Q1 2026

TECH TRENDS REPORT

Building the Data Foundations for Scalable Intelligence

dexian®

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In a single year, AI moved from pilot programs to board-level expectations. What was once experimental became operational, visible, and difficult to unwind once it touched real business outcomes. The Microsoft Research team recapped AI adoption in 2025, as a story of "scale and audacity", which feels a bit like an understatement.

Omnidirectional growth, booming multi-billion-dollar investments, and year-end media blitzes made it clear that the appetite for AI has grown from a mere curiosity into an abiding hunger.
Yet the speed and ambition of AI adoption may be creating a false sense of progress. Estimates suggest that the majority of AI initiatives fail to reach scale, and data from the Bureau of Labor Statistics and Census Bureau indicates that only about 11% of U.S. workers actively use AI at work. The result is a widening gap between executive ambition and operational reality.

Organizations that skipped the foundational work, choosing to sprint before learning to walk or crawl, might be starting 2026 with a leaning Tower of Pisa on their hands. In our first Tech Trends Report of 2026, we're digging into the bedrock necessary for organizations to resolve those issues and develop truly mature AI policies. We cover how to:

- Overcome issues with the quality of AI training data
- Safeguard your business assets while innovating
- Analyze industry trends to accelerate maturation
- Determine your AI maturity level

> Any AI initiative that is built on a data foundation that is not working accurately or aggregating properly will yield inferior results.

Naman Kher
Vice President, Head of Solutions, IT & Non-IT

Overcome issues with the quality of AI training data

Modern GPUs have unlocked unprecedented raw computational power. But in practice, inconsistent outputs, bias, and incorrect results are what most often prevent AI from earning user trust and delivering sustained ROI.

The core roadblock stopping the promised AI-enabled success is often the data itself.

Breaking this cycle requires a deliberate focus on data governance and quality. Cleaning dirty data is an intensive but mandatory first step. Users will always second guess your results if your organization doesn't do the following:

- **Remove duplicates** – Duplicate records distort AI outputs by overemphasizing certain data points and obscuring which information is truly authoritative.
- **Fix manual errors** – Even small data entry mistakes can propagate through AI results, quickly undermining user trust in the accuracy of the output.
- **Align incompatible formatting** – Inconsistent data formats force AI to make assumptions, increasing the likelihood of misinterpretation and inconsistent results.
- **Update old information** – Outdated data causes AI to deliver responses that feel irrelevant or incorrect, leading users to question its reliability.

Clear and comprehensive data standards, at both the enterprise and line-of-business level, help ensure these corrections persist as AI systems scale and evolve. Then, you can combine smart deduplication and data enrichment tools to strengthen your data integrity by cleaning relevant data sets and adding contextual information. Whether driven by internal data owners and data stewards or seasoned AI enablement partners, this step cannot be overlooked.

There's also the matter of data completeness. If the right data stewards were not consulted during critical AI life cycle stages (we typically see this with top-down projects), the tools themselves might be trained on an incomplete frame of reference. Conducting stakeholder post-implementation sessions and reevaluating existing workflows can get to the bottom of these types of gaps.

Moreover, it's important to remember that data maturity isn't strictly linear. New uncleansed data sources can enter your funnel, new silos can form, and new employees can bring their poor data hygiene habits. Ongoing audits and automated quality checks are cornerstones of ensuring data remains clean over time to support AI-driven decisions.

> "Data quality remains the biggest blocker to AI enablement. Fragmented data silos, inconsistent definitions, weak data governance, and underestimating data preparation efforts continue to limit AI impact. Without strong data foundations, even advanced AI initiatives struggle to deliver value."
>
> We've seen an abundance of instances where businesses raced to launch off-the-shelf or proprietary AI tools. Far too many settled for haphazard or irregular data collection. Without proper data cleansing, organizations or incautious vendors will taint AI results from the outset. Employees forced to validate AI outputs with every use will stop trusting them. That said, it's time to audit your data foundation.
>
> **César Montúfar Farfán**
> Senior Recruitment and Operations Manager at Dexian Mexico

Safeguard your business assets while innovating

Innovation is outpacing the AI controls designed to protect core business assets. As AI systems move from experimentation into production, the risk of unintentionally exposing sensitive data or intellectual property rises sharply. Effective safeguards must be built into AI systems from the start, not layered on after the fact. The truth is that AI is only as secure as the environments, permissions, and policies surrounding it. Without clear guardrails, even well-intentioned teams can misuse data, overextend access, or introduce compliance risks that compound over time.

