



**Qubika**

**AI**

**FROM VISION TO REALITY**

# **Implementing AI in today's world**

Amidst the rapid evolution of artificial intelligence, this report blends expert insights with success stories to serve as a guide for leaders navigating its transformative impact across various industries.

# The AI transformation will challenge even the most innovative organizations

Over 90% of global enterprise AI decision-makers have definite plans to implement generative AI, according to a recent Forrester study.

We've witnessed firsthand how AI empowers developers, significantly enhancing both their productivity and the quality of their work. In the financial services sector, we've leveraged AI to revolutionize traditional processes like credit assessments, introducing unprecedented levels of efficiency and precision.

The changes that AI is driving represent a transformative shift toward heightened efficiency, productivity, and excellence across various industries.

However, the rapid expansion of AI also presents challenges, particularly for business leaders navigating a market saturated with diverse tools and models. This white paper therefore explores these challenges, the maturity of organizations, and showcases real-world success stories.

## Common challenges that businesses face include

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The cost of building and implementing **AI systems**

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The difficulty in ensuring **fast response times**, particularly at scale.

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The need for systems with zero hallucinations and **95%+ accuracy levels** to be implemented in a corporate environment.

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**Data security and privacy**, as well as rules and governance around the use of AI.

## OUR GOAL

# Crafting successful AI solutions demands a deep understanding and clear vision, emphasizing data security, responsible data utilization, and cutting-edge innovation.

This white paper delves into the diverse maturity levels of businesses in the data and AI landscape, categorizing them as Laggards and Observers, Progressives, and Advanced. Each category represents a unique stage in the journey towards AI readiness – from the initial stages of data strategy formation to harnessing AI for competitive advantage.

This paper then showcases success stories, like our client in the finance sector who, with our help, implemented an AI-driven credit assessment system, significantly improving their operational efficiency and customer experience.

Another success is our work with a major asset management firm, where we built an AI-driven marketing platform, enhancing their marketing strategies and customer engagement.



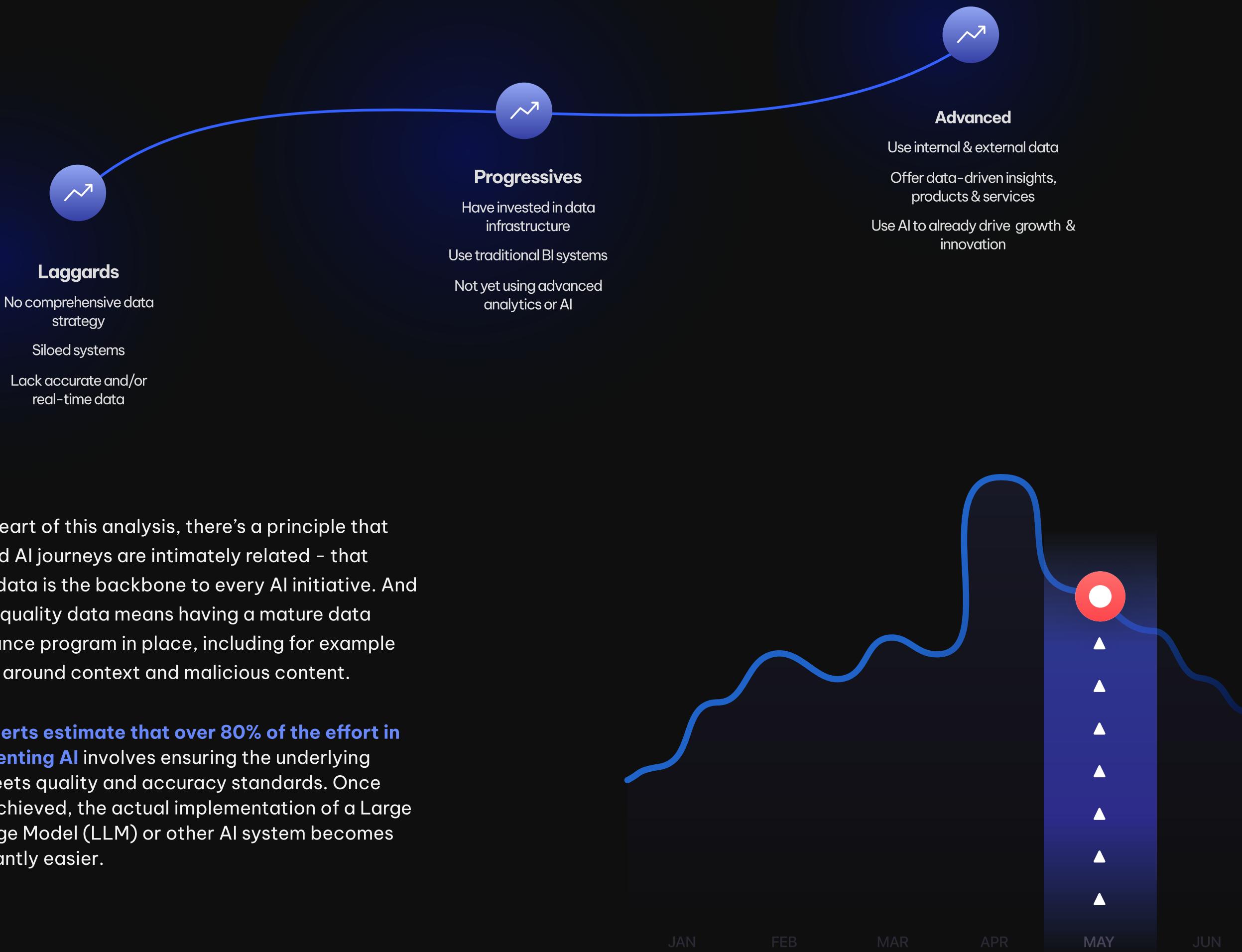
# The data & AI maturity of businesses varies greatly

