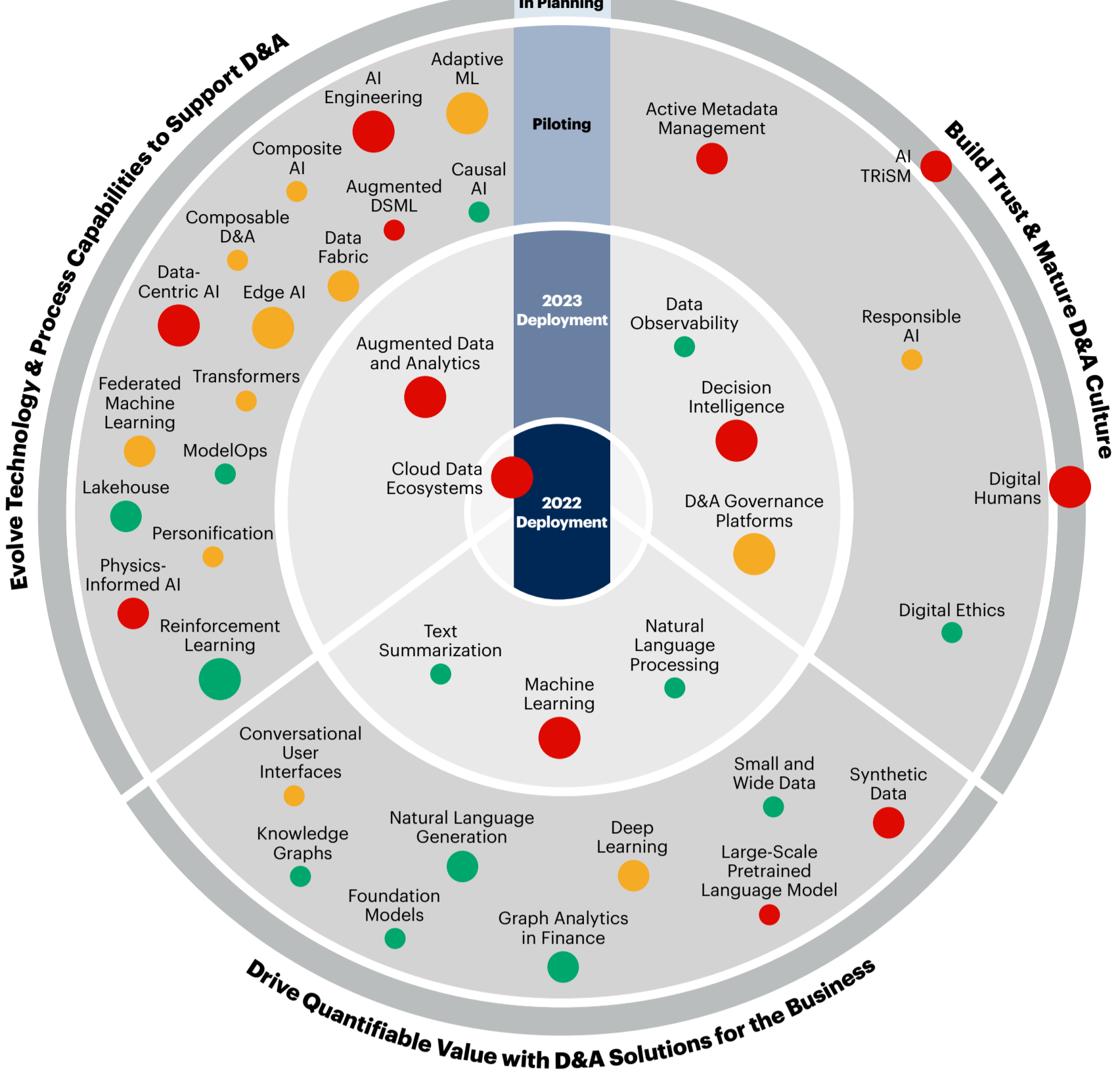


# 2023 Technology Adoption Roadmap for Data and Analytics

This research helps data and analytics leaders parse through the key adoption challenges, value and risk perceptions as well as deployment timelines for 38 key emerging D&A technologies. Data from 150 D&A executives was analyzed to curate ten key technology trends for 2023.



### Enterprise Value

The value factor awarded to each technology is based on the analysis of value drivers, including increases business value, reduces business risk, increases business speed and agility and reduces cost.