One common misstep we're seeing organizations make is granting overly broad access to data in the name of speed. When development teams pull entire datasets rather than relevant subsets, sensitive information can be exposed to tools or users that don't need that level of access. This not only increases risk but also makes it harder to track accountability when something goes wrong.

Protecting business assets requires deliberate governance embedded directly into AI workflows. At a minimum, organizations should ensure they consistently do the following:

- **Define data access boundaries** – Clear role-based access controls ensure employees and AI systems only interact with data required for their function, reducing accidental exposure of sensitive information.
- **Classify sensitive data early** – Proper data classification allows teams to apply the right protections (e.g. masking, encryption, or restricted usage) before data ever reaches an AI model.
- **Protect intellectual property** – Training models on proprietary content without safeguards can unintentionally leak trade secrets or competitive insights, especially when using third-party platforms or shared environments.
- **Maintain auditability** – Without clear logs and traceability, organizations lose visibility into how data is being used, modified, or surfaced through AI outputs.

Alignment between stakeholders is critical too. There's rarely just one factor putting data security or IP at risk when using AI. The confluence of regulations and risks requires leaders think from a holistic perspective.

> "In Europe , the move toward real AI maturity is often slowed by a regulatory environment that's very complex and constantly changing. Companies in the EU are not dealing with one single AI rule, but with several frameworks in parallel.
>
> For example, GDPR still sets the rules for how personal data can be used, plus the EU AI Act has introduced new system level risk requirements for AI, and newer cybersecurity obligations such as NIS2 add another layer on top. Taken together, this asks for a level of data and operational maturity that many organizations are still working toward."

Zsuzsanna Takács
Country Manager Hungary at Dexian Europe

“We find that organizations are constrained by fragmented regulations, inconsistent data maturity, and unclear accountability models for AI and data governance. Singapore’s environment is relatively permissive but governance-heavy, while markets such as Thailand, Malaysia, and the Philippines enforce stricter data localization and consent requirements. At the same time, cybersecurity laws across the region are advancing faster than most companies’ data foundations, creating a widening gap between regulatory expectations and operational readiness.”

Navigating regulatory pressure and cybersecurity best practices requires a range of IT, security, legal, and business domain experts to collaborate efficiently. If executives aren’t encouraging interdisciplinary communication, then protections might overlook critical regulations or attack vectors.

Strong safeguards are what allow organizations to move faster with confidence. Ongoing reviews, audits, and policy updates help ensure AI-driven innovation builds trust rather than eroding it over time.

Ashu Bhatia
Global Lead, Dexian Digital Practices

Analyze industry trends to accelerate maturation

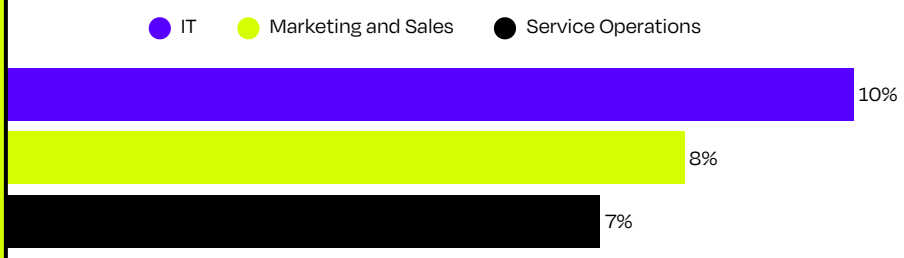
Any conversation about AI maturity would be insufficient if it failed to account for industry trends and benchmarks. Yes, there are universal AI strategies, but the scope and depth of use cases will vary depending on industry touchstones. We’re highlighting a few key industries and the factors that define AI maturity across those sectors:

Energy Sector

With the energy sector powering the AI revolution, industry leaders have little excuse not to deepen their AI maturity. However, the data that could fuel scalable intelligence is often contained in legacy systems or siloed. It’s not uncommon for data from upstream operations to be partitioned from their downstream counterparts or real-time sensor data to be separated from relevant compliance metrics. These and similar instances of disconnected sources and systems can contribute to shortcomings in performance, cost-effectiveness, and innovation.

