

2025 BUYER'S GUIDE

Data Management and Analytics



The Data-Driven Enterprise Has Emerged as the Model for Modern Preeminence



of SAPinsiders are employing an enterprisewide data strategy that encompasses both SAP and non-SAP data

data strategy is a long-term plan that specifies how an organization should collect, store, manage, share, and utilize data, aligning closely with its overarching business objectives. As SAP organizations pursue ever-rising goals across growth, productivity, efficiency, customer experience, sustainability and other pillars, becoming a data-driven enterprise is fundamental. Real-time access to crucial business data is increasingly seen as a cornerstone of genuine digital transformation. Businesses across all sectors are actively refining their data management strategies to fully leverage their data assets, thus driving innovation and securing competitive advantages.

The movement toward more accessible data modeling and analytics is trans-

forming the way organizations utilize their data resources. A cohesive system that merges data management, analytics, and Al governance equips enterprises poised for the future with profound, actionable insights that catalyze innovation and promote long-term growth. The shift from on-premise data warehouses to cloudbased platforms continues to dominate enterprise data strategies. However, despite these advancements, numerous organizations continue to face challenges with disconnected data environments, isolated systems, and dispersed insights, which hamper their ability to make well-informed decisions.

Recent SAPinsider research uncovered the drive towards integrating SAP and non-SAP data as a notable trend, with over half of the surveyed entities employing an enterprise-wide data strategy that encompasses both (53%). However, only 10% believe that their current strategies fully meet their organizational needs, suggesting ample room for improvement.

Challenges and Opportunities

One of the primary observations from recent SAPinsider research is the widespread acknowledgment of the challenges posed by managing a diverse array of data sources. About 43% of respondents identified the proliferation of data sources as a major hurdle, while poor data quality was cited by 39% as a critical issue. Poor data quality remains the most significant challenge, with poor master data management, the rising cost of data management, and keeping up with the demand for data storage and analysis also hampering companies. However, not being ready to support AI and ML has become a growing issue for more than a quarter of respondents, likely pointing to the increasing relevance of these technologies.

The rapid evolution of data tools and technologies has outpaced the skills of many enterprise teams. Data scientists, engineers, and analysts face steep learning curves in mastering advanced solutions such as SAP Datasphere and Al-powered analytics tools. Challenges include shortage of skilled professionals capable of leveraging modern data management and analytics platforms and resistance to change among employees accustomed to legacy systems and manual processes. Remedies to these human-related obstacles include SAP Learning Hub and SAP Enable Now, which provide continuous training to upskill employees on SAP's advanced solutions. Also, augmented analytics in SAP Analytics Cloud simplifies complex data analysis, empowering business users with limited technical expertise.

Organizations often struggle with fragmented processes, where data silos and disconnected workflows hinder efficiency and innovation. Challenges include lack of standardized processes for data collection, cleansing, and transformation, and manual interventions that slow down decision-making and introduce errors. Counter measures include SAP Signavio, which enables process optimization by identifying inefficiencies and aligning data processes with business objectives, and workflow automation in SAP Datasphere that improves data integration and transformation processes.

Adopting new data management and analytics technologies often requires substantial investment and effort to modernize legacy systems. Challenges associated with deploying these solutions include integrating disparate data systems across hybrid environments, and migrating on-premise data warehouses to the cloud without disrupting operations. Answers to these challenges include SAP Business Technology Platform (BTP), which simplifies integration and innovation, connecting SAP and non-SAP data sources, as well as SAP's strategic partnerships with vendors like Snowflake and Databricks, which enhance compatibility and performance.

The explosion of data volume and variety poses significant management challenges but also creates opportunities for innovation. Companies openly struggle with poor data quality and inconsistencies across systems, along with limited real-time data access for agile decision-making. In recent years, SAP customers have benefited greatly from SAP Datasphere, which enables unified, real-time data access across hybrid landscapes, as well as real-time analytics capabilities in SAP Analytics Cloud that provide actionable insights from high-quality data.



of SAPinsiders believe that their current strategies fully meet their organizational needs, suggesting ample room for improvement

Data Integration and Migration Technology Trends



of SAPinsiders identified the proliferation of data sources as a major hurdle, while poor data quality was cited by 39% as a critical issue

Recent SAPinsider research revealed that 42% of organizations are investing in advanced data integration, orchestration, and migration tools, marking a significant shift towards cloud-based infrastructures and reflecting a substantial 16% growth from the previous year. This points to an increasing reliance on cloud technologies and a strategic focus on building infrastructures that support scalable and agile data operations. Further, for customers upgrading from SAP ECC to SAP S/4HANA or moving to the cloud, significant investments are being made in data migration tools and services from SAP and thirdparty service providers. And SAP's Business Technology Platform (BTP) provides capabilities for integrating and managing data across diverse environments. The modern enterprise landscape requires seamless integration of data across cloud, on-premise, and hybrid environments.

Cloud-Based Integration Platforms: The adoption of cloud-based Integration Platform as a Service (iPaaS) solutions is



on the rise, offering scalability and flexibility. These platforms facilitate seamless data integration across diverse environments, including on-premises systems and multiple cloud services. For instance, Boomi provides an iPaaS that enables the connection of applications and data sources, supporting API management and event-driven architectures

Unified Data Access: SAP Datasphere provides a single interface for accessing data across sources, including SAP S/4HANA, SAP BW/4HANA, and thirdparty systems.

Adoption of ELT (Extract, Load, Transform) Processes: The ELT approach, where data is first loaded into the target system and then transformed, is gaining traction, especially with the advent of powerful cloud-based data warehouses. This method leverages the processing capabilities of modern data platforms to handle transformations more efficiently.

Real-Time Integration: Tools like SAP Integration Suite ensure real-time data synchronization across applications and environments, minimizing latency.

