White Paper

Beyond Clean Data: Why AI Needs Workforce Context



Visier®

Gartner predicts over 40% of agentic AI projects will be canceled by end of 2027, citing escalating costs and inadequate risk controls. Workforce data is where that risk concentrates: fragmented across systems, inconsistently defined, temporally complex, and subject to governance rules that most AI architectures do not enforce.

The projects that fail will not fail only because of bad data. They will fail because the data lacks context: the definitions, structure, history, and entitlement rules that tell AI what workforce data actually represents. Without context, AI returns confident answers that no one can trace, defend, or govern.

This whitepaper examines why workforce data stalls AI readiness, where current approaches fall short, and what a purpose-built workforce context engine requires to deliver answers that hold up to scrutiny.

1. Why AI Readiness Stalls on Workforce Data

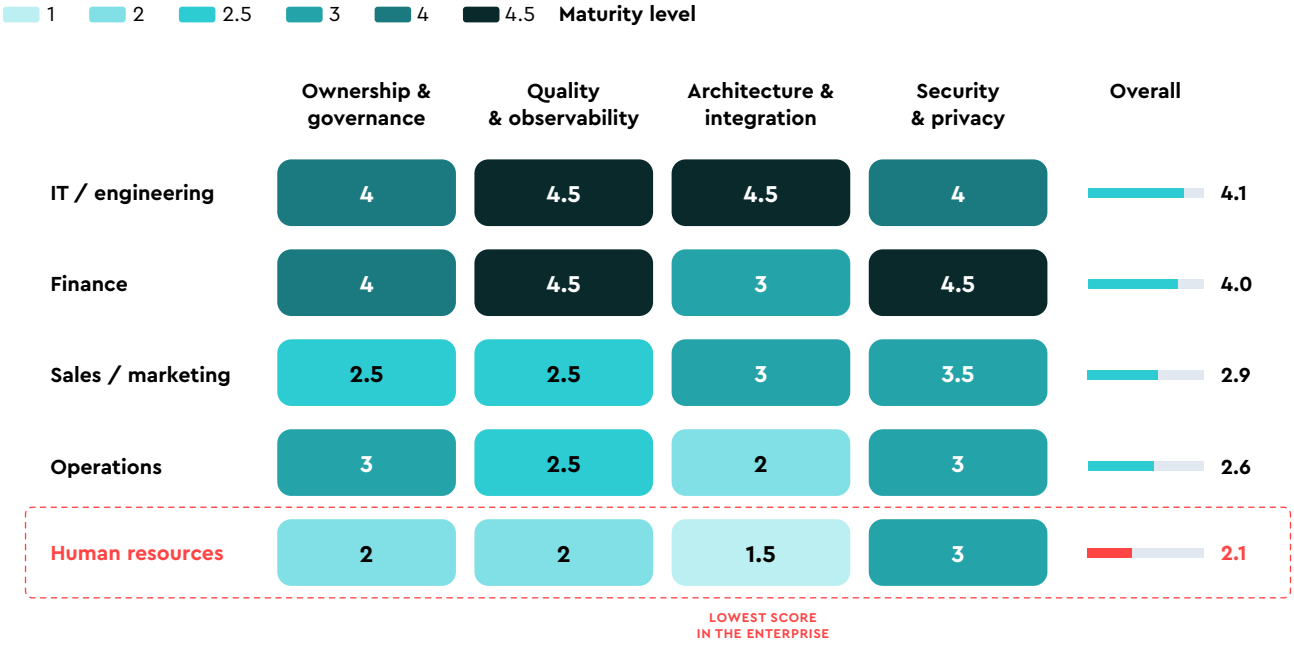
HR Technology and AI Strategy is the #2 CHRO priority (Gartner). CIOs are fielding AI requests from HR and business leaders alike. The expectation is that workforce data should be as AI-ready as financial or customer data, but it is nowhere close.

HR lags in data maturity

An assessment of data maturity across enterprise domains shows the gap clearly. HR scores lowest on every dimension except security and privacy, where regulation forced investment. The binding constraint is architecture: at 1.5, HR's data integration maturity is the weakest point in the enterprise.

Enterprise Data Maturity by Domain

Maturity scored 1–5 across four dimensions. HR lags every domain except security & privacy, where regulation forced investment.



Architecture is the binding constraint in every lagging domain, and the enterprise-wide floor.
Visier analytical assessment based on industry data, 2026. Scores are directional, not measurements.

