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Transform your data into an AI engine

The data foundation for trusted, scalable AI

A resource for public and private organizations

This e-book is intended to help organizations prepare for what's next in AI.

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01

Foreword: Urgency in a fast-moving market

AI is forcing a refocus on data

According to IDC, nearly half of organizations say their biggest barrier to AI progress isn't talent or tools. It's a cloud data environment that isn't optimized for AI. Yet nearly every organization is experimenting with large language models (LLMs), copilots and increasingly autonomous AI systems. What separates leaders is not whether they invest in AI, but whether their data environment can support it at scale.

Meanwhile, organizations are contending with fragmented architectures, governance gaps and data pipelines that were never designed for scale, speed or trust. As AI moves from isolated use cases to agentic systems with less human oversight, the stakes cannot be higher. Data has become a high-value, high-risk asset tied directly to performance, regulatory compliance and organizational reputation.

This e-book explores what it means to modernize data for AI in a world frenzied by constant change. We'll detail why modern data intelligence goes beyond data access to enable effective, scalable data use. You'll also learn about architectures that support faster access to high-quality data where it resides. Finally, we'll highlight emerging technology that should be on your radar for AI success.

> "A modern data platform has become a high-stakes priority for private and public sector organizations, especially as they consider moving to agentic workflows with less human oversight."

Dan Soceanu,
Senior Manager, Product Marketing of Data Management and Enterprise Decisioning, SAS

02

The hidden costs of bad data

Bad data is the biggest threat to AI success

In fact, failed AI initiatives are often linked to poor data, not the algorithm. As AI moves from isolated use cases to agentic systems, data becomes tied directly to performance, regulatory compliance and organizational reputation. **According to Gartner**, global AI spending is forecast to surpass $2 trillion in 2026, growing 37% year over year. At that scale, data quality issues can compound quickly.

What are the implications?

Fragmented data drives up costs, especially in cloud environments where duplication and movement are expensive.

Low trust in data undermines confidence in analytics and AI-driven decisions. In regulated industries, low trust isn't just a technical issue, it's a compliance risk.

Poor data slows execution, weakens AI outcomes and increases time to value.

"Leaders are banking on AI as the future, but challenges like data infrastructure and data quality are holding back adoption."

Pradeep Karpur,
EY Partner and Competency Leader, AI & Data

44% of leaders report that insufficient data governance impedes AI progress.

→ **Data and AI Impact Report: The Trust Imperative**

03

What is modern data intelligence?

Data is the source of truth

Leaders increasingly demand clear, credible visibility into governance and risk. At the same time, practitioners such as data engineers and data scientists want intuitive tools for exploring, preparing and operationalizing data.

When complexity gets in the way, it slows decision-making, delays innovation and drives up costs. That's why modern data estates share common goals: rationalize data, improve trust and governance, and modernize integration and access. Data intelligence is built on three core pillars: modernizing data so it's accessible, operationalizing trust through embedded governance and accelerating execution by bringing AI to the data.

Traditional data management is manual and centralized. It is built around centralized IT control and batch-based ETL processes. Organizations often manage databases, data stores and reporting requests using manual data entry. With traditional data management, data access can take days or weeks.

Modern data intelligence is automated and strategic. With modern data intelligence, data is treated as a product designed not only to store and secure data, but also to continuously modernize, govern, activate and operationalize it at speed and scale. Modern data intelligence brings AI to the data in real time.

According to **IDC MarketScape: Worldwide Data Integration Software Platforms 2025**, SAS is recognized as a leader for its broad, integrated engineering platform.

70%

of small and midsize businesses (SMBs) are in the early stages of AI maturity. Stronger data foundations and tighter execution are what separate pilots from real impact.

→ AI for SMBs: Closing the Readiness-Reality Gap

SAS® SpeedyStore is another architecture that brings analytics to the data rather than moving data to the analytics.

→ Learn how Posten Bring uses SAS SpeedyStore

04

Architectures – it's not one-size-fits-all

AI demands fast, flexible access to high-quality data across the organization

Many organizations are shifting from batch to real-time data processing across formats. There isn't a one-size-fits-all architecture. Data engineers must work within existing infrastructure and technology stacks while modernizing for AI.

The secret ingredient is a modern environment spanning data integration to model output that supports flexibility, explainability and auditability while meeting specific business needs. Modern environments standardize on open object storage and open formats. Think Parquet, Delta, Iceberg, Hudi, etc.

Standardization supports modernization across different architectures. A lakehouse architecture allows data engineering teams to standardize storage while analytics teams remain productive.

This enables governed access across domains without forcing every consumer into a single tool or query engine.

A data lakehouse architecture can be well suited for AI projects. Organizations can store large volumes of data and are typically charged only for data used in production or analytics. This makes open-format data architectures a solid choice for AI, which require large amounts of data and compute to train models.

