EBOOK

The CDO's Agentic Advantage

3 strategic shifts to accelerate AI adoption

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matillion Maia

Executive summary

Data teams are crushed under demand they cannot meet, while business units grow impatient and create risky workarounds. In 2025, four out of five data engineering teams can't keep up with exploding requirements, data engineering job postings are up 400%, and over half of teams now handle over 1,000 data sources[1].

AI demand makes this crisis worse. Every AI initiative requires new data pipelines teams don't have capacity to build, while stakeholders expect self-service access to trusted data. 90% of AI - and almost all analytics - project failures stem from people and process bottlenecks, not algorithms. The future of business is fueled by AI and analytics, and the gap between those who are ready and those who are not is growing fast.

Human-scale data engineering can't keep pace. Adding more humans to the equation - whether in-house, as contractors or offshore - won't solve the problem. It's time for a fundamental shift.

[1] Source: **salesforce**
[2] Source: **Dan Saffer, professor at Carnegie Mellon Human-Computer Interaction Institute**

What is agentic data engineering?

It's the augmentation of human engineering teams with AI-powered agents that plan, build, and maintain pipelines continuously. These agents act as digital colleagues – shouldering repetitive, complex tasks while documenting, optimizing, and governing every workflow. The result is up to a 95% reduction in manual effort, freeing data teams to focus on strategy.

This shift delivers execution at **agentic velocity and scale:** the ability to operate at a far greater speed and capacity than human-only processes allow. It's not replacement, it's augmentation – machines execute at scale, while humans provide oversight and strategic direction.

This is why we introduced Matillion Maia – an agentic data team built to eliminate backlogs and accelerate delivery. Global leaders such as GE HealthCare, Merck and Precision for Medicine are already realizing these benefits by modernizing stacks, eliminating backlogs, and scaling AI and analytics initiatives.

This ebook reveals the three strategic shifts enterprises are making with Maia to achieve agentic velocity and scale:

1

Platform consolidation

Shedding legacy ETL, unifying the stack, and embedding governance from the start. This reduces tool sprawl, eliminates technical debt, and lowers license and infrastructure costs – while simplifying compliance and standardizing workflows.

2

Human augmentation

Multiplying engineering capacity, eliminating backlogs, and empowering business teams. By reducing reliance on contractors and offshore partners, enterprises cut delivery costs, improve engineer satisfaction, and reclaim time for strategic projects.

3

Roadmap acceleration

Delivering AI-ready data faster, so initiatives launch in weeks instead of quarters. This shift moves AI projects out of proof-of-concept in less time, enabling faster time-to-market, higher adoption, and competitive edge.



The next 12 months are decisive. Enterprises that embrace agentic velocity and scale now will lead the market and shape the future of their industry. Those that don't will be left playing catch-up.

Maia at work

Data engineering augmentation

A leading healthcare research organization replaced four senior data engineers ($150K+ salaries each) with Maia.

Self-service analytics

A multinational utility company expanded business user access to core data platforms, without additional engineering headcount, enabling faster self-service analytics and dashboard creation.

Migration from legacy ETL

An international energy utility org is migrating from costly proprietary ETL tools, using Maia to convert legacy workflows to modern architectures.

Accelerated data delivery

A global services provider's senior data engineer was able to reduce the time taken to build a star scheme in Snowflake from days to minutes.

The agentic advantage

Maia introduces agentic execution – automation that removes the constraints of human-only operations.