### Deployment Risk

The risk factor awarded to each technology is based on the analysis of potential risks posed, including talent unavailability, high technical complexity, high or unpredictable costs, and low business adoption.



### Adoption Phase

The adoption phase is determined by the current deployment plans for a majority of organizations. Technologies placed on the border between phases are on the cusp of moving into the next deployment phase.



## Key Take-Aways

- Business executives continue to have high expectations from their D&A capabilities, even though emerging D&A technology adoption is in early stages:** To meet business expectations in key strategic areas, D&A leaders are piloting (74%) emerging technologies, with 21% being deployed in 2023. However, among the 38 D&A technologies surveyed, none are fully adopted in the enterprise due to scaling challenges.
- Macroeconomic headwinds of 2023 have not significantly changed the investment focus of D&A leaders:** Sixty-one percent of D&A executives said that their primary response to deal with uncertainty in 2023 was to focus on foundational initiatives such as data quality and master data management, while 47% said that their primary focus will be AI initiatives.
- Recruiting, retaining and upskilling talent plague the majority of D&A leaders in 2023:** Forty-three percent of D&A executives who participated in this survey cited talent challenges as their key concern while running their data and analytics functions this year. D&A executives who work to reduce talent shortages, change management initiatives and data literacy have an above average success rate in comparison to their peers.
- D&A executives are investing in technologies that scale and enhance expertise as well as decision intelligence:** Knowledge graphs and graph analytics in finance that use data structures to explore the relationship between different aspects of an organization using graphs are in pilot. Physics-informed AI (PIA) technologies that incorporate physical and analog principles, governing laws and domain knowledge into AI models is also in pilot this year. Further, emerging technologies that enable decision intelligence in the organization are in deployment.
- User-focused emerging technologies that are easy to integrate in the business workflow are being prioritized:** This year, executives are piloting conversational user interfaces, natural language generation, transformers and large-scale pretrained language models. Text summarization emerging technologies are a stage ahead (in comparison to this cohort) and are in deployment, with full scale enterprise adoption expected in 2023.
- Emerging technologies that help with AI training data are pivotal for D&A executives:** Data-centric AI, synthetic data, small and wide data are in pilot this year. Synthetic data is being considered to reduce business risk in the enterprise, while data-centric AI, small and wide data, and deep learning models are being piloted to increase the speed of the business delivery.
- D&A executives are investing in a cutting-edge D&A architecture to drive business outcomes and operational efficiencies:** Lakehouse, composite AI and data fabric that provide end-to-end visibility and maintenance of enterprise D&A architecture are being piloted this year. There's also a push to create modular data and analytics architecture, leading to the composable D&A being piloted in 2023.
- Technology domains that automate, assist, streamline and analyze D&A resources are primarily a focus for leaders:** Augmented data and analytics, data observability and cloud data ecosystems are in deployment this year, with full deployment expected in 2022 (cloud data ecosystems) and 2023 (augmented D&A and data observability).
- There's a recognized need to create an ethical foundation for AI, but technical complexity causes adoption challenges:** D&A leaders are catching on to the trend around creating an end-to-end ethical foundation for their AI models, with emerging trends and technologies, such as responsible AI and digital ethics in pilot in 2023.
- Platforms that can deliver end-to-end D&A governance are preferred:** D&A governance platforms are considered high value and are in deployment this year, with full enterprise adoption expected in 2023. Further, Model Ops is being piloted, despite being considered low value by the survey respondents.

## Actionable, objective insight

Explore these additional complimentary resources and tools for data & analytics leaders:

<p><b>Roadmap</b></p> <p>5 Stages to Enhance Your 2023 Data and Analytics Strategy for Digital Growth</p> <p>Explore the Gartner data and analytics roadmap and drive business value.</p> <p><a href="#">Download Roadmap</a></p>	<p><b>Webinar</b></p> <p>The Gartner Predictions for 2023: Data and Analytics</p> <p>Assess market and organizational implications for the top 2023 data and analytics predictions.</p> <p><a href="#">Watch Now</a></p>
<p><b>Research</b></p> <p>Change Management and Communication Unlock Data-Driven Business Value</p> <p>Implement modern change management function an agile entity in your business.</p> <p><a href="#">Download Research</a></p>	<p><b>eBook</b></p> <p>Roles and Skills to Support Advanced Analytics and AI Initiatives</p> <p>Unlock the key D&amp;A skills and capabilities required for data-driven success.</p> <p><a href="#">Download eBook</a></p>

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