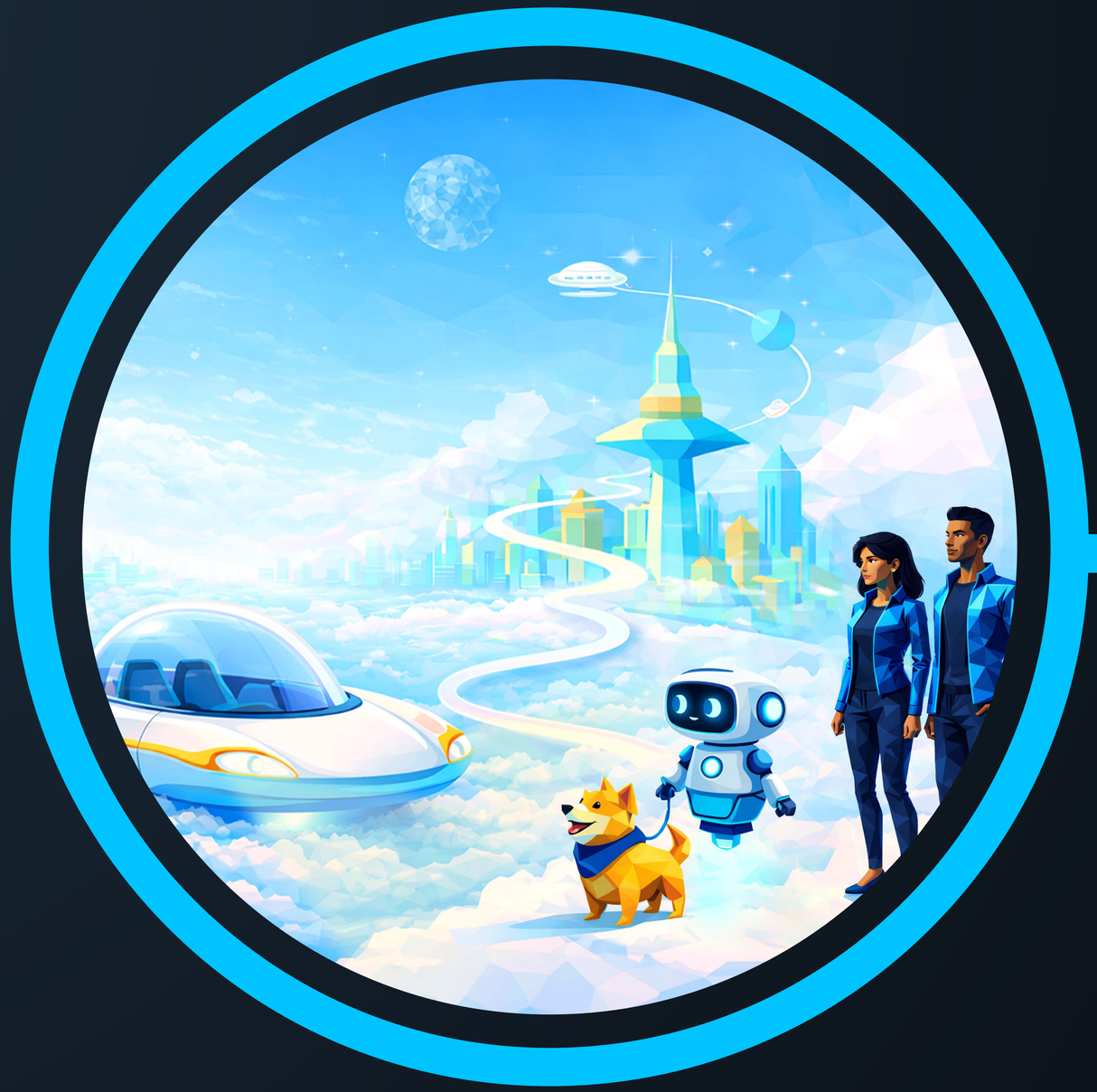
The MDM Journey

From Trusted Data to Operationalization



Tamr

Let’s be honest: Delivering the clean, curated data your company needs to drive business success is a daunting task. For years, companies have launched initiatives that attempted to deliver holistic, 360-degree views of their customers, suppliers, products, and other key business entities. But inevitably, these initiatives fell short, failing to deliver the golden records companies needed to make the best decisions for their business.

gol·den rec·ord

[GOHL-duhn REK-erd], noun

1. a single, authoritative, accurate version of business entity data across multiple data sources and datasets.