We’re seeing major leaps forward in real-time intelligence and efficiency when energy, utility, and power generation companies break down silos. Consolidating a range of data sources into a data lakehouse architecture empowers them to invest in AI-powered grid optimization, smart meter analytics, and decarbonization initiatives with greater success.

Top Three AI Agent Uses by Function



Manufacturing

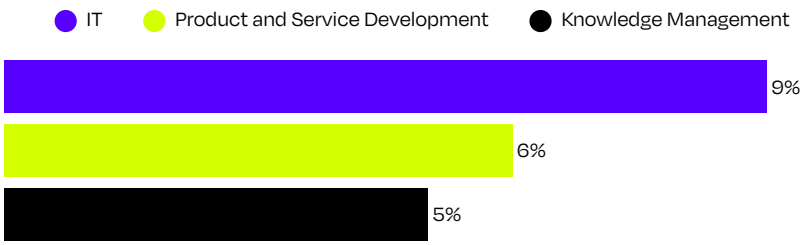
While manufacturing shares many AI use cases with the energy sector, adoption has moved more slowly, due to slower investment in the systems and skills needed to support AI at scale. Rising costs due to tariffs and inflation have tightened spending on all but the essentials in the United States though there was 1.9% growth in 2025. Yet it's strategic AI initiatives that are helping some manufacturers streamline their operations and keep costs from exploding this year.

The struggle for manufacturers to maximize their AI projects stems from a few sources. Disconnected production systems, inconsistent data quality, and limited visibility across plants and suppliers are what's holding companies back from an actionable source of truth. Again, inaccuracy and gaps in training datasets can hinder AI's success.

Advancing AI maturity, on the other hand, will require breaking down these silos and treating operational data as a strategic asset rather than a byproduct of floor operations. Those leaders who can unify their data foundation into a complete package can sharpen their predictive maintenance, design optimization, and real-time quality control to unprecedented levels.

When it comes to AI agents, the manufacturing industry is still dipping its toes in the water. Some companies recognize the value of iterative design and quality assurance while others are using AI to help with support functions.

Top Three AI Agent Uses by Function



Life Sciences and Healthcare

The healthcare sector was slow to digitize, but has been enthusiastic about artificial intelligence, especially in the US and UK.

In the United States, HIPAA and HITECH have conditioned executives and frontline healthcare workers to approach data with completeness, privacy, and security in mind. As healthcare organizations in Europe better familiarize themselves with the European Health Data Space Regulation, there is a framework for greater efficiency and security as they ramp up AI.

“My view is very similar to what happened in the developing world, where they lagged behind the developed world in the adoption of wire telecommunications. Then, when cellular came into the picture, they actually leapfrogged the developed world in how connected people became. In my view, AI is that leapfrog technology for healthcare. We are primed for it, the use cases are very crystal clear, and the technology is there.”

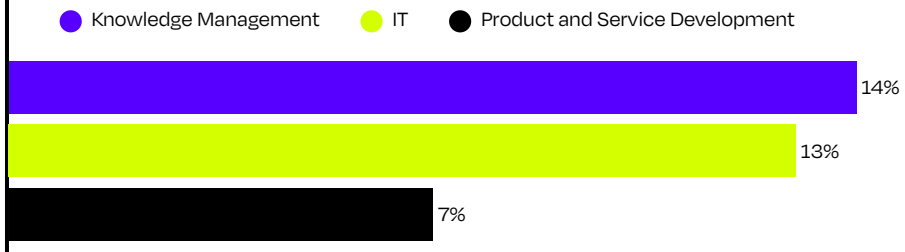
What’s different is that there’s far greater pressure to implement AI tools in healthcare and life sciences with ethics and responsibility. So, working towards AI maturity is more a matter of overcoming complexity and building on early wins than encouraging buy-in.
Since clinical, operational, and research data is often scattered across various systems with drastically different formats, the challenge is about identifying cost-effective and regulatorily compliant use cases at scale.