Al-Powered Automation: Machine learning enhances integration by identifying and automating repetitive data transformation tasks.

Low-Code/No-Code Integration Tools:

The emergence of low-code and no-code platforms democratizes data integration by enabling users with minimal coding expertise to develop integration workflows. This trend accelerates deployment and reduces dependency on specialized IT resources.

Hybrid Data Architectures: SAP Datasphere enables organizations to transition gradually, maintaining hybrid environments during migration.

Data Virtualization: Data virtualization allows organizations to access and query

data across different systems without the need for physical data movement. This approach simplifies data integration, reduces latency, and provides a unified view of data assets

Migration-as-a-Service: SAP's collaboration with partners like Microsoft Azure and AWS simplifies migration processes with pre-configured tools and templates.

Data Governance Technology Trends

As organizations manage increasing volumes of sensitive data, governance frameworks are critical for compliance, security, and decision-making.

Centralized Governance: SAP Master Data Governance (MDG) centralizes data management, ensuring consistent policies across the enterprise.

Integration of Artificial Intelligence (AI) and Machine Learning (ML): Organizations are increasingly leveraging AI and ML to automate data governance processes, enhancing efficiency and accuracy. These technologies assist in data classification, quality assessment, and policy enforcement, enabling proactive management of data assets.

Metadata Management: SAP Datasphere incorporates metadata-driven governance to improve traceability and understanding of data lineage.

Emphasis on Data Privacy and Compli-

ance: With the proliferation of data privacy regulations worldwide, such as the General

Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA), organizations are prioritizing compliance. Implementing robust data governance frameworks ensures adherence to these regulations, mitigating legal risks and fostering trust.

Automated Compliance Monitoring:

Integration with tools like BigID allows organizations to identify and manage sensitive data efficiently.

Enhanced Data Quality Management:

Maintaining high data quality is fundamental to effective governance. Organizations are implementing comprehensive data quality management practices to ensure accuracy, consistency, and reliability of data across the enterprise.

Integration with Operational Systems:

Linking data governance tools with operational systems ensures that governance policies are applied in real-time as data is generated and used, facilitating seamless compliance and operational efficiency.



of SAPinsiders confirmed that they are considering, planning, or implementing BI solutions

Data Storage Technology Trends

Data storage technology is increasingly focused on scalability and real-time access, driven by cloud-based solutions like SAP HANA Cloud and SAP Datasphere. Emerging trends include the adoption of hybrid storage architectures, advanced data tiering for cost optimization, and integration with cutting-edge technologies like data lakes and multi-cloud platforms to support modern analytics and operational demands.

Emergence of DNA Data Storage: Researchers are exploring DNA molecules as a medium for data storage due to their high density and durability. Advancements in this field suggest that DNA could store vast amounts of data in minimal physical space, offering a sustainable solution for long-term data preservation. Recent



developments have demonstrated the potential for faster and more cost-effective data encoding into DNA, indicating a promising future for this technology.

Adoption of Storage as a Service

(STaaS): Organizations are shifting towards STaaS models, which provide flexible, cloud-based storage solutions. This approach allows businesses to scale storage resources on-demand, optimizing costs and enhancing agility. The transition to STaaS is comparable to the revolution in the music industry brought about by streaming services, emphasizing flexibility and user-centric models.

Integration of Artificial Intelligence (AI):

Al is being incorporated into storage systems to enhance data management and security. Al-driven analytics enable predictive maintenance, efficient data retrieval, and improved storage optimization, leading to more intelligent and responsive storage infrastructures. This integration is expected to provide enhanced capabilities and advanced features in data storage solutions.

Focus on Sustainable Storage Solutions:

Environmental considerations are influencing storage strategies, with a growing emphasis on energy-efficient and ecofriendly storage technologies. Implementing sustainable practices in data centers not only reduces environmental impact but also aligns with corporate social responsibility goals. The focus on sustainability is increasingly shaping the data center sector, particularly in storage solutions.



of organizations are wary of cloud costs and data egress fees, which points to budgetary constraints and the unpredictability of expenses as key considerations

Deployment of Quad-Level Cell (QLC)

Technology: The adoption of QLC and flash technology is increasing, offering higher storage densities and cost efficiencies. QLC stores more bits per cell, enabling greater data capacity within the same physical footprint, which is beneficial for read-intensive applications. This advancement is contributing to more efficient and cost-effective storage solutions.

Enhanced Ransomware Protection:

Modern storage systems are integrating advanced ransomware safeguards, such as immutable backups and real-time anomaly detection, to protect data integrity and ensure business continuity in the face of cyber threats. These integrated protections are becoming a standard feature in primary storage solutions.

Expansion of Edge Computing Storage:

The proliferation of Internet of Things (IoT)

devices and the need for low-latency processing are driving the development of edge computing storage solutions. Storing and processing data closer to the source reduces latency and bandwidth usage, enhancing performance for time-sensitive applications. Advanced edge-computing storage solutions are addressing these requirements effectively.

Hybrid storage setups, combining on-premise and cloud solutions. SAP

Datasphere provides scalable, cloud-native data storage, enabling organizations to handle large volumes of structured and unstructured data. Snowflake for SAP enhances SAP environments with multicloud data sharing and storage capabilities. Data Tiering in SAP HANA Cloud optimizes storage costs by categorizing data based on usage frequency. And SAP's collaboration with Databricks allows seamless access to data lakes for advanced analytics.

Data Security and Compliance Technology Trends

Data security and compliance are critical components of data-driven organizational strategies, especially in an era marked by rapid technological advancements and evolving regulatory landscapes. Several key trends are shaping the future of data security and compliance:

Integration of Artificial Intelligence (AI) and Machine Learning (ML): AI and ML

are increasingly being utilized to enhance cybersecurity measures. These technologies enable real-time analysis of network traffic and user behavior, facilitating the early detection of anomalies and potential threats. By automating threat detection and response, organizations can proactively mitigate risks.