Through no fault of their own, these businesses were led astray. While traditional master data management (MDM) solutions vowed to solve the golden record problem, these initiatives had a fundamental flaw: They focused solely on technology. By jumping straight to operationalizing the data before taking the time to properly assess it, improve it, and review it with the people who know and use it the most, they failed to deliver a solution to the business problem at hand. And that misstep caused a ripple effect of data quality challenges that became impossible to fix.

If this scenario sounds familiar, you're not alone. Many (many!) organizations struggle to deliver the high-quality data needed to fuel AI initiatives, gain new insights, and deliver better customer experiences. But we're here to tell you there is a better way. Because it's not just about adopting MDM technology. **It's about ensuring you have data that you trust.**

The secret to reaching MDM nirvana is understanding the problem you're trying to solve, taking the steps that matter, and progressing through the journey in a way that prioritizes high-quality data and aligns it with your business goals. In this guide, we'll show you how to transform past failures into an actionable plan for maximizing the value of your data once and for all.

MDM, Misguided

For decades, traditional MDM has delivered technology designed to provide companies with a system of APIs and a repository of data. But here's the problem: Traditional MDM is solving the wrong problem.

Businesses don't always need sophisticated tools to deliver better data repositories and APIs. **They need better data.** And when they fail to address the underlying data quality issues, their MDM initiatives will inevitably fail to deliver the results they expect.

Think of it like flipping a house. Many house flippers focus on aesthetics. They paint the walls, replace the molding, and upgrade the appliances. Each of these surface-level improvements boosts the appearance of the promotional photos, but fails to address key foundational elements such as whether or not the HVAC works properly, if the plumbing and electrical are up to code, and whether the house has genuine structural integrity. These homes, while beautiful on the surface, have flaws in their underlying infrastructure.

The same is true when it comes to data. Traditional MDM delivers the aesthetics: a robust data repository and system of APIs that connect to business intelligence (BI) and data visualization tools so businesses can surface data in beautiful reports and dashboards. But traditional MDM ignores the foundational issues of poor data quality. And failing to improve the quality of the underlying data causes distrust, wreaking havoc on decision-making and downstream generative AI (GenAI) output.

To overcome this challenge, organizations need to consider all of the steps needed to maximize the value of their data so users will trust it. It's a journey, but one that's important to take if you want to tap into the full potential of your data and use it effectively for analytics, operations, and AI-powered initiatives.

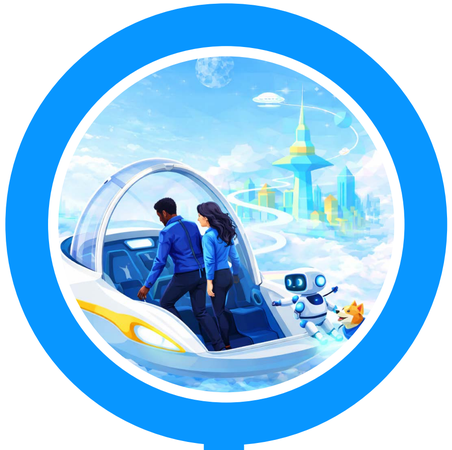
Introducing the MDM Journey

When it comes to mastering your data, success comes from knowing where to start. But that's where many well-intentioned companies stumble. They begin by implementing MDM technology that serves as yet another data repository with its own flashy set of APIs. **This is a mistake.**

Instead of leading with technology, you must start by assessing and then improving your data, and then thoughtfully reviewing that data with your users so they can use it effectively for analytical purposes. Once you've taken these steps, you're ready to operationalize your data by connecting it to your essential business systems and using it in your AI applications.