We see three distinct characteristics of companies in their data and AI journeys.

In an era where data acts as the cornerstone of technological innovation, understanding the depth and breadth of an organization's data strategy becomes critical.

This exploration begins with recognizing the fundamental variance in how companies harness the power of their data and AI capabilities. It's a journey marked by the transition from mere data collection to strategic data utilization, laying the groundwork for AI-driven transformation.

## Data & AI maturity



# Success stories of industry leaders implementing AI

## Finance redefined AI-driven credit accuracy

Our client, boasting over 3 million customers and more than 1 million issued credit cards, recently unveiled a machine learning-driven credit assessment tool. This innovation enables swift and precise evaluations of customer creditworthiness.

We engineered new data pipelines to bolster their credit scoring systems. Our AI Studio developed proprietary machine learning models, and utilized existing ones, to meticulously analyze various metrics, including customer payment histories, credit bureau reports, and specific transaction data.

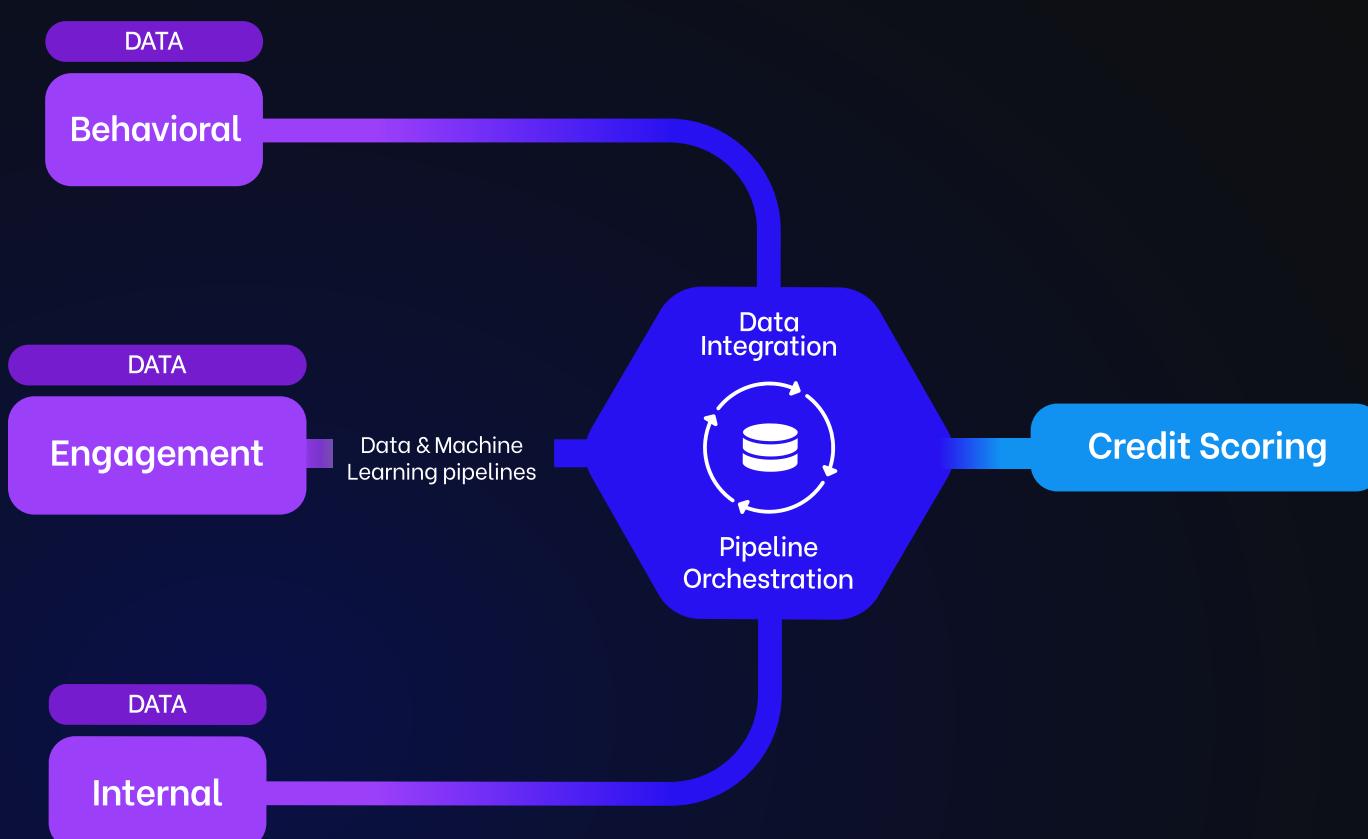
Such a detailed analysis enabled them to create a dynamic and adaptable system that could respond to changing circumstances and individual customer profiles.

Moreover, our efforts have led to the development of over **15 productive machine learning models**, while simultaneously **slashing the costs of data initiatives by 60%**.

### The outcomes include

- Significantly reduced default rates.
- Improved cash flows.
- Enhanced customer experience with accurate & personalized assessments.

## AI-driven credit assessments



# Success stories of industry leaders implementing AI

## Building an AI-driven marketing platform

Our client that manages **\$3 billion+ in assets and provides trading and analysis solutions**, has built a modern data infrastructure that is now serving as the foundation for an AI-driven marketing platform.

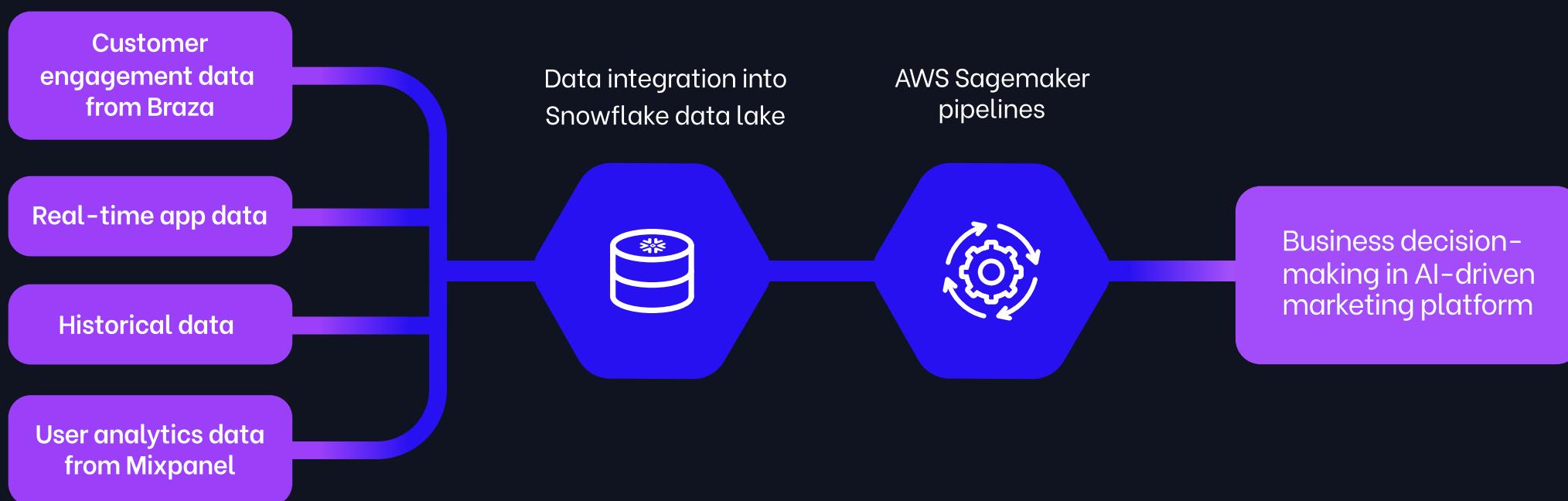
The first step involved establishing a centralized Snowflake data lakehouse, to streamline data integration from various sources.