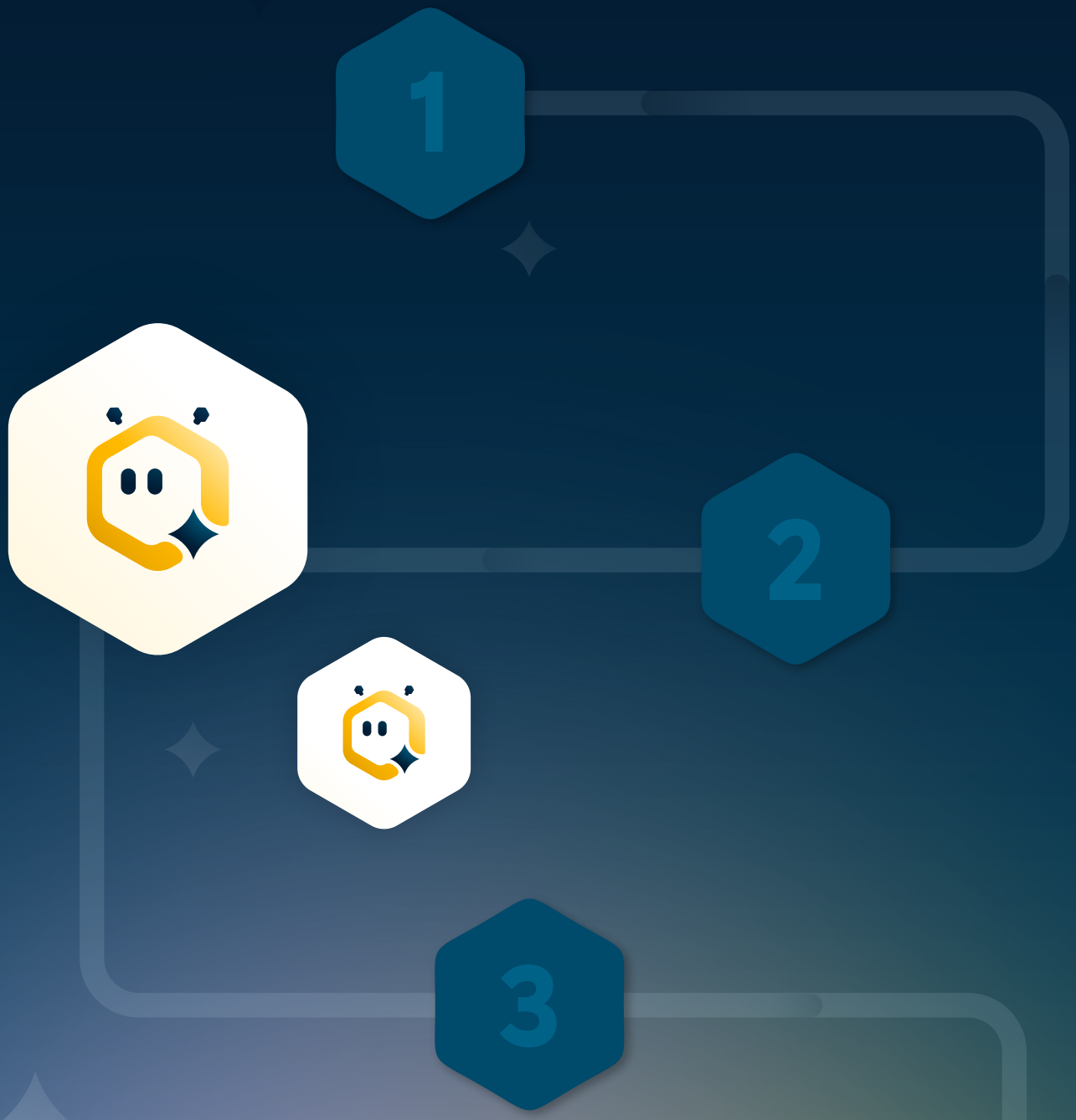
AI-powered agents execute the steps that slow teams down today: pipeline builds, migrations, optimizations, documentation, error resolution, and monitoring. These tasks no longer wait for engineer bandwidth or office hours; they happen continuously, at scale, and in compliance with governance frameworks.