This is the MDM Journey. And it's the secret to turning your data into a mission-critical asset.

When companies follow the MDM Journey, they can confidently answer questions like "How many customers do I have?"; "Which providers deliver the specific set of services I need?"; or "What markets have the highest potential for revenue growth?" And because these companies follow the steps to improve data quality before they operationalize it, they see higher degrees of success.



Steps of the Journey

1 **Assess:** Know where you are… and where you want to go

2 **Improve:** Make your data trustworthy by cleaning and enriching it

3 **Review:** Put your data in front of end users to gather feedback and build trust

4 **Operationalize:** Turn your data into a mission-critical asset by connecting it to key business systems and feeding it to AI applications

How to determine where you are in the journey

Before embarking on the MDM Journey, it's crucial to understand exactly where you stand. Here are a few key questions designed to help you evaluate your current state and provide the clarity needed to chart the right path to reach your MDM goals.

Q: Do you know how many customers you have?

A: Yes—proceed to the next question.

A: No (or the answer varies depending on who you ask).

You need to take a step back and **assess** your data.

Q: Can you quickly and easily identify and fix an error or missing piece in your data?

A: Yes—proceed to the next question.

A: No.

Stop! You need to **improve** your data by building a reliable, scalable solution to improve, measure, and maintain your data's quality.

Q: In a cross-departmental meeting, does everyone bring the same data points? Or does each department bring a slightly different version of the truth?

A: Everyone brings the same data—proceed to the next question.

A: Every department brings different data, and we argue over who is right.

It's time to connect your siloed data and put it in front of users so they can **review** it and provide feedback before using it in analytics.

Q: Does every person and every application or system in the organization have access to the best, most accurate, and up-to-date data at all times?

A: Yes—congratulations! You've reached MDM nirvana!

A: No.

The right next step is to **operationalize** your data by connecting it with operational systems and AI applications.

The MDM Journey underscores the point that technology alone isn't enough to realize the true value of your data. **That's why traditional MDM has failed.**

The journey needs to start with a thoughtful assessment of the data you're looking to master. Then, improve the quality of that data with users who are involved and engaged in the process. Only after you complete these steps should you begin using and trusting the data in analytical and decision-making applications.

For some organizations, stopping here may be sufficient. However, it's important to note that if you stop short of operationalizing your data, you won't capitalize on the full potential it has to offer. Instead, companies should embrace the entire MDM Journey and aspire to complete all four steps, as that is where the greatest value lies. And if you think this sounds like another resource-intensive, time-consuming initiative, you'll be pleased to hear it's not.

<AI enters the chat>

It should come as no surprise that AI and AI agents are the secret to enabling companies to progress through the MDM Journey. Not only does AI help companies to improve the quality of their data, but it also makes it easy to maintain its integrity as data evolves and changes—and it does so cost-effectively and at scale. It fills a gap where traditional, rules-based MDM falls short, enabling companies to tap into the advanced capabilities they need to finally deliver the golden records users have been demanding.

Further, because AI is dynamic, it enables agility and iterative development based on use cases that are important to the business. And when those use cases—or the data that supports them—changes, AI adapts, ensuring that the golden records it creates always reflect the best version of your data.

With AI, you can (finally!) curate and master the entities that matter most to your business, giving everyone immediate—and the appropriate level of—access to your company's best data. Said differently, AI gives businesses everything they need to make their data consumable: high-quality, reliable, accessible datasets that people across the business can trust and use to gain insights, solve business challenges, and confidently pursue important business initiatives.