In 2026, organizations must focus on solving data integration and governance challenges first, establishing trusted, compliant data pipelines that can support advanced analytics and AI.
Additionally, we’re seeing an increase in forward-thinking AI frameworks. UnitedHealth Group instituted an AI review board while Cardinal Health established a Center of Excellence to push their initiatives forward with safety, accuracy, and fairness front of mind. Leaders who can mirror that approach will improve their ability to align AI initiatives with regulatory requirements while achieving transparency and explainability.

When it comes to the pursuit of AI agents, healthcare and life sciences companies are ahead of the curve. We’re seeing companies use AI to maintain regulatory data compliance, contribute to data exchanges, and to develop new products for the consumer market.

Tilak Mandadi
EVP - Ventures and Chief Experience and
Technology Officer at CVS Health

Top Three AI Agent Uses by Function



Determine your AI maturity level

Understanding where your organization sits on the AI maturity curve matters more than simply adopting new tools. McKinsey and Company found surveyed organizations fell into one of these four categories:

32%	30%	31%	7%
Experimenting	Piloting	Scaling	Fully Scaling

Since the dividing lines between these categories can be a little bit fuzzy, we've developed our own AI maturity assessment to help our clients gauge their current state and move to the next level. Our questionnaire to help

AI Readiness Assessment – Scored Questionnaire

For each dimension, select the single statement that best describes your current state, assigning the corresponding score (1-5).

Which statement best describes your organization?

	Data Governance	Data Quality	Data Pipelines	Cloud / Infrastructure	Analytics Velocity	ML / AI Readiness
1	We have no formal data governance policies or standards.	Data errors are frequent and usually fixed manually after issues arise.	Pipelines are manual, ad hoc, and suffer from high latency.	Systems are primarily on-premise and monolithic.	Analytics delivery takes weeks and relies heavily on manual SQL.	ML is not used because data is not model-ready.
2	We maintain basic data dictionaries or glossaries for key datasets.	Data quality checks are performed on a scheduled basis (e.g., monthly).	Pipelines are batch-oriented, orchestrated, and refreshed every 4–6 hours.	We operate in a single cloud or hybrid cloud environment.	Reports are delivered in days using standardized BI tools.	ML experiments are limited to samples or sandbox environments.
3	We enforce data quality standards and track lineage across systems.	Data quality is continuously monitored with SLAs in place.	We support real-time or near-real-time data streaming.	Workloads are containerized across single or multiple clouds.	Insights can be delivered in hours via self-service analytics.	Production ML models exist with basic monitoring in place.
4	Data governance is actively managed using automated tools and controls.	We can predict data quality issues before they affect downstream users.	Pipeline performance is proactively optimized using predictive signals.	Infrastructure is serverless, globally distributed, and cost-optimized.	Real-time dashboards and system-generated insights are available.	Models are continuously retrained using new data and performance signals.
5	Our data ecosystem is self-healing, with governance issues detected and resolved automatically.	Data quality issues are automatically remediated without human intervention.	Pipelines automatically adapt to changes in workload, failures, or demand.	Resources are autonomously allocated and optimized with no manual tuning.	The platform delivers prescriptive recommendations without user queries.	Models are autonomously discovered, trained, deployed, and managed.

Final Thoughts

AI strategies rarely evolve in a straight line. They advance, stall, and recalibrate as organizations encounter real-world constraints around data, risk, and readiness. As Will Douglas Heaven, Senior Editor for AI at MIT Technology Review, put it: "Progress has always moved in fits and starts. There are ways over, around, and under walls." That framing feels especially apt for how organizations will mature their AI strategies in 2026.

The organizations that will separate themselves from the pack are not chasing novelty. They are reinforcing their foundations by focusing on three priorities:Cleaning and governing data

- Embedding safeguards into innovation
- Aligning AI ambitions with industry realities and regulatory expectations

The path forward starts with an honest assessment of current capabilities and a focus on the next practical step. Organizations that invest in foundations now are better positioned to scale AI responsibly over time.

KEY TAKEAWAYS FROM Q1 2026

- Strong data foundations matter more than advanced models
- Data quality and governance must be continuous and enforced
- AI innovation requires built-in security, access controls, and auditability
- Industry-specific AI maturity depends on a shared data backbone
- Early-stage AI adoption presents a strategic advantage for prepared leaders

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