Adoption of Zero Trust Architecture

(ZTA): The Zero Trust model operates on the principle of "never trust, always verify," requiring continuous authentication and authorization of users and devices. This approach minimizes the risk of unauthorized access and data breaches, especially in environments with dispersed networks and remote workforces. SAP Datasphere and SAP BTP implement end-to-end encryption to protect sensitive information. Role-based access in SAP MDG ensures that only authorized users can access specific datasets.

Emphasis on Data Privacy and Protection

Regulations: With the enactment of stringent data privacy laws worldwide, such as the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA), organizations are compelled to implement robust data governance frameworks. Compliance with these regulations is essential to avoid legal penalties and maintain customer trust. SAP partner BigID automates data discovery and compliance reporting, reducing the risk of regulatory penalties.

Rise of Compliance Automation: Organizations are increasingly leveraging automation tools to streamline compliance processes, including monitoring, reporting, and documentation. Automation enhances efficiency, reduces human error, and ensures adherence to regulatory requirements. Tools like SAP GRC (Governance, Risk, and Compliance) help monitor regulatory adherence across global operations.

Implementation of Blockchain Technol-

ogy: Blockchain offers a secure and transparent method for managing compliance records and transactions. Its immutable ledger ensures data integrity and facilitates streamlined regulatory reporting, making it a valuable tool in compliance management.

Focus on Ethical Al and Data Usage: As Al technologies become more prevalent,

ensuring their ethical use is paramount. Organizations are establishing governance frameworks to monitor AI algorithms for fairness, transparency, and bias, aligning with ethical standards and regulatory expectations.

Enhancement of Mobile Security: The

widespread adoption of mobile devices for business operations has heightened the need for robust mobile security measures. Organizations are implementing comprehensive strategies to protect against mobile threats and ensure secure access to corporate data.

Business Intelligence and Analytics Technology Trends

Business intelligence and analytics are being transformed by Al-driven insights, augmented analytics, and natural language processing capabilities within tools like SAP Analytics Cloud. These advancements prioritize real-time, collaborative, and predictive analytics, empowering users across all levels to make data-driven decisions seamlessly and efficiently.

Integration of Artificial Intelligence (AI) and Machine Learning (ML): Al and ML are increasingly embedded into BI platforms, automating data analysis and



of companies have already integrated cloud databases into their operations, indicating a robust momentum toward cloud environments **47**%

of companies remain inclined to deploy or continue using on-premise databases, demonstrating a cautious approach or specific requirements that onpremises solutions better address providing predictive insights. This integration enables businesses to uncover patterns and trends that inform strategic decision-making. Al and machine learning are enabling organizations to move from descriptive to predictive and prescriptive analytics. Smart Predict in SAP Analytics Cloud leverages Al to forecast outcomes and recommend optimal actions. SAC integrates planning and analytics, ensuring that forecasts inform real-time adjustments in operations.

Rise of Augmented Analytics: Augmented analytics leverages AI to enhance data preparation, insight generation, and explanation, making analytics more accessible to non-technical users. This democratization of data empowers a broader range of stakeholders to derive value from analytics. SAP Analytics Cloud (SAC) combines BI, planning, and predictive analytics into a single platform, enabling users to create interactive dashboards and reports.



Growth of Embedded Analytics: Embedding BI components such as visualizations and reports directly into business applications streamlines workflows and enhances user experience. The embedded analytics market is projected to reach \$132.03 billion by 2029, reflecting its growing importance.

Emphasis on Data Democratization:

Organizations are focusing on making data accessible across all levels, fostering a data-driven culture. This approach reduces bottlenecks and enables timely decision-making.

Adoption of Cloud-Based BI Solutions:

The shift to cloud-based BI platforms offers scalability, flexibility, and real-time data access, facilitating more agile and responsive analytics practices. Data visualization tools in SAC improve communication and decision-making, while collaboration features allow teams to align on strategic objectives.

Focus on Data Governance and Security:

As data volumes grow, ensuring data quality, security, and compliance has become paramount. Robust data governance frameworks are essential to maintain trust and integrity in BI processes.

Utilization of Natural Language Process-

ing (NLP): NLP enables users to interact with BI tools using conversational language, simplifying data querying and interpretation, and making analytics more accessible. Augmented analytics in SAC allows users to ask questions in natural language and receive AI-generated insights.

Expansion of Mobile BI: With an increasingly mobile workforce, there is a growing demand for BI solutions optimized for mobile devices, providing real-time access to data and analytics on the go.

Tips for Enterprise Data Management and Analytics Technology

In today's data-driven world, enterprise success hinges on the ability to effectively manage, analyze, and derive insights from vast amounts of information. For SAP end-users, the stakes are even higher as businesses aim to unlock the full potential of SAP's powerful data management and analytics tools, including SAP Datasphere, SAP Analytics Cloud, and the broader SAP Business Technology Platform.

Navigating the rapidly evolving landscape of enterprise data management requires a strategic approach, balancing current needs with future scalability. Whether you're focused on integrating data across disparate systems, ensuring compliance with ever-tightening regulations, or harnessing advanced analytics to drive decision-making, choosing the right technology is critical.

 Implement a centralized master data strategy that incorporates data intelligence: Organizations need to streamline decision-making by creating a cohesive, authoritative perspective of their business data. By building a centralizing master data management, organizations can ensure consistent enterprise-wide data, encompassing both SAP and non-SAP systems. Implementing a comprehensive data catalog and governance platform designed to automate governance tasks and provide a centralized access point for cross-functional teams streamlines the management of the data landscape, enhances the efficiency of operational processes, and reduces risks associated with data

management and regulatory compliance. Companies that integrate SAP applications data with other operational sources like Salesforce, ServiceNow, and thirdparty data suppliers for insight generation must lay down a robust groundwork for their data fabric architecture.