Breaking Down the MDM Journey

When it comes to the MDM Journey, success comes from understanding where you're starting, defining clear objectives, and staying the course toward meaningful outcomes, whether that's giving everyone in your organization access to trustworthy data for use in analytics, operationalizing your data within key business systems, or powering new, innovative AI initiatives. Following the first three steps is non-negotiable when it comes to delivering data you can trust. Skipping steps or taking shortcuts leads to missed opportunities and diminished returns. And while your company may not be ready to operationalize your data today, it's wise to set your aspirations on reaching that point in the future. After all, operationalizing your data is the best way to position your business to drive real transformation.

Step 1: Assess your data

Conducting an assessment of your data at the outset provides clarity on the starting point for your MDM journey. But too often, companies skip this crucial step, leading them to pursue initiatives and implement technologies that don't address the problem at hand. As a result, they not only waste resources and delay progress, but they also erode trust as stakeholders across the organization lose confidence in the data.

However, when you begin with a thorough and honest evaluation of the current state of your data, you lay a solid, realistic foundation to deliver high-quality, trustworthy data that drives actual business value.

As you assess your data, ask yourself:

- Is my data accurate, complete, and always up-to-date?
- Do I trust AI agents to produce hallucination-free output?
- What sources do I have?
- Are enrichment sources relevant?
- What are the relationships between entities?
- What data is the highest priority to the business?
- Is there agreement on which data is the "best" data?
- Do users trust the dashboards we have in place?

Answering these questions provides insight into the strengths, weaknesses, and opportunities within your data, as well as into the processes and technologies to support it. Then, use the insights you uncovered to prioritize the datasets and sources that require immediate attention. If you are struggling with which one to choose, a good rule-of-thumb is to let the business define the priority. Start by answering one question that is critical to your business stakeholders. For some organizations, this question is simply "Who are my customers?" For others, the question may be more nuanced, like "Which accounts are our highest priority?" Either way, this approach enables collaboration with the business early, keeps you on track to deliver value, and helps you align with your strategic goals.

Step 2: Improve your data

Cleaning your data—before you use it in analytics or operationalize it—is a critical, yet often overlooked, step in the MDM Journey. In the past, this step was tedious, requiring complicated rules and lots of people. And while it may still feel like this step is slowing you down, in reality, it's actually accelerating your ability to deliver business value.

Once you've identified the question you want to answer, the next step is to select the key entities (e.g., customers, suppliers, products, locations, etc.) and sources that supply this data. Keep in mind this should not be a "boil the ocean" exercise. Instead, be selective and ensure that the core entities you choose are the ones that matter most to the business. A good place to start is with the data that powers BI and other analytics tools.

Once you've identified your core entities, the next step is to make the quality of these entities better. Using AI, your organization can improve data quality with minimal human effort by quickly:

- **Aligning your data to a schema** to provide a common frame of reference for your source data that aligns to a universal understanding of the entity.
- **Eliminating duplicates** across data silos by leveraging pre-built machine learning models that handle the yeoman's work of mastering data across disparate systems and sources.
- **Fixing bad and/or missing values** to create consistency in your data and automatically clean and normalize the data so that it's easier for both machines and people to use.
- **Enriching data with reputable, third-party sources** by filling in the gaps in your internal data, as well as including additional data attributes from external sources.
- **Employing LLM-based AI agents** to automate more of the data curation process by surfacing and resolving complex edge cases that traditionally require human intervention.
- **Creating golden records** that serve as a single source of truth for each entity by consolidating and standardizing data such as a customer, product, supplier, or provider.

As the old adage goes, "garbage in, garbage out." That's why taking the time to improve the quality of your data is an essential step in the MDM Journey, one that will pay enormous dividends downstream.

Step 3: Review your data with a broad group of users

Collaboration and user feedback are equally vital when it comes to improving the quality of your data. Without input from a cross-section of stakeholders, including the data team and end users, the data you deliver runs the risk of being misaligned with real-world needs, leading to missed opportunities and underutilized insights. That's why reviewing your data with people who use and support it—and collecting their feedback—is a critical step on the MDM Journey.