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2. Data Quality Is Table Stakes, But Context Is the Gap
3. What an Internal Build and HCM Analytics Can and Cannot do
4. What a Workforce Context Engine *Should* Do
5. How Visier Accelerates AI Readiness for the Workforce Domain

The reasons are structural: the employee lifecycle was tooled by module (payroll, ATS, LMS, engagement, performance), not by entity, so there is no equivalent of Finance's general ledger unifying the person record. While organizations juggle between two and eleven disparate HR solutions depending on the source, fewer than 40% actually integrate well with one another, according to HR.com. None of this was helped by decades of HR technology investment aimed at processing efficiency, not analytical capability.

Gartner found organizations with successful AI initiatives invest **4x more in data foundations** than those with poor outcomes.

Clean data, conflicting answers

A warehouse query returns 4,823 active employees. Finance's report shows 5,104. Both are technically correct using different definitions of 'active,' or different organizational snapshots. Without a shared definition, HR and Finance end up in a room reconciling numbers instead of making decisions. Every organization absorbs this cost quietly, in meetings that exist only because no single definition was ever established.

AI makes this worse. Without a governed semantic layer, an LLM does not resolve the discrepancy. It picks whichever definition it encounters first, or pulls a calculation from the web that matches neither your policy nor your data. The result is a confident answer built on someone else's definition, applied to your most sensitive workforce decisions. Whereas Finance has GAAP, HR has no equivalent, and AI does not create one. It accelerates the inconsistencies.

Governance gaps widen with every use case

Workforce data is already leaving HR systems through exports, CSV pulls, and ad-hoc loads into LLMs. Every new use case creates another unmanaged copy of sensitive data, and IT cannot see where it ends up. A single compensation analysis shared via email becomes a file on a laptop, a training input for a third-party model, and a row in someone's personal spreadsheet. By the time anyone asks where that data went, the answer is everywhere and nowhere.

The data that stays is not much safer. When an AI agent queries compensation or leave status, most architectures have no way to evaluate whether the requester should see that data for that employee in that org context. SHRM's 2026 survey found only 49% of organizations using AI have AI policies, and only 25% believe them enforceable. Writing the policy is the easy part, but enforcing it on every query, for every consumer, including shadow AI use cases nobody anticipated, is the hard part.

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2. Data Quality Is Table Stakes, But Context Is the Gap

Most enterprises treat AI readiness as a data engineering problem: clean it, pipeline it, load it. All necessary, but alone, that work is insufficient. Clean data without context produces clean, potentially wrong answers. Gartner's 2026 D&A Summit established context as critical infrastructure for AI and warned that 60% of agentic analytics projects relying on MCP alone will fail by 2028 without semantic foundations.

Where data is rows and columns, context is meaning: what "headcount" means here, how the organization has changed, who can see what, and how a corrected record affects today's analysis.

> "60% of agentic analytics projects relying solely on MCP **will fail by 2028** without semantic foundations." (Gartner)

The Four Components of Workforce Context

1. Temporal Continuity

People are hired, promoted, transferred, and exited, often multiple times a year, with retroactive corrections.

Workforce context requires a continuous timeline per employee, fusing feeds arriving on different schedules (payroll monthly, HRIS daily, badge data real-time), with bi-temporal tracking that distinguishes when something happened from when the system recorded it.

2. Organizational Relationships

Reporting lines, cost centers, and business units form overlapping hierarchies that shift on different timescales.

"Attrition by manager" only means something if it uses the manager at the time of each exit.

A reorg can reassign thousands of employees overnight, but a query about last quarter still needs the structure that was in place then for an accurate answer.

3. Semantic Consistency

"How many active employees do we have?" can get a different answer from every system that tries to answer. Each HCM (and even team) defines "active" differently; each dashboard applies its own filter logic.

Without a shared semantic model defining metrics once and enforcing them everywhere, inconsistency erodes trust across the enterprise.

4. Governed Delivery

Access rules must account for the requester's role, the subject's organizational position, and the sensitivity of each data element.

A manager sees their team's compensation; an HRBP sees their population but not executive comp.

These rules must be enforced at the moment of delivery and for every consumer, including AI agents.

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3. What an Internal Build and HCM Analytics Can and Cannot Do

Organizations typically try to solve this two ways: build on the data platform they already have, or use the analytics their HCM provides. Both deliver partial results, but what's missing in each case is workforce domain expertise and the ability to maintain it at scale.