- Establish adaptive data and analytics governance: Implementing a comprehensive data catalog and governance platform that streamlines governance operations through automation empowers cross-functional teams with access to all data in one place, enhancing control over the data environment, elevating operational efficiency, and minimizing data-related risks and compliance issues.
- Deploy modern data integration, orchestration, and migration tools:

Effective data-driven digital transformations in today's landscape demand a contemporary approach to data integration. By choosing an apt data integration solution, unifying, governing, and sharing data becomes a seamless process. Businesses require cutting-edge analytical and operational systems that can supply dependable frameworks and processes, tailored to their unique data landscapes. Modern data integration, orchestration, and migration tools provide comprehensive solutions to both operational and analytical challenges.

 Architect an enterprise-wide data strategy for on-premise and cloud systems: Organizations should focus on



of organizations cited data privacy among the critical concerns in cloud data storage and management

developing a concrete data architecture and roadmap that harmonizes their on-premises and cloud data environments. This comprehensive approach involves conducting a thorough data inventory and mapping data flows across systems to identify silos, redundancies, and gaps. It necessitates defining clear data governance policies and processes for data quality, security, privacy, and lifecycle management across hybrid environments. Moreover, it entails evaluating existing on-premises and cloud data platforms and tools, and planning an integrated, modernized stack that leverages cloud scalability and analytics capabilities. Establishing processes for streaming data integration and replication between on-premises and cloud environments is crucial to enable real-time analytics and minimize silos. Implementing a cloud data lake as a centralized data repository fed by on-premises and cloud sources is also a key component of this approach. The key is moving from a high-level strategy



to a tangible execution plan tailored to integrating and optimizing an organization's specific on-premises and cloud data landscape. Developing a data management strategy that effectively encompasses both on-premise and cloud environments is crucial for organizations looking to optimize their IT infrastructure and data handling capabilities. Such a strategy should address the integration, governance, security, and operational aspects of data management across diverse platforms. Design a hybrid infrastructure that leverages the strengths of both on-premise and cloud environments. Identify which data and applications are best suited for the cloud (e.g., those requiring scalability and accessibility) and which should remain on-premise (e.g., sensitive data requiring stringent security measures).

 Manage complexity through Al-driven integration: To safeguard their data strategy for the future, organizations should invest in a strong Al framework that simplifies operations, accelerates decision-making, and yields actionable insights. By fusing machine learning with human insight, companies can deepen their comprehension and application of data assets, while automation ensures that data governance evolves in step with the business's growth. For instance, Al can automate the cleansing, deduplication, and enrichment of data, which are critical for maintaining high data quality. Machine learning algorithms can identify inconsistencies, incomplete entries, and errors that might not be evident through manual checks. And Al can support data governance by automating the enforcement of rules and policies. For example, it can ensure that data usage complies with regulatory requirements by automatically controlling who can access certain types of



of organizations have adopted a centralized master data strategy, which underscores the critical role of a unified method in managing master data with efficiency data based on their roles and the data's sensitivity.

- Leverage Google BigQuery to enable enhanced data analytics. Google BigQuery enables large-scale data analysis with the ability to handle structured and unstructured data. SAP customers can integrate BigQuery with SAP data using tools like SAP Data Services or Google Cloud's BigQuery Data Transfer Service, enabling them to analyze SAP transactional data alongside external data sources, such as customer behavior or market trends. SAP partners like Pythian specialize in optimizing data pipelines and developing analytics solutions on BigQuery. By leveraging this expertise, SAP customers can build efficient ETL processes, ensuring seamless data flow from SAP to BigQuery and gaining access to advanced analytics and ML models for predictive insights on inventory management, customer segmentation, and sales forecasts.
- Realize unified access to insights across the enterprise. For SAP customers operating in hybrid or multi-cloud environments, there are partners that can assist in architecting solutions that allow seamless data sharing and integration across platforms. Google Cloud's Anthos can further support hybrid deployment strategies by providing a unified platform for SAP data access, regardless of the underlying infrastructure. Also, by integrating SAP data with Google Cloud's Looker platform, SAP customers can create powerful dashboards that provide a comprehensive view of business operations, improving accessibility to insights across departments and supporting a data-driven culture.
- Embed analytics into SAP workflows for operational efficiency. Embedding

analytics directly into SAP workflows, such as those within SAP S/4HANA or SAP SuccessFactors, enables real-time decision-making within operational processes. This allows users to make data-driven decisions in the context of their day-to-day workflows, improving operational efficiency. Automation capabilities can be leveraged to create scheduled reports and alerts based on predefined KPIs. SAP customers benefit by receiving updates on critical metrics, such as inventory levels or financial variances, allowing them to act quickly.

- Work with SAP and partners to enable predictive and prescriptive analytics. SAP customers can leverage predictive analytics to forecast trends and anticipate business outcomes. Predictive insights can be particularly useful in areas like inventory management, demand forecasting, and customer behavior analysis, helping to improve decision accuracy and reduce risk. By integrating Al-driven prescriptive analytics, SAP customers can receive recommendations on optimal actions based on predictive outcomes. This is beneficial for complex business scenarios, such as supply chain disruptions or fluctuating customer demand, where decision-makers need actionable guidance.
- Account for diversity when organizing data. Third-generation data lakes should be capable of handling structured, semi-structured, and unstructured data. SAP customers need solutions that can seamlessly integrate SAP data (usually structured) with external data sources like IoT data, social media, and documents to support diverse analytics needs. Further, robust metadata management enables users to locate, understand, and utilize data more effectively. Look for a data lake with integrated data cataloging, which

42[%]

of organizations are investing in advanced data integration, orchestration, and migration tools, marking a significant shift towards cloudbased infrastructures and reflecting a substantial 16% growth from the previous year facilitates data discoverability and governance, improving usability across departments.