The C-suite impact

- **Revenue acceleration:** Launch new data products and AI capabilities 10x faster, capturing market opportunities before competitors can respond to changing business conditions.
- **Cost optimization:** Eliminate contractor dependency and offshore partnerships while reducing infrastructure waste from manual processes that drain budgets without delivering strategic value.
- **Risk reduction:** Built-in governance and automated compliance reduce regulatory exposure and shadow IT risks that threaten enterprise security and reputation.
- **Talent ROI:** Transform expensive engineering resources from maintenance workers into strategic innovators driving business growth and competitive differentiation.
- **Data democratization:** Conversational interfaces enable analysts to request data transformations and new datasets directly, accelerating insights across the organization without creating bottlenecks.

Crucially, this is augmentation, not replacement. Agentic velocity and scale pairs machine execution with human oversight. AI expands throughput – but humans define business priorities, ensure quality, and set strategic direction. The result is a framework where governance, compliance, and human judgment remain central, while execution scales to meet enterprise demand.

3 strategic shifts for transformation



1

Platform consolidation: from legacy burden to modern advantage

The challenge

Legacy ETL platforms are a silent drag on data maturity and AI readiness. They add cost, complexity, and technical debt, turning modernization into a multi-year struggle that delays innovation while competitors advance. Without cloud-native pipelines, AI adoption stalls as models underperform on incomplete or inconsistent inputs. Fragmented point solutions only add to the burden, further complicating operations and exposing risk.

The shift

Maia automates migration by translating and rebuilding pipelines in their optimal cloud-native form, embedding governance throughout the transition, and validating data integrity at every step. What was once a brittle, manual effort becomes a repeatable, accelerated transition to a modern data stack. It also unifies fragmented capabilities into a single, intelligent platform – eliminating technical debt and creating standardization.

The advantage

Your enterprise finally unlocks the modern platforms that true AI innovation depends on. Migration timelines compress from years to weeks, technical debt disappears, and costs are reduced. For the C-suite, this is a strategic move to reduce operating expenses, simplify compliance, and accelerate the entire digital transformation journey.

Modernize for agentic velocity and scale

Schedule a Maia Session to see how Maia can help you move beyond legacy ETL, unify your stack, and embed governance from the start.

Schedule your session

2

Human augmentation: from backlog to business velocity

The challenge

Data backlogs are spiraling out of control as demand for new pipelines consistently outpaces your team's capacity to deliver, forcing stakeholders to wait months for insights that could drive immediate business decisions. Engineers are stuck firefighting instead of innovating, while reliance on contractors and offshore partners inflates costs, increases delivery risk, and drains institutional knowledge.

The shift

With Maia, data pipelines are no longer constrained by human working hours or capacity limitations. Agentic AI plans, builds, and maintains workflows continuously, resolving errors and optimizing performance on the fly. Work that used to take weeks or months can now be delivered in hours or days. By automating code conversion, documentation, and troubleshooting, Maia reclaims hundreds of engineer hours, while enabling business users to self-serve without risk.

The advantage

Decision cycles accelerate dramatically, analytics adoption spreads organically, and value from data scales enterprise-wide. Engineers are freed from reactive work to focus on strategy and innovation. Business teams gain faster access to trusted data without increasing dependency on external partners. Executives see a more agile, data-driven culture emerge, all without overwhelming existing data teams.

See the results in action

Discover how Edmund Optics built an AI-powered support chatbot, saving 100+ engineering hours every month and cutting response times by 40%.

Read the case study

3

Roadmap acceleration: from PoCs to production

The challenge

AI and analytics are boardroom priorities, but most projects never progress beyond proof-of-concept. Nearly 90% of AI initiatives fail because the data foundation isn't ready, resulting in delayed value, eroded stakeholder trust, and lost first-mover advantage as business demand piles up faster than engineering can respond. Both AI and analytics share the same dependency: fast access to clean, governed data.

The shift

Maia automates data readiness for AI at scale, integrating structured and unstructured data, cleaning and enriching it, and ensuring compliance in real time. By delivering AI-ready datasets with precision and efficiency to LLMs, vector databases, and analytic models, Maia eliminates the bottleneck that kills most AI projects before they start.

