LUMO INSIGHTS

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Beyond models: Data strategy drives AI success

Executive Summary

A wave of new research and industry moves in the past week suggests that robust data strategy and architecture have become the decisive factors in enterprise AI success. Only a small fraction of companies are truly 'AI-ready' with their data, and those leaders are pulling ahead of competitors. Meanwhile, governments and tech firms are raising the stakes around data privacy, sovereignty, and infrastructure to ensure AI initiatives deliver real business value.

The Data infrastructure divide

A new industry study reveals that only 6% of enterprise AI leaders consider their organisation's data infrastructure fully prepared for AI (www.prnewswire.com [1]). The report concludes that data architecture maturity - not model prowess - is now the strongest predictor of AI success (www.prnewswire.com [2]). In other words, even the most advanced algorithms will underperform if they’re fed by siloed or sluggish data pipelines.

The disparity between AI "haves" and "have-nots" in data is stark. According to the research, 60% of companies at the highest level of AI maturity have heavily invested in modern, connected data infrastructure, while 53% of those struggling with AI cite immature data systems as their primary blocker (www.prnewswire.com [3]). This divide is already costing laggards in lost time, higher costs, and missed competitive opportunities (www.prnewswire.com [4]).

As one industry CEO put it, 'The era of AI being constrained by models is over. Today, AI is constrained by data' (www.prnewswire.com [5]). The same study found 71% of AI teams spend over a quarter of their time on 'data plumbing' - i.e. wrangling and integrating data - instead of focusing on AI innovation (www.prnewswire.com [6]). The takeaway: enterprises that prioritise unifying data across systems and enabling real-time access to information will gain a speed and innovation advantage in deploying AI at scale.

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Data quality & governance - The new AI bottleneck

Why do so many AI projects fail to meet expectations? A recent survey by Gartner found that only 39% of technology leaders are confident their current AI initiatives will improve financial performance (www.gartner.com [1]). The issue isn't the AI itself - many initiatives stumble because of weaknesses in data: poor data quality, fragmented data silos, and lack of clear governance are common culprits behind stalled AI initiatives (www.dqchannels.com [2]).

On the flip side, organisations that do succeed with AI tend to make heavy investments in data foundations. Gartner's April 2026 report revealed that companies with successful AI initiatives invest up to four times more in key areas like data quality, governance, AI-ready talent, and change management than their less successful peers (www.gartner.com [3]). These unglamorous but critical investments - cleaning and integrating data, establishing enterprise-wide standards, and upskilling teams - create the conditions for AI to deliver real business value.

Data quality, in particular, has become a top concern. One global study found the share of organisations citing data quality as their number-one AI obstacle more than doubled from 19% in 2024 to 44% in 2025 (www.bigeye.com [4]). The old "garbage in, garbage out" adage still applies: if the data feeding your models is incomplete or inconsistent, even the most advanced AI will yield poor or unpredictable results.

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Proprietary Data as a competitive moat

As cutting-edge AI models become widely available, enterprises are looking to proprietary data as a key competitive advantage. Industry observers note that enterprise AI is 'no longer a model problem... it is a data and systems problem - and incumbents are winning it' (ai.via.news [1]). In practice, that means the real differentiation now comes from how companies harness their unique data and domain expertise, rather than from secret algorithms.

The most advanced AI strategies focus on injecting institutional knowledge and historical decision records into AI systems. Achieving the 'last mile' of AI autonomy - where an AI handles routine operations and only escalates complex cases to humans - requires feeding models with years of proprietary operational data (ai.via.news [2]). This is a built-in advantage for established players with deep wells of data. By contrast, newer AI-native entrants often struggle to bridge that gap, lacking the same wealth of domain-specific history.

As a result, data is increasingly being treated as strategic IP. An IBM global survey of Chief Data Officers found 78% are prioritising the leverage of proprietary data to differentiate their organisations in the market (www.prnewswire.com [3]). Meanwhile, a recent analysis declared that in 2026 proprietary data is the new competitive moat - and that boards which fail to govern, protect, and leverage their organisations' unique data assets are effectively handing competitors the advantage (aiireland.ie [4]). For C-suite leaders, the implication is clear: investing in data ownership, quality, and governance is now synonymous with building sustainable AI dominance.

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Regulation, sovereignty and trust

Regulators worldwide are raising the bar for data strategy in AI. In the EU, 2026 is a year of reckoning: the European AI Act, together with new data privacy and cybersecurity laws, means 'messy data' isn't just a performance issue - it's now a serious legal liability (towardsdatascience.com [1]). Companies must know exactly where their data is stored, how it's being used to train AI models, and ensure proper consent and governance - or face heavy penalties. Similar data sovereignty concerns are emerging across other regions, pushing data governance and transparency to the forefront of the CDO and CTO agenda.