- Look for data lake performance and scalability. Data lakes should provide elasticity to scale storage and compute independently, which is cost-effective for SAP customers dealing with large data volumes that vary over time. This capability allows companies to manage fluctuating workloads without incurring high infrastructure costs. For SAP environments where real-time insights drive business actions, third-generation data lakes should offer low-latency processing. Look for capabilities that support streaming data and real-time analytics to enable quick, data-driven decisions.
- Test data storage partners' ability to sustain overall storage performance.

Consider the file system's ability to handle high-performance workloads, especially if your company needs to access or update large files frequently (e.g., media processing or data analytics). Evaluate the storage system's ability to minimize latency (time to access data) and maximize throughput (amount of data transferred in a given time) for both small and large file operations, as these factors will influence overall application performance. Look for dynamic storage systems that leverage caching and tiering mechanisms to store frequently accessed data in faster storage (like SSDs) while keeping less frequently accessed data in cheaper, slower storage tiers.

• Ensure data redundancy and availability. The storage system should provide high availability to ensure that data remains accessible even in the event of hardware or network failures. This includes replication across nodes or data centers. Dynamic file storage systems should support automated data replication (within the same region or across regions) to ensure durability and minimize the risk of data loss. Built-in backup and recovery features should also be considered to avoid data loss in the event of failure. Evaluate the storage system's ability to handle disaster recovery scenarios, including the speed at which data can be restored and the RTO (Recovery Time Objective) and RPO (Recovery Point Objective) for business-critical data.

- Monitor and audit data pipelines. Implement real-time monitoring for your data pipelines to detect unusual activity or performance issues. Enable detailed logging to capture events such as data access, modification, or execution of pipeline tasks. Logs should include user activity, changes to pipeline configurations, and data movements. Use Al/ ML-powered tools to detect anomalies in data flows or pipeline execution, such as unexpected spikes in data transfer or unauthorized access attempts.
- **Promote data democratization:** Foster a culture of data democratization, where data is accessible to everyone in the organization. Ensure that employees have the necessary tools and permissions to access the data they need without cumbersome approval processes. Promote data literacy across the organization by providing training and resources that empower employees to understand, interpret, and leverage enterprise data in their roles.

Google Cloud

About Google Cloud

Google Cloud is the new way to the cloud, providing AI, infrastructure, developer, data, security, and collaboration tools built for today and tomorrow. Google Cloud offers a powerful, fully integrated and optimized AI stack with its own planet-scale infrastructure, custom-built chips, generative AI models and development platform, and AI-powered applications, to help organizations transform. Learn more at https://cloud.google.com

Solution Portfolio

SAP S/4HANA integration, SAP-certified partner for RISE, BTP, Datasphere, Analytics and AI/ML

Differentiators

- Transformative Al Solutions: Partnering with Google Cloud, business leaders can use purpose-built Al solutions to drive organizational transformation and address real-world challenges.
- Advanced Conversational AI: Google Cloud offers an end-to-end application combining state-of-the-art conversational AI with multimodal
- and omnichannel functionality, ensuring exceptional customer experiences at every interaction.
- Gemini for Google Cloud:
- Acts as a writing and coding assistant.
- Serves as a creative designer and expert adviser.
- Functions as a data analyst, enhancing productivity and creativity.
- Personalized Consumer Experiences: Use AI solutions to deliver

Accelerated ERP Transformation with SAP on Google Cloud

tailored experiences across channels, boosting conversion rates across digital properties.

Value outcomes

- Optimized machine types for SAP workloads: Google Cloud offers 32TB SAP-certified machines, simplifying deployment and administration. Memory-optimized X4 instances support up to 32TB SAP HANA workloads—the largest in the cloud market.
- Faster value realization: Google Cortex for SAP Framework includes ready-made analytical and AI models built on SAP data structures and offer pre-designed dashboards and integrates additional datasets like market trends to enhance insights.
- Agility and scalability: Cloud infrastructure enables on-demand scaling, allowing organizations to adjust resources as business needs evolve.
- Enhanced performance and efficiency: Google Cloud infrastructure ensures reduced latency and faster processing for SAP applications and improves operational efficiency and user satisfaction.
- Reliable and secure environment: Robust security measures and certifications protect against cyber threats like DDoS attacks and ensure consistent availability and regulatory compliance for critical business operations.
- Support for sustainability initiatives: Integrates SAP Datasphere with ESG data using Google Cloud for actionable insights and enables organizations align with their sustainability goals.

Use Case Example

Customer: Cementos Pacasmayo, a cement company

Challenge: The company faced challenges with data accessibility and analysis due to its reliance on a complex and outdated SAP system. This resulted in costly external SAP experts, manual data extraction into spreadsheets, and a lack of real-time insights, hindering sales and operational efficiency.

Solution: To address this, the company migrated their SAP system to Google Cloud and implemented a data lake using BigQuery, using Google Cloud Cortex Framework for simplified data modeling.

Results:

- Enabled connection to various data sources and integration with Looker for visualization, fully in Spanish.
- Accelerated data analysis processes by up to 60%.
- Empowered business users to independently access and analyze data, reducing reliance on specialized developers.
- Lowered costs by approximately 66%.
- Initiated pilot projects with advanced analytics using Vertex AI, including a virtual assistant and operational optimizations leveraging IoT sensor data.
- Enhanced customer satisfaction and operational efficiency through these initiatives.
- Fostered greater data transparency and enabled data-driven decision-making across Cementos
 Pacasmayo through Google Cloud adoption.

