help you overcome persistent obstacles to innovation—such as growing data volumes, incompatible data sources, varied data types, and poor integration across your data landscape.

Quickly build intelligent data applications that augment user expertise with AI-driven insight—and roll them out across the enterprise at the scale you require. Now you can see further ahead, make better business decisions in less time, and improve business performance as a data-driven organization.



# A database for any workload

When it comes to intelligent data applications, fast in-memory processing and robust scalability are mission critical. For developers, the ability to access, store, and work with diverse data sources and data types in a way that ensures security, accuracy, and a positive user experience is a must. This is why SAP HANA Cloud provides the advanced database capabilities for business application users to get the job done.

## Powerful multi-model engine

SAP HANA Cloud processes multiple types of data—including relational, geospatial, graph, JSON, and vectors. This versatility is essential for application developers seeking to integrate diverse data sources into a single application.

Whether it's structured, semi-structured, or unstructured data such as text and multimedia content, SAP HANA Cloud brings together the data needed for developers to build great apps. This means a faster path to intelligent data apps and the ability to adapt as business processes evolve.

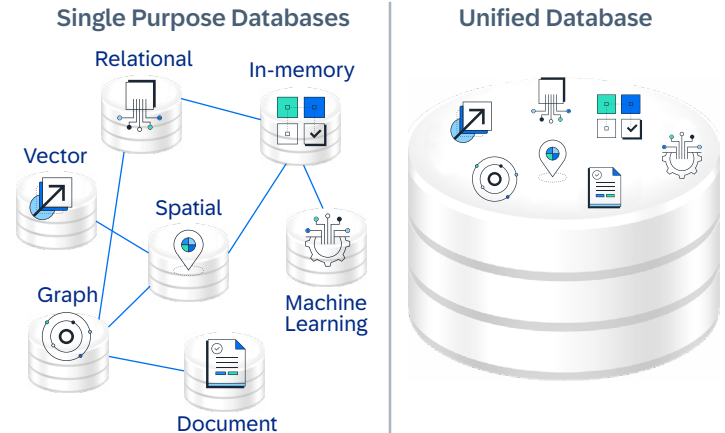


Figure: Support for multi-model data processing helps unify your data landscape

### **Simplified integration of vital business data**

SAP HANA Cloud can directly access almost any data source, including SAP and third-party applications. It also supports live access to critical business information from various sources without the need for data replication. Live data access enables developers to build intelligent data applications that deliver accurate, up-to-date information and insights in real time.

Native connectivity with various data sources—including ERP systems, IoT devices, and external data services—helps to bring together disparate data streams, creating a single, holistic view of your enterprise data. Developers seeking to create comprehensive, insightful applications find this feature particularly useful.

### **Future-proof analytics**

How developers bring analytics and insights into their applications is constantly evolving. This is why SAP HANA Cloud helps developers keep pace by continuously updating its features and capabilities.

Anticipate future trends and behaviors using predictive models. See patterns and relationships in your data with search and time-series analysis. Facilitate advanced data exploration by uncovering complex networks and hierarchies with graph algorithms. Whatever kind of analytics your developers need, SAP HANA Cloud offers machine learning libraries that enable them to build and deliver sophisticated apps that augment user expertise and help drive business performance.

# Intelligent data apps that enhance your expertise and data

More than a means for data entry, **modern intelligent data apps expand the user's perspective with timely insights and deliver a more intuitive user experience.** SAP HANA Cloud, along with other services from SAP BTP, helps you build and deploy business-ready AI apps that facilitate decision making with context-relevant insights.

## **Automated decision-making**

Apps built on SAP HANA Cloud rely on intelligent algorithms to process large volumes of data and provide actionable recommendations. Use these recommendations to optimize business decisions or even to respond to business events autonomously on demand. This reduces the cognitive load on human operators, leading to higher efficiency and greater productivity.

## **Context-aware outputs**

Developers of intelligent data apps incorporate contextual natural language queries to make their interactions with users more intuitive. With SAP HANA Cloud's vector engine, apps can use the similarity between business data as part of a process called retrieval-augmented generation (RAG). By incorporating RAG into your UI design, you can evolve past routine point-and-click sequences to interactions that are more dynamic and effective.