The advantage

Projects that once stalled for quarters now launch in weeks. Data quality improves, governance is embedded, and adoption accelerates across the business. Early adopters gain the ability to experiment, scale, and commercialize AI, while competitors are still prototyping. For the C-suite, this is about transforming AI from a risky bet into a reliable driver of growth and competitive advantage.

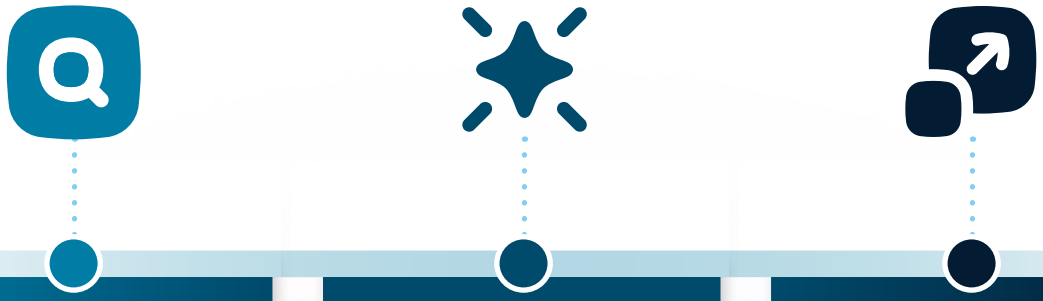
See what's possible

Hear Matillion's CEO on how Maia is redefining data engineering productivity and accelerating AI adoption across enterprises.

Watch the video

Your transformation framework

To lead this transformation, you need a clear, actionable plan. Here is a proven framework for moving from human-constrained to agentic data engineering:



Assess and prioritize

Evaluate your current data maturity and pinpoint your highest-impact use cases. Quantify the cost of inaction and delayed AI adoption.

Pilot and prove

Select one high-visibility project to prove the value of agentic AI. Deploy Maia to demonstrate measurable business impact within 90 days.

Scale and optimize

Expand successes across teams and workflows. Standardize agentic capabilities and track their impact to secure lasting competitive advantage.

The Matillion + Maia advantage

Maia delivers on the promise of agentic AI through three pillars that empower your organization to move from theory to lasting competitive advantage:

1

Agentic teammates

Maia isn't a partial fix; it's a full agentic data team. From modeling and analysis through pipeline build, migration, optimization, and governance, Maia works as digital colleagues alongside your engineers. They don't backlog, they don't tire, and they deliver at agentic velocity and scale.

2

Built-in risk reduction

Governance isn't a bolt-on – it's a foundation. Maia automates data transformation with built-in role-based access, audit-ready observability, and compliance frameworks. This ensures security from the start, reducing risk and building trust as you scale AI initiatives.

3

Enterprise-proven platform

Maia is built on Matillion's trusted foundation. With Maia, you're leveraging an enterprise-proven platform that unifies data engineering with agentic AI capabilities, recognized by Gartner as a Challenger in the 2024 Magic Quadrant.

Your first step: a strategic working session

In your personalized, executive-level session, you'll see how Maia achieves agentic velocity and scale in practice: building net-new pipelines, migrating legacy ETL jobs, documenting human-built processes, and optimizing them in real time. You'll explore enterprise use cases, run Maia against your own data, and walk away with a tailored blueprint for scaling AI and analytics adoption immediately.

This isn't a vendor pitch – it's your opportunity to design a plan that accelerates your roadmap, cuts costs, and positions your business to lead in the AI economy.

Schedule your strategic session

Redefining the future of data-driven business

Maia isn't just the future of data engineering – it's the new foundation of competitive advantage in the AI economy. In 2025, human-scale data engineering is holding enterprises back from realizing their full potential.

The next leaders are those who consolidate legacy burdens, augment human capacity, and accelerate AI readiness with Maia.



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