Next, we created the platform that enabled tailored marketing campaigns. These campaigns use scoring models powered by machine learning, through an AWS SageMaker – Snowflake integration.

### The outcomes include

- Enhanced customer engagement insights for the marketing team, fueling targeted campaigns.
- Customized product offerings to customers, derived from their financial profiles using machine learning models.
- Utilization of dashboards linked to the data for tracking critical business metrics, enabling informed decision-making.

Enhanced business decision-making via an **AI-driven** marketing platform



# Success stories of industry leaders implementing AI

## Building a state-of-the-art Large Language Model for one of the world's leading educational institutions

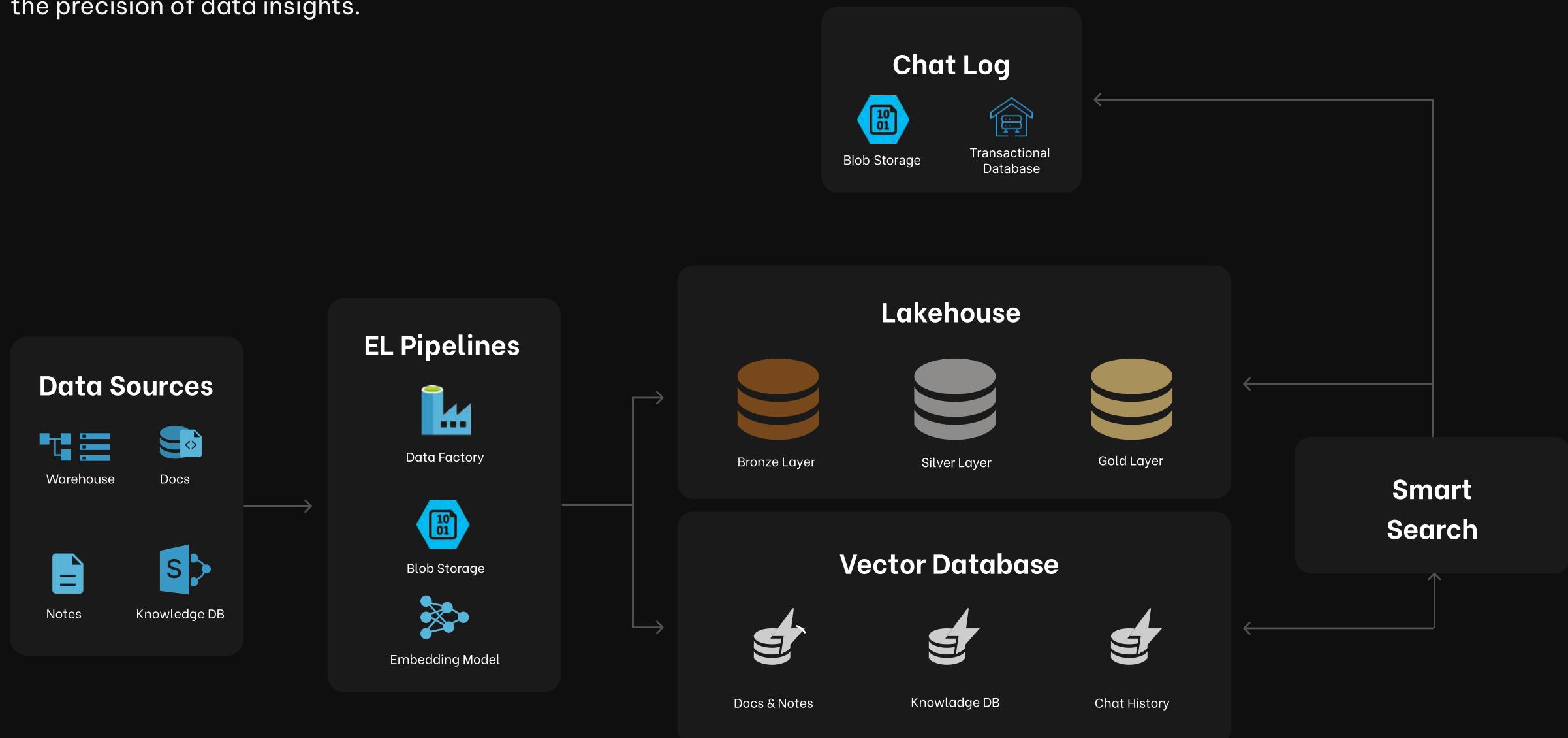
For one of the largest and most respected educational institutions in North America, we're building a new Large Language Model (LLM) to provide the organization a way to use natural language prompts to gain new insights.