Businesses want to incorporate RAG and their own context with large language models (LLMs). Problems occur when AI models produce responses that are factually incorrect or unrelated to the input. This is known as model hallucination. SAP HANA Cloud helps ensure your users get the right answers to their natural language queries by grounding your LLMs with business context.



### **Business-ready AI**

SAP HANA Cloud is part of SAP BTP, which gives you access to powerful AI tools, frameworks, and services that simplify development and deployment. Use one of our pre-built AI models or train your own model using the extensive tools and resources available with SAP BTP.

Using the included multi-model engines to power your AI-driven projects means applications that not only process vast amounts of data but also generate intelligent, in-context outputs. SAP HANA Cloud empowers your business to deliver apps that drive automation, enhance decision-making, and deliver transformative business outcomes.



# Performance at scale with unwavering security

SAP HANA Cloud speeds development by shifting developer focus from maintaining existing apps to ongoing innovation. This is accomplished with features that mix elastic scalability and flexible storage with high availability and fully managed security to keep your business and your customers safe.

## **Elastic scalability**

SAP HANA Cloud helps you balance performance and cost with capabilities for scaling your data processing and storage capabilities up or down in real-time. For storing your data, options include in-memory storage for high-performance needs, disk-based storage for less frequently accessed data, and integration with data lakes for massive, structured, and unstructured datasets.

Elastic scalability enables you to accommodate peak periods of high demand with increased resources, and then scale back during low-usage times to conserve costs. This adaptability empowers organizations to respond quickly to changing business needs and supports an uninterrupted user experience, making it a key driver for operational agility and cost-effective resource management.

## **Always-on availability**

SAP HANA Cloud is delivered as a service so that your data and the apps that use it remain continually accessible, freeing your team to focus on development rather than maintenance. This feature leverages fully managed database services that you can trust, alongside tools that simplify the automation of routine administrative tasks. By integrating robust redundancy, automated failover, and real-time data replication, always-on availability delivers reliability and minimizes downtime.



### **Security you can trust**

SAP HANA Cloud offers a robust and comprehensive set of security features designed to protect your data and help ensure compliance. Features include data anonymization, masking, encryption, access controls, and support for multiple certifications for industry-recognized security and privacy standards and regulations. And with configurable audit policies, SAP HANA Cloud helps streamline compliance while protecting your business and customers.

Together, these features and capabilities enable you to build intelligent data applications that transform the user's role from routine data entry to active, insightful decision-making. This helps you augment user expertise and drive business performance in a way that delivers the security your business expects and your customers demand.

# Innovate faster and set your business apart

Staying ahead in the data economy requires a database that's up to the task. SAP HANA Cloud drives the development of intelligent data apps at scale, helping you to differentiate your business with improved user experiences, greater insight, and optimized decision-making.

With fast in-memory storage, a multi-model engine, and flexible multi-tiering capabilities, SAP HANA Cloud addresses the challenges of growing data volumes, varied data types, and integration across diverse data sources. Providing live access to real-time data and native connectivity to various sources, SAP HANA Cloud empowers your developers to create AI-based applications at scale that augment user expertise and improve business performance.



# Quick facts

## Summary

SAP HANA Cloud enhances the user experience by enabling intelligent data applications. As part of the SAP Business Technology Platform, SAP HANA Cloud provides data integration, data tiering, multi-model capabilities to blend data, elastic scalability, always-on availability, and built-in security. Using in-memory technology to process mission-critical data and applying technology such as generative AI and machine learning, SAP HANA Cloud automates decision-making, provides useful recommendations, and partners with users for on-demand expertise.

## Objectives

- Connect seamlessly to mission-critical data and blend all types without data duplication
- Infuse intelligence across the organization to optimize business operations and personalize the application to the user
- Allow IT to focus on innovation by delivering managed, flexible, and trusted services

## Solution

- Integrate all data within the organization
- Store structured data in multiple tiers based on performance needs and use-case requirements
- Store semi-structured data in the JSON document store
- Process data with relational and multi-model engines
- Identify patterns and predict future outcomes with embedded AI

## Benefits

- Direct access to mission-critical business data with powerful multi-model processing and machine learning—all in a single database
- Secure data with trusted performance, flexibility, and built-in security
- Deploy apps capable of natural language and human-like intuition
- Improve business processes by enhancing the user's experience and business expertise

[Learn more about SAP HANA Cloud \*\*online\*\*.](#)