When data stewards update the data and proactively put it in front of data consumers for feedback, you change the dialogue by fostering an environment marked by a partnership that builds trust in the data, ensuring that it is accessible, actionable, and tailored to solve actual business problems. Imagine a scenario where a user discovers inaccurate values in their analytics dashboard. Instead of right-clicking and ignoring the issue, they can use an intuitive search interface to provide instantaneous feedback on the integrity of the data and correct it in real time. And if the process is user-friendly, it makes providing feedback second nature, helping to preserve the quality of the data as it transforms.

By seeking feedback from—and providing a feedback mechanism to—a wide range of users early and often, you can ensure that your data, and the reports and dashboards it powers, remain accurate, complete, and aligned with the needs of those who use it. This collaborative approach not only builds trust, but it also drives greater adoption and ensures that your data delivers meaningful value.

Step 4: Operationalize your data

The final step in the MDM Journey is turning your data into a mission-critical asset by connecting it to your key business systems and GenAI solutions. And it bears repeating: This is the final step in the journey and one most companies should aspire to attain. There is no point operationalizing data that is incorrect, outdated, or incomplete because the insights it provides will be flawed or misleading. And, worse, actions that utilize these insights—involving compliance, customer service, personalized marketing, supply orders, and more—will be misdirected or erroneous.

Operationalizing data involves structuring and integrating the data in such a way that you can incorporate it into workflows and make it easily consumable across teams and departments. If you've followed the journey step-by-step up to this point, you can feel confident that your data is clean, curated, and ready to use to engage customers with exceptional experiences, uncover new opportunities to grow revenues and reduce costs, and improve day-to-day operations. And because you've already put the data in front of end users, you can rest assured that it meets their standards, too.

Of course, AI and AI agents play a major role in maintaining the data integrity you've worked so hard to achieve. Using AI agents, users can clean and curate their data as well as "chat" with it to answer questions that help them improve its quality. And, AI agents can surface anomalies and outliers that require updating, merging, or unmerging, and alert data stewards so they can correct the issue at the source.

The Role of AI-Native MDM in the MDM Journey

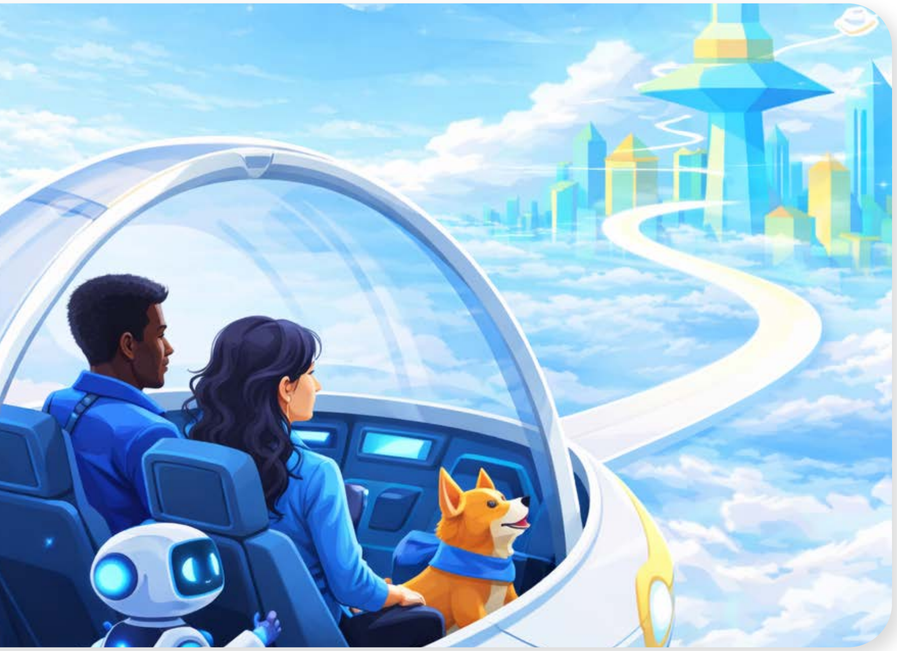
Navigating the MDM Journey not only requires organizations to think differently about how they assess, improve, review, and operationalize their data. It also demands a new, AI-native approach to technology that accelerates the mastering of data, while still acknowledging the critical role human expertise plays to ensure the data remains trustworthy and high quality.