We crafted an **agnostic LLM solution, enabling efficient querying of unstructured and structured data**. By migrating to an Azure cloud-based data platform and integrating a vector database, we optimized embedded requests and similarity searches. This move, coupled with our shift of the document database to Azure, improved accessibility significantly.

Through strategic prompt engineering and a three-phase LLM architecture, we reduced hallucinations, enhancing the precision of data insights.

### The outcomes include

- Quick access to business insights and crucial organizational information using natural language.
- More accessibility to data, removing barriers like SQL knowledge to get information.
- Enterprise grade security to safeguard operations and instill stakeholder confidence.



# Based on our experience with our clients, we have 3 key recommendations

1  
AI solutions require multi-faceted teams

The creation of **AI products transcends the singular expertise of machine learning engineers**. It's a symphony of specialized roles—data engineers laying the groundwork with robust data pipelines, **data analysts unlocking insights to steer AI projects**, **machine learning engineers translating these insights into scalable models**, and **data scientists pushing the boundaries of innovation**.

We have witnessed firsthand how this multidisciplinary collaboration is pivotal, ensuring data integrity, enhancing model refinement, and achieving seamless integration into products or services. Embracing this holistic approach not only navigates the complexities of AI development but also amplifies the impact of digital solutions.

2  
The virtuous circle of AI and data quality

While high quality data is the bedrock of AI systems, these systems can in turn play a major role in improving data quality. For example, they excel in automating data cleansing, a pivotal step towards ensuring data integrity and reliability. **By intelligently identifying inconsistencies, duplicates, and inaccuracies in datasets, large language models streamline the data preparation process.**

When working with businesses, we've seen how this not only accelerates the path from data to insights but also enhances the accuracy of analytics and machine learning models. It can quickly become a virtuous circle, which empowers businesses to unlock the full potential of their data, facilitating informed decision-making and driving unparalleled efficiency in their operations.

3  
AI as the catalyst for hidden connections and innovations

Use AI to see the correlations between disparate data sets and databases. This approach takes advantage of one of the core strengths of AI – that is, enabling the exploration of complex interconnections that might otherwise remain hidden, paving the way for new insights, product enhancements, and innovations.

Based on our experience, we believe that the strength of AI in revealing these correlations will foster a new wave of product development that is both AI-driven and enhanced through human-AI collaboration.

## Summary

**The journey of AI implementation in businesses is complex, nuanced, and full of potential.** In 2024 it can no longer be an add-on but rather needs to be considered as a core component of business strategy and operations.

**At Qubika, we believe in the transformative power of AI, and through our expertise, research, and client success stories, we aim to inspire and guide businesses to realize their full potential in the AI era.**



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