Financial Management: Core Accounting and General Ledger

		$\left(\right)$	No Capability	Minimal (Capability	Partial Capability	Hajor Capa	Major Capability Full Capability		
	GENERAL LEDGER JOURNAL ENTRY MANAGEMENT	PARALLEL LEDGERS MANAGEMENT	FLEXIBLE CHART OF ACCOUNTS	MULTI-CURRENCY SUPPORT AND EXCHANGE RATE UPDATES	AUTOMATED INTERCOMPANY TRANSACTIONS	REAL-TIME GENERAL LEDGER BALANCES VISIBILITY	FINANCIAL PERIOD SETTING AND CONTROL	AI / ML ENABLED CORE ACCOUNTING & GL PROCESS AUTOMATION	CLOUD-BASED CORE ACCOUNTING & GL SYSTEM	
Technology Vend	lors									
Argano										
Avalara	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Avvale										
bioLock	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
BlackLine		J								
Bramasol										
Google Cloud	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
insightsoftware										
Kyriba	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Promenta										
SAP										
Serrala		\bigcirc	\bigcirc			\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Sovos Compliance	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
SimpleFi Solutions	\bigcirc	\bigcirc			\bigcirc		\bigcirc	\bigcirc	\bigcirc	
Thomson Reuters ONESOURCE Direct Tax										
Thomson Reuters ONESOURCE Global Trad	le	\bigcirc			\bigcirc	\bigcirc	\bigcirc	\bigcirc		
Thomson Reuters ONESOURCE Indirect Tax Determination		\bigcirc					\bigcirc			
Tipalti		\bigcirc	\bigcirc			\bigcirc	\bigcirc			
TJC Group	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
TruQua, an IBM Company	,									
Verbella										
Vertex, Inc.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
xSuite Group	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Consultants and	Integrators									
EY										
Fresh FP&A, LLC								\bigcirc		
Kaar Technologies Inc.										
KPMG										
msg global solutions										
The Silicon Partners										
Syskoplan Reply										
YASH Technologies										
	GENERAL LEDGER JOURNAL ENTRY MANAGEMENT	PARALLEL LEDGERS MANAGEMENT	FLEXIBLE CHART OF ACCOUNTS	MULTI-CURRENCY SUPPORT AND EXCHANGE RATE UPDATES	AUTOMATED INTERCOMPANY TRANSACTIONS	REAL-TIME GENERAL LEDGER BALANCES VISIBILITY	FINANCIAL PERIOD SETTING AND CONTROL	AI / ML ENABLED CORE ACCOUNTING & GL PROCESS AUTOMATION	CLOUD-BASED CORE ACCOUNTING & GL SYSTEM	

Data Management & Analytics: Data Integration

		\subset	No Capability	Minimal 0	Minimal Capability Partial Capability		Major Capability		Capability
	DATA EXTRACTION	DATA MAPPING	DATA LOADING AND ETL (EXTRACT, TRANSFORM	DATA SYNCHRONIZATION AND REPLICATION	DATA QUALITY AND GOVERNANCE	METADATA MANAGEMENT	API INTEGRATION	DATA FEDERATION	
Technology Ven	dors		LOAD)						
Analysis Prime Inc.									
Argano									
BigID				\bigcirc					
bioLock	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Bristlecone									
Collibra			\bigcirc	\bigcirc			\bigcirc	\bigcirc	
Data Migration / JiVS									
Dell Technologies									
Delphix									
Fivetran									
Google Cloud									
IBM									
Informatica									
insightsoftware									
ITA Data Solutions, LLC								\bigcirc	
Microsoft									
Neev Data Corp.				J				•	
PBS Software Americas									
Phocas Software									
Precog Data, Inc.									
Promenta								•	
Prospecta									
Pyramid Analytics									
SAP									
SimpleMDG									
SNP									
Solix Technologies									
sovanta AG									
Splunk Inc.									
Syniti									
TJC Group						\bigcirc		\bigcirc	

Data Management & Analytics: Data Integration

		\subset	No Capability	Minimal 0	Capability Pa	artial Capability	Major Capa	bility Full	Capability
	DATA EXTRACTION	DATA MAPPING	DATA LOADING AND ETL (EXTRACT, TRANSFORM, LOAD)	DATA SYNCHRONIZATION AND REPLICATION	DATA QUALITY AND GOVERNANCE	METADATA MANAGEMENT	API INTEGRATION	DATA FEDERATION	
Consultants and Integrators									
Avvale Inc									
cbs (Corporate Business Solutions)									
EY									
Kaar Technologies									
KPMG									
msg global solutions									
Protiviti									
PwC									
Reply									
The Silicon Partners									

Data Management & Analytics: Master Data Validation

		С) No Capability	Minimal C	Capability	Partial Capability	
	DATA COLLECTION	DATA	DATA VALIDATION	ERROR HANDLING	RECONCILIATION	USER ACCEPTANCE	
	& CLEANSING	TRANSFORMATION				TESTING (UAT)	
Technology Vend	ors						
Analysis Prime Inc.							
Argano							
BigID		\bigcirc					
bioLock	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Bristlecone							
Collibra	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Data Migration / JiVS							
Dell Technologies	J				J		
Delphix	\bigcirc						
ivetran							
Google Cloud	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
BM							
nformatica							
nsightsoftware							
TA Data Solutions, LLC							
Aicrosoft							
leev Data Corp.							
PBS Software Americas		\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Phocas Software							
Precog Data, Inc.			\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Promenta							
Prospecta							
Pyramid Analytics					\bigcirc	\bigcirc	
SAP							
SimpleMDG							
SNP							
Solix Technologies							
sovanta AG							
Splunk Inc.							
Syniti							
TJC Group	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

Data Management & Analytics: Master Data Validation

		C) No Capability	Minimal (Capability P	artial Capability	Major Capability	Full Capability
	DATA COLLECTION & CLEANSING	DATA TRANSFORMATION	DATA VALIDATION	ERROR HANDLING	RECONCILIATION	USER ACCEPTANCE TESTING (UAT)		
Consultants and Integrators								
Avvale Inc								
cbs (Corporate Business Solutions)								
EY								
Kaar Technologies								
KPMG								
msg global solutions								
Protiviti								
PwC								
Reply								
The Silicon Partners								