That's where AI-native master data management (MDM) changes the game.

AI-native MDM delivers all the value and benefits that rules-based MDM simply cannot achieve. By combining AI's efficiency and scalability with business context and human expertise, AI-native MDM provides the advanced capabilities you need to deliver the best version of your data.

AI-native MDM plays an important role in supporting each step of the MDM Journey. And because AI-native MDM is dynamic and operates in real time, it fosters agility and iterative development across the MDM Journey based on use cases that are important to the business, regardless of whether they are analytically, operationally, or AI focused. And when those use cases or the data that supports them changes, AI-native MDM adapts, ensuring that the golden records that are created always reflect the most current and accurate version of your data while remaining traceable to their original sources.

AI-native MDM overcomes the limits of rigid, rules-based MDM solutions by providing the flexibility to adapt to the needs of modern, data-driven businesses as they progress through the MDM Journey. It embodies key capabilities, including:



- **Entity resolution:** The application of advanced AI models and optimization techniques that use machine learning (ML) clustering to match, link, and de-duplicate records across data silos.
- **Data mastering at scale:** Trained AI that performs critical data mastering and curation tasks including schema mapping, data cleaning and standardization, match verification, data enrichment, and golden record creation.
- **Semantic search:** Advanced search capability that uses deep learning, LLMs, and feedback-driven refinement to understand meaning, intent, and context.
- **Search before create:** Real-time APIs that work in the background to prevent users from creating bad data as they work in operational systems.
- **Agentic data curation:** The use of LLM-based AI agents to automate manual data curation steps and resolve more complex edge cases so that data stewards can capture and act on the contextual insights they need.
- **LLM connectivity:** Secure, governed access to golden records, entity relationships, and links between data sources that give generic models the context needed to be trusted and useful in practice.
- **Multi-domain support:** The ability to manage multiple domains on the same platform in order to build an extensive enterprise knowledge graph that identifies important connections between and across entities.

Furthermore, by leveraging machine- and human-generated feedback, AI-native MDM continuously improves and adapts. And, through the use of real-time APIs, it delivers a deeper, more immediate understanding of critical business entities across disparate systems and silos.

With AI-native MDM, you'll have everything you need to adapt and scale your MDM Journey so you can finally deliver the trustworthy, accurate golden records your end users desire.

The Business Case for AI-Native MDM

Making the business case for AI-native MDM requires more than just outlining features and costs. It also must demonstrate how the investment aligns with your organization's strategic goals and drives tangible results.

When developing a business case for AI-native MDM, the best place to start is by identifying your "why." Defining this purpose is critical because it roots your proposal in purpose and clarity. Not only will it help you articulate the strategic importance of AI-native MDM in the context of the MDM Journey, but it will also ensure the initiative aligns with organizational goals. And this, in turn, makes it easier to gain stakeholder buy-in and support.

For most organizations, their primary "why" is grounded in one or more of three objectives:

- **Increase revenue**
- **Reduce costs**
- **Reduce risks**

Once you've identified your "why," the next step is to support why AI-native MDM is the key to addressing your objectives. To do so, you must articulate:

1. **Benefits:** The value the business will gain from investing in AI-native MDM
2. **Risks:** The missed opportunities and consequences of following a traditional MDM approach
3. **Costs:** The people, process, and technology, as well as the hidden costs of failing to adopt AI-native MDM

Next, you need to address the elephant in the room: What makes AI-native MDM different from traditional, rules-based MDM?