This climate is fuelling a surge in demand for 'sovereign AI' - AI platforms that allow organisations to retain full control over their data rather than rely on foreign cloud providers (techcrunch.com [2]). Analysts estimate that nearly $600 billion of the future $1-trillion-plus global AI market will consist of sovereign AI services designed to meet strict privacy, localisation, and compliance requirements (www.businesswire.com [3]). Especially in sectors like government, finance, and healthcare, leaders are scrutinising where and how their data is used in AI, and favouring partners that can guarantee data stays within desired borders.

A high-profile deal this week underscored these trends. Canada's Cohere announced plans to acquire German AI provider Aleph Alpha - with the backing of both governments - to form a transatlantic sovereign AI champion (techcrunch.com [4]). The newly combined company will operate on Europe's own cloud infrastructure (the Schwarz Group's STACKIT platform), ensuring that even advanced AI applications keep sensitive data on sovereign soil (techcrunch.com [5]). It's a clear sign that for many enterprises, control over data and compliance has become as critical to AI strategy as the choice of model or algorithm.

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New Data platforms for AI readiness

Technology providers are rapidly reinventing data architecture to eliminate bottlenecks for AI. This week, Google announced an advanced cross-cloud lakehouse platform engineered to be 'AI-native' - replacing traditional batch processing with continuous data pipelines and live feedback loops (cloud.google.com [1]). By giving AI systems an always-on stream of real-time data, the platform aims to ensure machine-learning models are never out of date.

Google’s next-gen lakehouse also emphasises openness, performance and governance across hybrid clouds. It incorporates an open table format (Apache Iceberg) and high-speed analytics engines (like Apache Spark) to unify data across diverse environments with unified management and security controls (cloud.google.com [2]). In practical terms, this means enterprises can feed their AI applications with data directly from multiple cloud sources - without complex migrations - while enforcing consistent data quality and compliance.

Even specialised data tools are adapting for the AI era. Consider vector databases, a new type of system designed to store the 'embeddings' that help AI models retrieve knowledge. This week, vector DB provider Qdrant rolled out enterprise-grade upgrades to its cloud service, including GPU-accelerated indexing (delivering up to 4× faster data ingestion) (finance.yahoo.com [3]), multi-location replication guaranteeing 99.95% uptime, and comprehensive audit logging of all data operations (finance.yahoo.com [4]). These enhancements ensure that AI applications can scale with speed and transparency: ingesting massive datasets quickly, staying resilient against outages, and providing an audit trail for decisions to satisfy regulators.

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Key Statistics

- Only 6% of enterprise AI leaders say their data infrastructure is fully ready for AI ([www.prnewswire.com](https://www.prnewswire.com/news-releases/cdata-study-finds-only-6-of-ai-leaders-believe-their-data-infrastructure-is-ready-for-ai-302629216.html#:~:text=2025%20%2FPRNewswire%2F%20,a%20central%20finding%20of%20CData))
- Organisations with successful AI initiatives invest up to 4× more in data quality, governance, talent & change management than their less successful peers ([www.gartner.com](https://www.gartner.com/en/newsroom/press-releases/2026-04-16-gartner-says-organizations-with-successful-ai-initiatives-invest-up-to-four-times-more-in-data-and-analytics-foundations#:~:text=Context%20Foundations%20and%20Perceptive%20Intelligence,business%20and%20technology%20insights%20company))
- The share of companies citing poor data quality as their top AI challenge jumped from 19% in 2024 to 44% in 2025 ([www.bigeye.com](https://www.bigeye.com/blog/the-data-quality-crisis-killing-ai-projects-and-other-hard-truths#:~:text=organizations%20cited%20data%20quality%20issues,Problems%20that%20seemed))
- Nearly $600 billion of the projected $1-trillion-plus global AI market will be dedicated to 'sovereign AI' services that ensure data control and compliance ([www.businesswire.com](https://www.businesswire.com/news/home/20260424174908/en/Sovereign-AI-for-the-World-Cohere-and-Aleph-Alpha-to-Form-Global-AI-Powerhouse-as-Nations-and-Enterprises-Demand-Control-Over-Their-Technology#:~:text=secure%20alternative%20to%20dependence%20on,between%20these%20segments%20with%20its))

KEY TAKEAWAY

The message to C-suites: AI success now depends on data readiness. This week's developments show leaders doubling down on data infrastructure, quality and governance - while regulators make data neglect a costly liability.

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