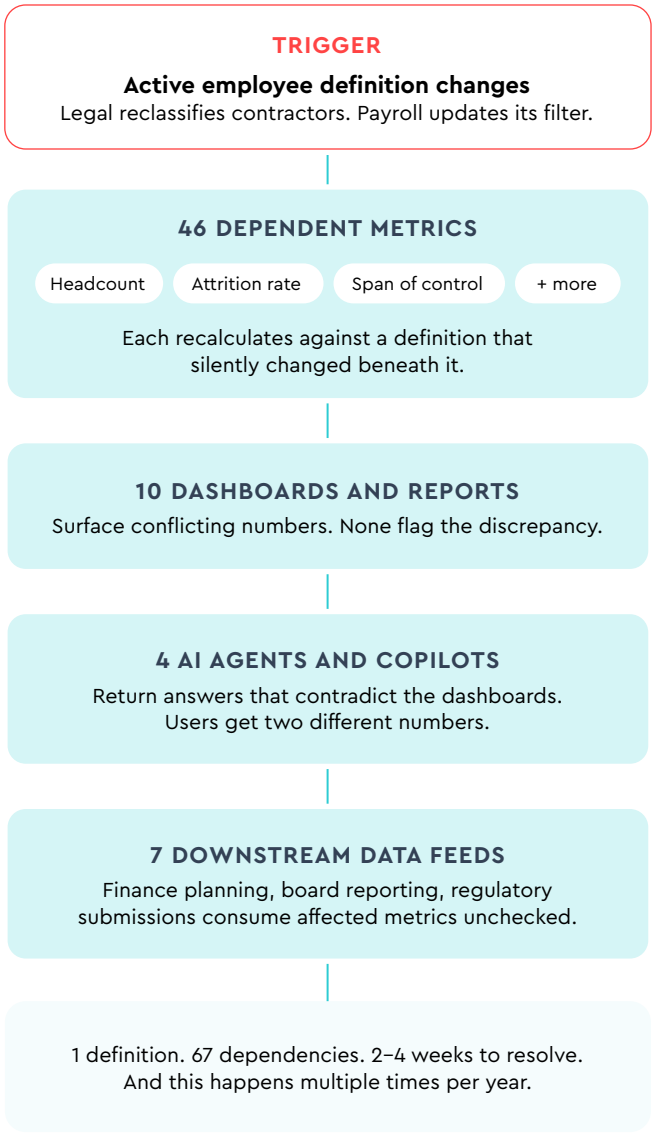
General-purpose platforms were not built for workforce complexity

Snowflake, Databricks, and Azure have working row access policies, column masking, and semantic layers. For financial and customer data, building on these platforms is usually the right call. Workforce data compounds differently. Bi-temporal modeling across feeds at different cadences is possible in SQL but fragile. Organizational hierarchy traversal with temporal state requires recursive CTEs (Common Table Expression) that get slow and brittle. Cell-level entitlement enforcement requires per-table configuration most teams never complete and are also difficult to maintain over time.

It typically requires three to five specialized engineers and 18–24 months to build a production-grade workforce context engine, with permanent maintenance after. This is the same build-vs-buy decision behind adopting Salesforce for CRM or ServiceNow for ITSM. While an internal build gives you full control and reuse of existing investments, it also means dedicated headcount, months to first governed answer with complete context, and a maintenance obligation that scales with every new source, consumer, and change.

The following example shows what that maintenance looks like in practice: a single definition change to "active employee" cascades across dozens of dependent metrics, dashboards, AI agents, and downstream feeds, each requiring manual identification, updating, testing, and redeployment.

Now multiply this across every definition change, every reorg, every AI model update, and every newly added data source. The maintenance compounds and never ends.



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Even when you have the engineering figured out, the team still needs to know what to build. How should "regrettable attrition" exclude retirements, restructuring, and performance-managed exits? Which manager applies to an attrition event when the employee transferred two weeks before exiting? What entitlement rules govern executive compensation versus line-manager comp? These are workforce domain questions, not data engineering questions. If you get them wrong, the system runs fine but the answers cannot be relied on.

> Every engineer maintaining a custom workforce context engine is an engineer not building the products and capabilities you hired them for.

HCM-native analytics are optimized for depth, not breadth

Workday, SuccessFactors, and Oracle HCM analytics are deeply integrated within their ecosystems. Workday has expanded into external data ingestion and built its own semantic layer. For organizations that run one HCM environment with HCM-native apps, this may be enough. The reality is few do. The average enterprise runs nine or more different HR systems, and organizations with 1,000+ employees typically operate 11 or more alongside payroll, ATS, LMS, and ERP (HR.com).