If your company has spent years attempting to garner value from traditional MDM solutions, you may face skepticism when it comes to the value AI-native MDM provides. But rest assured, there are many reasons why things will be different this time around.

First, AI-native MDM scales as data grows and evolves. This is important, because a drawback of traditional, rules-based solutions is that they literally can't keep pace with the volume and variety of data in use at modern organizations. Next, AI-native MDM relies on human feedback, not manual human effort. Because AI and AI agents do the heavy lifting, humans can focus their time and attention on reviewing and providing feedback on the data, not on writing and maintaining rules. And unlike rules-based MDM, AI-native MDM does not rely solely on centralized control for governance and management; it can work with both a centralized or decentralized governance model. Finally, AI-native MDM is built for modern, dynamic data. Traditional MDM is not, which means it will never allow you to build a sustainable, scalable data quality process.

Master Data Management Showdown:
Compare AI-Native MDM vs. Rules-Based MDM.
View the infographic

Another important element to include in your business case is a point of view on building a solution versus buying one. When deciding on your stance, it's important to consider the pros and cons of both approaches.

Build: Building a bespoke solution is advantageous if your organization has a number of highly unique requirements as well as plenty of spare time, money, and resources. But ***builder beware***: Custom-builds have a myriad of hidden challenges—and hidden costs. So when evaluating your options, consider the full impact on your organization, both short-term and long-term.

Buy: Buying a pre-built AI-native MDM solution offers many benefits for organizations, especially those with aggressive timeframes and limited resources. Businesses benefit from lower costs, rapid innovation, higher data accuracy, greater agility, seamless integration into existing tech stacks, and proven scalability.

By presenting clear value propositions, quantifiable benefits, and a compelling vision for the future, you can build the momentum needed to bring AI-native MDM to your organization.

Need help making the case?
Discover how to build a compelling business case for AI-native MDM. **Download our how-to guide** to get started.

Tamr: Your Guide to the MDM Journey

We know that embarking on an MDM journey can be complex and challenging. You have countless decisions to make, skeptics to win over, obstacles to overcome, and paths to navigate. But that's where Tamr comes in—as your trusted guide and partner every step of the way. As the only provider of a true AI-native MDM solution, we enable you to move forward with confidence, avoid common pitfalls, and achieve measurable business results. Whether you're assessing the current state of your data, making improvements and reviewing it, or advancing toward the ultimate goal of operationalizing your data, Tamr provides the guidance, support, and tools you need to successfully move through each stage of the MDM Journey.

With Tamr by your side, navigating the MDM Journey becomes less daunting. Tamr has spent more than a decade focused on using the **right AI models** in the right way to tackle the hard problem of performing accurate data mastering and creating golden records at scale. Our unique blend of advanced AI/ML and human feedback makes improving the quality of your data easier than ever before. With Tamr, you can tackle the dirty data challenge in a manageable way, progressing through each phase of the MDM Journey at the pace that is right for you and your organization.

Our technology has been proven in the market over scores of customer engagements with some of the most sophisticated and complex organizations in the world. With **19 patents** behind the technology, Tamr has become the standard for AI-native MDM.

Ready to begin your MDM journey?
Schedule a demo with a Tamr expert to learn more about the platform and put you on the right path to finally achieve the clean, connected, and enriched golden records your business deserves.

Tamr

As the only AI-native master data management (MDM) solution, Tamr delivers the trusted data you need to power your generative AI initiatives. By unifying, cleaning, and enriching fragmented enterprise data, Tamr produces the golden records required for responsible and effective AI automation, informed decision-making, improved revenue growth, and better customer experiences.

Tamr's patented, AI-centric approach combines machine learning and AI agents with human refinement and oversight to deliver value in days or weeks, not months or years like traditional rules-based MDM and DIY solutions. With intuitive 360-degree views linking data across silos, your business can improve data accessibility and leverage the best, most accurate information in real time.

Learn more at **tamr.com**