Data Management & Analytics: Data Storage and Architecture

		\subset) No Capability	Minimal C	Capability 🚺 F	Partial Capability	Major Capability	Full Capability
	DATABASE MANAGEMENT SYSTEM	DATA MODELING	DATA VALIDATION	DATA STORAGE AND DATA LAKES CREATION	DATA WAREHOUSING	DATA MOBILITY	DATA HUB	
Technology Venc	lors							
Analysis Prime Inc.								
Argano								
BigID								
bioLock	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Bristlecone								
Collibra	\bigcirc			\bigcirc	\bigcirc	\bigcirc		
Data Migration / JiVS								
Dell Technologies								
Delphix								
Fivetran	\bigcirc						\bigcirc	
Google Cloud								
IBM								
Informatica	\bigcirc			J				
insightsoftware								
ITA Data Solutions, LLC								
Microsoft								
Neev Data Corp.					\bigcirc			
PBS Software Americas			\bigcirc			\bigcirc		
Phocas Software				\bigcirc				
Precog Data, Inc.						\bigcirc		
Promenta		\bigcirc						
Prospecta								
Pyramid Analytics	\bigcirc			\bigcirc	\bigcirc	\bigcirc	\bigcirc	
SAP								
SimpleMDG								
SNP								
Solix Technologies								
sovanta AG								
Splunk Inc.								
Syniti	\bigcirc							
TJC Group	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	

Data Management & Analytics: Data Storage and Architecture

		\subset	No Capability	Minimal (Capability Pa	artial Capability	Major Capability	Full Capability
	DATABASE MANAGEMENT SYSTEM	DATA MODELING	DATA VALIDATION	DATA STORAGE AND DATA LAKES CREATION	DATA WAREHOUSING	DATA MOBILITY	DATA HUB	
Consultants and Integrators								
Avvale Inc								
cbs (Corporate Business Solutions)								
EY								
Kaar Technologies								
KPMG								
msg global solutions								
Protiviti								
PwC								
Reply								
The Silicon Partners								

Data Management & Analytics: Data Governance

		No Capability		Minimal O	nimal Capability Partial Capability 🚽 Major Capabil		ility Partial Capability 🕘 Major Capability 🕞 Full G		
	DATA QUALITY	DATA AVAILABILITY	DATA USABILITY	DATA INTEGRITY	DATA SECURITY	DATA MODELING	DATA COMPLIANCE	DATA ARCHIVING	
Technology Vend	lors								
Analysis Prime Inc.									
Argano									
BigID									
bioLock	\bigcirc	\bigcirc	\bigcirc			\bigcirc		\bigcirc	
Bristlecone									
Collibra									
Data Migration / JiVS									
Dell Technologies									
Delphix									
Fivetran									
Google Cloud									
IBM									
Informatica									
insightsoftware					J				
ITA Data Solutions, LLC									
Microsoft									
Neev Data Corp.									
PBS Software Americas	\bigcirc			\bigcirc		\bigcirc			
Phocas Software									
Precog Data, Inc.									
Promenta									
Prospecta									
Pyramid Analytics		\bigcirc	\bigcirc				J	\bigcirc	
SAP									
SimpleMDG									
SNP									
Solix Technologies									
sovanta AG									
Splunk Inc.									
Syniti									
TJC Group									

Data Management & Analytics: Data Governance

		С	No Capability	Minimal (Capability P	artial Capability	Major Capal	l Capability	
	DATA QUALITY	DATA AVAILABILITY	DATA USABILITY	DATA INTEGRITY	DATA SECURITY	DATA MODELING	DATA COMPLIANCE	DATA ARCHIVING	
Consultants and Integrators									
Avvale Inc									
cbs (Corporate Business Solutions)									-
EY									-
Kaar Technologies									
KPMG									
msg global solutions									
Protiviti									
PwC									
Reply									
The Silicon Partners									

Data Management & Analytics: Data Analysis and Reporting

		No Capability		Minimal	Minimal Capability Partial Capability		Aajor Capability	bility Full Capability
	DATA COLLECTION	DATA CLEANING AND PREPROCESSING	DATA VISUALIZATION	STATISTICAL ANALYSIS	MACHINE LEARNING AND PREDICTIVE MODELING	DATA REPORTING AND DASHBOARDS	PERFORMANCE MONITORING AND OPTIMIZATION	
Technology Ven	dors							
Analysis Prime Inc.								
Argano								
BigID								
bioLock	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc		
Bristlecone								
Collibra	\bigcirc		\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Data Migration / JiVS								
Dell Technologies								
Delphix								
Fivetran			\bigcirc	\bigcirc				
Google Cloud								
IBM								
Informatica								
insightsoftware								
ITA Data Solutions, LLC								
Microsoft								
Neev Data Corp.				\bigcirc				
PBS Software Americas	J	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Phocas Software								
Precog Data, Inc.								
Promenta					\bigcirc			
Prospecta								
Pyramid Analytics								
SAP								
SimpleMDG								
SNP								
Solix Technologies								
sovanta AG								
Splunk Inc.								
Syniti								
TJC Group					\bigcirc			

Data Management & Analytics: Data Analysis and Reporting

		\bigcirc	No Capability	Minimal	Capability P	artial Capability	Hajor Capability	Full Capability
	DATA COLLECTION	DATA CLEANING AND PREPROCESSING	DATA VISUALIZATION	STATISTICAL ANALYSIS	MACHINE LEARNING AND PREDICTIVE MODELING	DATA REPORTING AND DASHBOARDS	PERFORMANCE MONITORING AND OPTIMIZATION	
Consultants and Integrators								
Avvale Inc								
cbs (Corporate Business Solutions)								
EY								
Kaar Technologies								
KPMG								
msg global solutions								
Protiviti								
PwC								
Reply								
The Silicon Partners								