The gap shows up in practice. Each HCM defines metrics against its own data model, so "attrition rate" in Workday and "attrition rate" in SuccessFactors are two different calculations that produce two different numbers. Post-acquisition companies inherit this problem overnight. Multi-region companies live with it permanently. Running a single workforce query across these systems requires reconciliation work that recreates the same integration challenge the internal build faces, just starting from a different place.

How Current Approaches Deliver Against Workforce Context Requirements

Context Requirement	Data Warehouse/Lake Build	HCM-Native Analytics
Temporal Continuity	Buildable, but breaks with schema changes and reorgs	Within one system only; no cross-source timeline
Organizational Relationships	Buildable, but recursive queries break at scale	Within a singular HCM hierarchy
Governed Delivery	Buildable, but org-aware cell-level enforcement and maintenance is where most teams stall	Governed inside the HCM; not enforced for external consumers or AI agents
Semantic Consistency	Buildable, but must define and maintain every metric manually	Defined by the vendor; inconsistent across multi-HCM environments

Assesment reflects architectural design intent, not vendor limitations. Both approaches can be extended with sufficient engineering investment.

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4. What a Workforce Context Engine *Should* Do

A purpose-built workforce context engine continuously unifies, enriches, governs, and delivers workforce context to any consuming system, AI agent, or human. Continuous processing is not optional as workforce data is not static: org structures shift, corrections arrive retroactively, and source systems update on different schedules. Where a data store waits for queries, an engine does active work on every request: resolving temporal state, traversing the organizational hierarchy, evaluating entitlements, and applying the semantic model.

A workforce context engine does not replace your entire stack, but rather augments it to accelerate AI readiness. And the most powerful workforce context engines evolve constantly, based on innovations and scaled improvements in AI and ML.

With a purpose-built workforce context engine, three functional components work together: workforce data management (ingestion and entity modeling), workforce semantic modeling (metric definitions and temporal logic), and governed context delivery (entitlements and integration).

Any team with the right engineers can build this architecture and set of capabilities. While the previous table scopes the work, it does not scope the workforce domain expertise required to make each component trustworthy: how metrics should be defined, what temporal edge cases exist, which access patterns reflect how HR actually operates. That knowledge is not something you can engineer from scratch. It accumulates over years of solving workforce-specific problems at scale.

Capability	What the engine handles	What moves off your backlog
Data ingestion	HCM migrations and schema changes absorbed at ingestion and not passed downstream	Building custom connectors and transformation logic per source; rework after every migration or schema change
Bi-temporal modeling	Fused feeds arriving at different cadences with automatic temporal resolution	Writing custom SQL per source; updates for every schema change or new cadence
Organizational hierarchy traversal	Resolves reporting lines at any point in time, through reorgs and acquisitions	Fixing recursive CTEs that break with every structural change
Semantic model	Defines a library of workforce metrics once and enforces it everywhere	Reconciling metric definitions that drift across dashboards, reports, AI agents, and data feeds
Cell-level entitlements	Evaluates requester, subject, and permissions on every query	Configuring per-table policy for every new role, consumer or access pattern
Governed AI delivery	Serves context to AI agents via MCP with full traceability, while integrating bi-directionally with data platforms (e.g. Databricks, Snowflake, GCP)	Building custom API layers for every new AI agent, tool, or integration method