Read more in this blog:
→ **The rise of the open data lakehouse: 4 reasons it's essential for data and AI success**

05

Synthetic data and other emerging tech

Approach AI with technology best suited for the desired outcome

Not every emerging technology is suited for the task at hand. It's important to be strategic about how technology is used and what outcome it's meant to support. Synthetic data helps solve common training data challenges like data scarcity and privacy concerns. By creating data representative of real-world data with tools like **SAS® Data Maker**, organizations can improve model accuracy. However, just like real-world data, synthetic data needs to be managed and governed. Automated DataOps processes can help flag sensitive data and alert a human-in-the-loop when intervention is needed to help safeguard analytics and AI outputs.

Read more in this blog:

→ **What you feed your AI matters: A practical guide to synthetic data**

Another emerging technology is retrieval-augmented generation (RAG) for LLMs. Without reliable access to relevant data, AI agents struggle to support operational decisions. Information often lives in different systems and formats, so a complete enterprise data strategy must include governance, pipelines, storage and data quality. It also depends on how agents retrieve information at runtime, making RAG a critical foundation for enterprise AI agents. RAG enables models to reason using authoritative, domain-specific knowledge rather than relying solely on training data.

Read more in this blog:

→ **Enterprise agents: Requirements for reliable data access**

06

Industry use cases

Modern data intelligence has broad uses across industries and organizational sizes

Insurance

Challenge – Most insurers have been through an acquisition or merger or absorbed a book of business. In fact, McKinsey reports that insurance deal values increased up to $104 billion in 2025, up from $88 billion in 2024.

Solution – In a highly regulated industry, insurers must invest in a unified, cloud-native ecosystem with capabilities to access, integrate, clean and govern data for modeling, analytics and AI.

Outcome – Insurers who invest in solutions to access all their data through a cohesive data management strategy will boost customer retention, grow premiums and customers, and reduce the burden of new policy acquisition, pricing and underwriting.

→ Read how Interamerican uses SAS

Banking

Challenge – Despite significant modernization efforts, banks still struggle to improve decision-making and scale AI across the enterprise. The root issue is weak data management and governance. Critical data is scattered.

Solution – Banks can integrate and govern data across the enterprise to create an AI-ready foundation that supports insights and cross-functional integration.

Outcome – A unified approach to data management and governance supports long-term growth, and builds organizational, consumer and supervisory trust. It helps banks differentiate and deliver the future of financial services.

→ Read how Nexent Bank uses SAS

Public Sector

Challenge – Governments are responsible for ensuring citizen safety and well-being, stewarding public funds, and delivering effective programs. But their data is often siloed, making it difficult to access.

Solution – Governments can adopt a data governance framework, launch a cross-agency governance body to oversee data strategy and adopt a unified data platform.

Outcome – By integrating, governing and managing data, governments can gain a more complete view of citizens and stakeholders to better understand programs and services. This helps agencies identify patterns and trends to improve public service.

→ Learn how Delaware State Police uses SAS

Health Care

Challenge – Across health care payers and providers, patient data is spread across EHRs, claims, labs and external systems and is often inconsistent and disconnected.

Solution – Health systems can integrate, standardize and govern data across sources to create a unified, trusted patient view. Built-in data quality, lineage and master data management ensure consistency and accessibility.

Outcome – Clinicians gain a more complete view of the patient, enabling better decisions and coordinated care. Organizations can identify risks earlier, improve health outcomes and reduce costs.

→ Read how Black Dog Institute uses SAS

07

What's next?

Data will remain critical to AI success

What comes next is a fundamental shift in how organizations prepare data to support autonomous systems, faster decisions and greater accountability. As AI agents and automation take on more responsibility, the data foundation beneath them must evolve in parallel. Data can no longer be fragmented, loosely governed or treated as a prerequisite completed downstream. Instead, it must be continuously prepared, understood and trusted at the point where decisions are made.

Forward-looking organizations will embed governance, lineage and transparency directly into their data workflows, allowing AI to scale in real time without sacrificing control. These organizations will bring analytics and AI to the data wherever it resides and apply intelligent assistance across the data life cycle for trusted AI outputs.

As organizations shift from traditional data management to modern data intelligence, automation can accelerate insight, agents can operate with context and oversight, and trust must be engineered into every interaction.

> "A modern data platform is now a mission-critical requirement as organizations move toward agentic AI."

Alyssa Farrell,
Senior Director of Data and AI Strategy, SAS

Read more:
→ **SAS advances its AI-ready data management foundation for industry agents and automation, with governance built-in.**

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Trust your data is ready for AI. Learn more.

→ **The AI blueprint: A leader's guide for organizational trust and ROI during rapid change**

→ **The Data and AI Report: The Trust Imperative**

→ **Modern data intelligence from SAS**

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