Data Management & Analytics: Data Migration and Replication

		\subset	No Capability	Minimal Capability	Partial Capability	
	SELECTIVE DATA TRANSITION	GREENFIELD MIGRATIONS	BROWNFIELD MIGRATIONS			
Technology Ven	dors					
Analysis Prime Inc						
Argano				-		
BialD				_		
bioLock	\bigcirc	\bigcirc	\bigcirc	-		
Bristlecone				-		
Collibra				-		
Data Migration / JiVS				_		
Dell Technologies				_		
Delphix				-		
Fivetran				-		
Google Cloud				_		
IBM				_		
Informatica				-		
insightsoftware				_		
ITA Data Solutions, LLC				_		
Microsoft				_		
Neev Data Corp.				_		
PBS Software Americae				_		
Phocas Software				-		
Precog Data Inc				_		
Promenta				-		
Prospecta				-		
				-		
Pyramid Analytics				-		
SAP				-		
SimpleMDG				-		
SNP				-		
Solix Technologies				-		
sovanta AG				-		
Splunk Inc.				_		
Syniti						
TJC Group						

Data Management & Analytics: Data Migration and Replication



Data Management & Analytics: Data Security

		No Capability		Minimal Capability Partial Capability			Major Capability		
	DATA MASKING	ACCESS CONTROLS AND MONITORING	DATA ENCRYPTION	REAL-TIME THREAT DETECTION AND RESPONSE	CROSS-APPLICATION SOD	USER ACCESS CONTROLS AND REVIEWS	VULNERABILITY MANAGEMENT	CODE SCANNING	ENDPOINT SECURITY AND SUPPORT
Technology Venc	lors								
Analysis Prime Inc.		\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Argano									
BigID					\bigcirc				
bioLock								\bigcirc	
Bristlecone									
Collibra			\bigcirc	\bigcirc			\bigcirc	\bigcirc	
Data Migration / JiVS									
Dell Technologies				J				\bigcirc	
Delphix									
Fivetran									
Google Cloud								\bigcirc	
IBM									
Informatica				\bigcirc	\bigcirc		\bigcirc	\bigcirc	\bigcirc
insightsoftware								\bigcirc	
ITA Data Solutions, LLC									
Microsoft									
Neev Data Corp.				\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
PBS Software Americas		\bigcirc		\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Phocas Software									
Precog Data, Inc.									
Promenta									
Prospecta									
Pyramid Analytics				\bigcirc	\bigcirc		\bigcirc	\bigcirc	
SAP									
SimpleMDG									
SNP									
Solix Technologies				\bigcirc					
sovanta AG			\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc
Splunk Inc.									
Syniti				\bigcirc	\bigcirc		\bigcirc	\bigcirc	
TJC Group		J		\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc

Data Management & Analytics: Data Security

		No Capability		Minimal Capability Partial Capability			Major Capability		
	DATA MASKING	ACCESS CONTROLS AND MONITORING	DATA ENCRYPTION	REAL-TIME THREAT DETECTION AND RESPONSE	CROSS-APPLICATION SOD	USER ACCESS CONTROLS AND REVIEWS	VULNERABILITY MANAGEMENT	CODE SCANNING	ENDPOINT SECURITY AND SUPPORT
Consultants and Integrators									
Avvale Inc									
cbs (Corporate Business Solutions)									
EY									
Kaar Technologies									
KPMG									\bigcirc
msg global solutions									\bigcirc
Protiviti									
PwC									
Reply									
The Silicon Partners									

Data Management & Analytics: Data Privacy and Compliance

		No Capabilit		Minimal	Capability P	artial Capability	Major Capability	Full Capability	
	PRIVACY IMPACT ASSESSMENTS AND MANAGEMENT	DATA SUBJECT RIGHTS MANAGEMENT	VENDOR DUE DILIGENCE	CONTINUOUS AUTOMATED COMPLIANCE	POLICY MANAGEMENT	REGULATORY COMPLIANCE MANAGEMENT			
Technology Ven	dors								
Analysis Prime Inc.	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc			
Argano									
BigID									
bioLock		\bigcirc	\bigcirc						
Bristlecone									
Collibra									
Data Migration / JiVS									
Dell Technologies									
Delphix							-		
Fivetran									
Google Cloud									
IBM				J					
Informatica		\bigcirc	\bigcirc						
insightsoftware									
ITA Data Solutions, LLC									
Microsoft									
Neev Data Corp.			\bigcirc	\bigcirc					
PBS Software Americas	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc				
Phocas Software							_		
Precog Data, Inc.							-		
Promenta	\bigcirc	\bigcirc	\bigcirc		\bigcirc				
Prospecta									
Pyramid Analytics	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc			
SAP									
SimpleMDG									
SNP									
Solix Technologies									
sovanta AG			\bigcirc	\bigcirc	\bigcirc	\bigcirc			
Splunk Inc.									
Syniti			\bigcirc						
TJC Group		\bigcirc	\bigcirc	\bigcirc	\bigcirc				

Data Management & Analytics: Data Privacy and Compliance

		С) No Capability	Minimal Capability		artial Capability	Major Capability	Full Capability
	PRIVACY IMPACT ASSESSMENTS AND MANAGEMENT	DATA SUBJECT RIGHTS MANAGEMENT	VENDOR DUE DILIGENCE	CONTINUOUS AUTOMATED COMPLIANCE	POLICY MANAGEMENT	REGULATORY COMPLIANCE MANAGEMENT		
Consultants and Integrators								
Avvale Inc								
cbs (Corporate Business Solutions)								
EY								
Kaar Technologies								
KPMG								
msg global solutions				•				
Protiviti								
PwC								
Reply								
The Silicon Partners								



Google Cloud

intel