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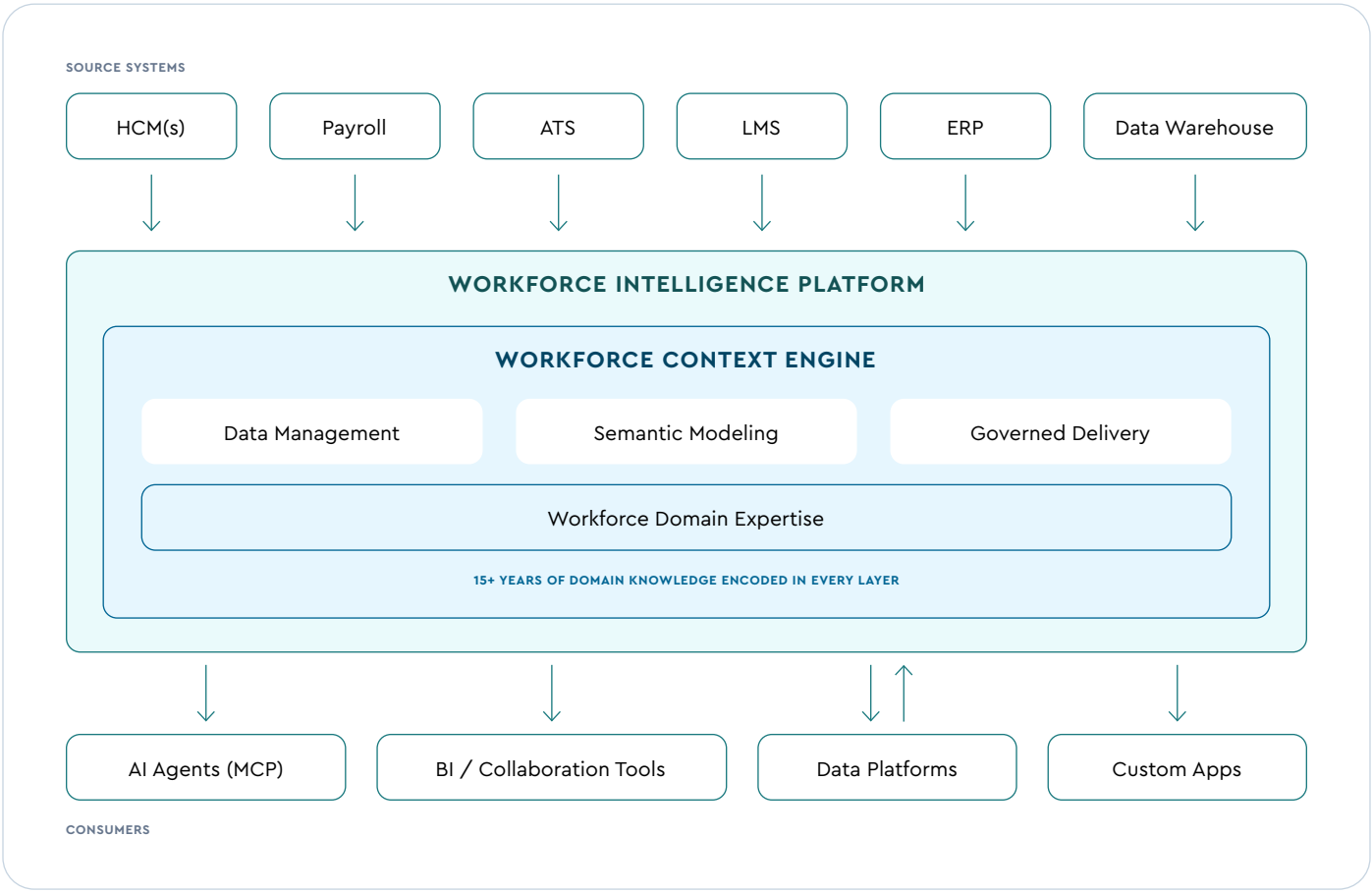
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Visier's Workforce Intelligence Platform is the product of 15+ years of encoding that expertise. At its core, the Workforce Context Engine unifies and maps fragmented workforce data into a blueprint enriched with workforce-domain knowledge, benchmarks drawn from 85,000+ customer organizations, and pre-built analytics content that reflects how workforce intelligence works in practice, not in theory.

The platform is source agnostic and open. Native connectors to Workday, SuccessFactors, Oracle HCM, and 20+ source systems ingest data at any cadence. Bidirectional integration with Snowflake (Horizon Catalog) and Databricks (Open Catalog) maintains entitlements through the round trip. And AI agents query governed context via MCP Server. Visier sits on top of what you already run and makes your tech investments much more valuable.

Any team with strong engineers can build this infrastructure. The difference is deep workforce domain expertise encoded in every layer.



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What workforce domain expertise looks like in practice

Domain expertise in workforce meaning
Visier's semantic model defines 2,000+ metrics with governed definitions that reflect how workforce intelligence actually works. "Regrettable attrition" means the same thing in every dashboard, AI response, and data feed. A workforce cost reconciliation between HR and Finance uses the same snapshot, the same definitions, and the same point-in-time logic. Because context is pre-resolved, an AI agent gets a governed answer in a single query instead of multiple round trips of schema discovery, definition interpretation, and validation, reducing both token costs and latency.

Domain expertise in workforce governance
Entitlements are enforced at the query layer, not after retrieval, across every consumer: Visier's UI, data exports, APIs, MCP, and data warehouse integrations. A manager sees their team's leave balances. An HRBP sees their population's performance distribution but not executive compensation. A new leader inheriting a team sees only the history their access level permits. And AI agents never receive data they are not authorized to use, eliminating both the security exposure and the cost of retrieving data only to discard it. Every new use case inherits these controls automatically, so expanding adoption does not expand risk. Answers are fully traceable, explainable, and compliant with ISO 27001/27002, SOC 2 Type II, GDPR, CCPA.

Domain expertise in workforce integration
Multi-HCM environments and multi-source data map to one semantic model. An HCM migration does not break downstream consumers, dashboards, or AI agents. When a definition changes, it updates in one place and cascades with certainty across every dependent metric, report, and data pipeline. This is handled at the infrastructure layer instead of the pipeline layer. This frees up data engineering resources you can invest in projects that differentiate your business, not maintaining workforce data plumbing.

Visier's Workforce Context Engine not only accelerates AI readiness, but also provides the data foundation for Visier Workforce AI solutions: Workforce Insights surfaces what is happening across your organization today, Workforce Planning activates what your workforce needs to look like tomorrow, and Workforce Programs activate your leaders to turn plans into action. When those three run on one governed foundation, decisions stop stalling between insight and execution.

Most organizations do not have this foundation in place, yet AI is answering workforce questions anyway. Are you confident those answers are compliant, consistent, and defensible?



To learn how the **Workforce Context Engine powers AI-ready workforce intelligence**, visit visier.com

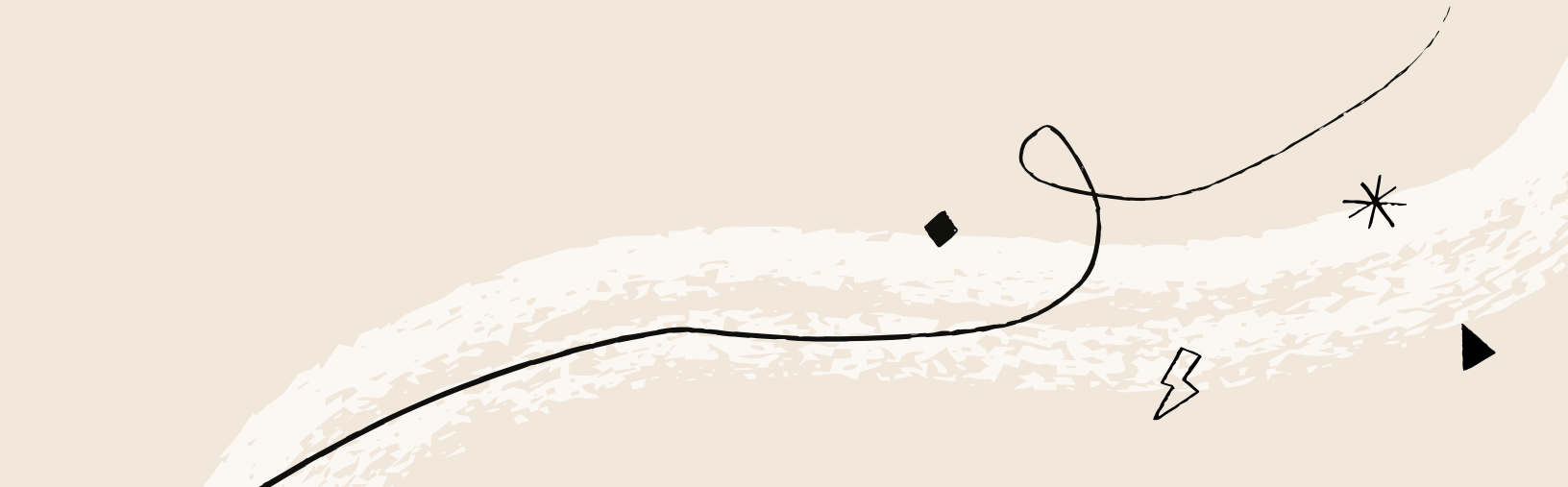
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About Visier

Visier Workforce AI is the context foundation for talent management. The Visier Workforce Intelligence Platform turns scattered, sensitive people data into one governed understanding of the entire workforce, so organizations can understand, plan, and activate all of their talent priorities in one place. More than 85,000 of the world's most complex organizations, including Ford Motor Company, eBay, Experian, and Domino's Pizza, rely on Visier's over 16 years of workforce domain expertise, ranked #1 in vendor satisfaction and user experience for three consecutive years by the Sapient Insights HR Systems Survey.

Learn more at Visier visier.com.





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