Enterprise Strategy Group™

BRIEF

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Oracle Database 23ai Unifies Data for Generative AI

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Abstract

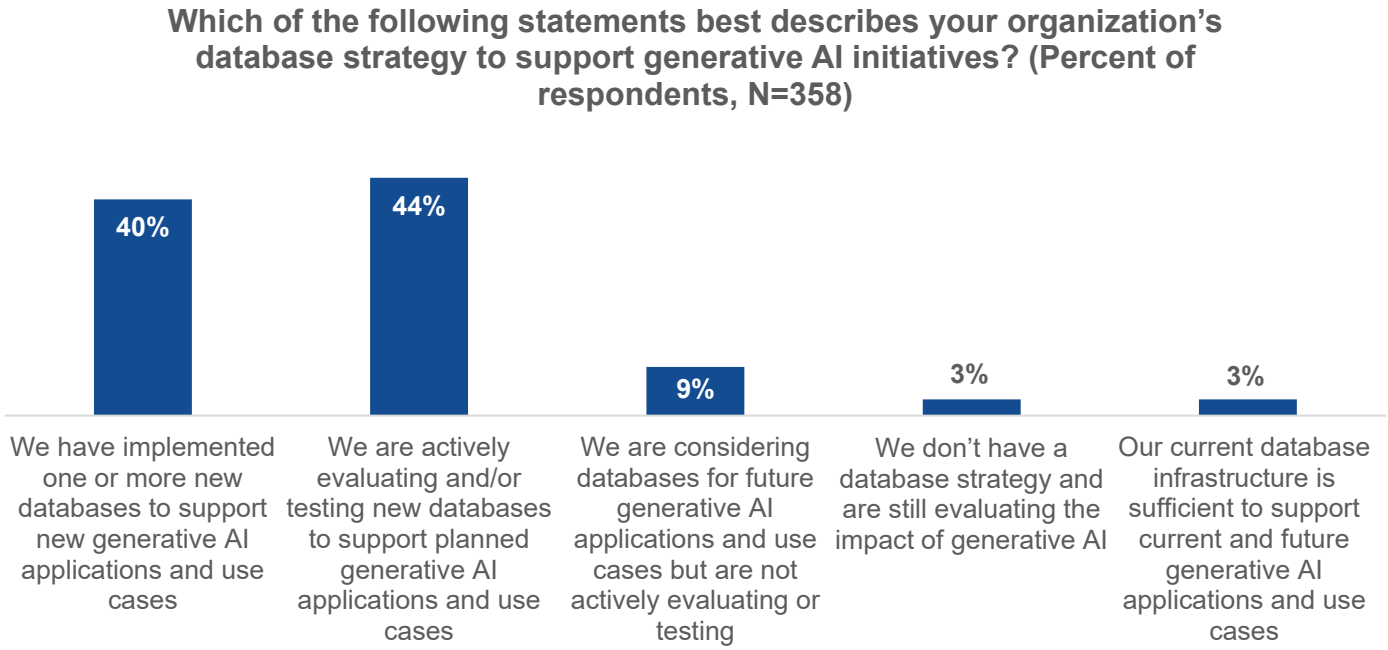
The rapid rise of generative AI (GenAI) applications has created an urgent demand for modern data platforms capable of supporting diverse, complex, and high-volume data requirements. Organizations are increasingly turning to converged databases that can efficiently manage structured, semi-structured, and unstructured data in a unified environment. Oracle Database 23ai addresses this need by providing a comprehensive, mission-critical solution. By consolidating all data types and AI development capabilities into a single platform, Oracle empowers organizations to accelerate generative AI initiatives while ensuring data security, governance, and operational efficiency. At the recent Oracle Database Analyst Summit, several Oracle executives presented the latest innovations while customers shared how they use Oracle technology to support AI initiatives. We find that Oracle's strategy aligns closely with our analysis of the role of databases in the generative AI market.

Analysis

A wide majority (84%) of organizations are implementing or evaluating new databases to support generative AI applications. This data and the strong growth in generative AI application development show a continuous expansion of database technologies being implemented now and moving forward to support the many generative AI initiatives across organizational ecosystems (see Figure 1).[1]

[1] Source: Enterprise Strategy Group Research Report, *Rethinking Database Requirements in the Age of AI*, February 2025. All research references and charts in this brief have been taken from this research report unless otherwise noted.

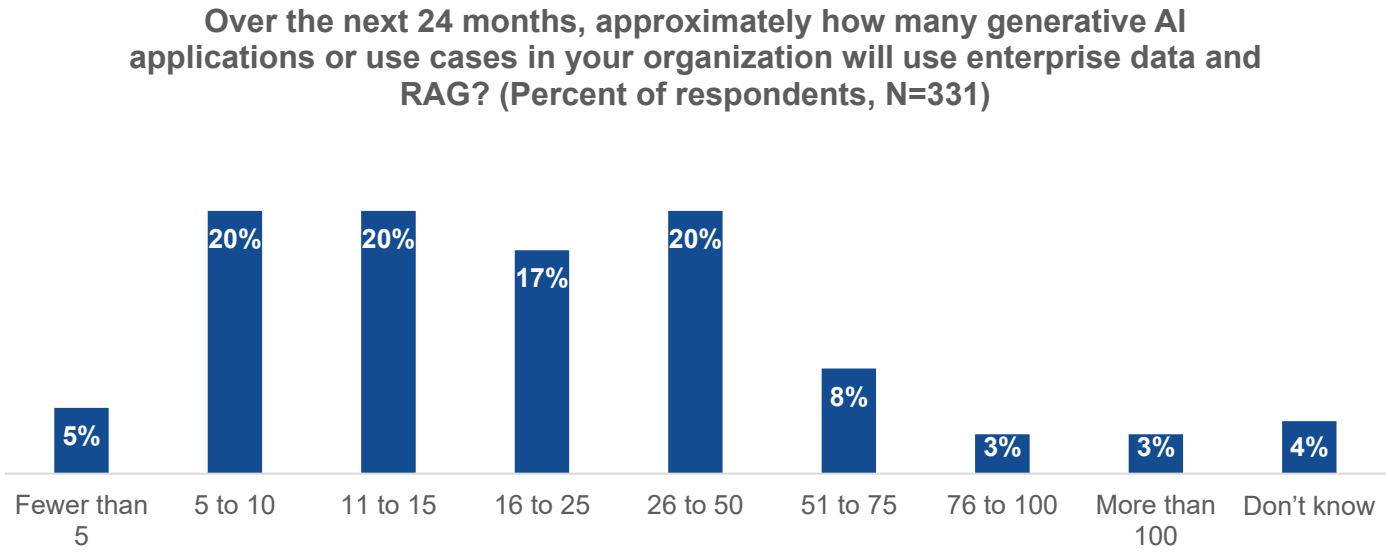
Figure 1. Database Strategy is Core to Generative AI Success



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

A significant contingent of organizations (71%) expected to implement 11 or more generative AI applications or use cases using enterprise data and retrieval-augmented generation within the next 24 months—with some planning to launch more than 50. This shows a massive ramp up in the plans for generative AI, including AI agents to empower decision-making, customer experiences, and even automate tasks, This represents many different types of enterprise data, all requiring database technology at the core to extract the important insights as the foundation for successful AI solutions built on trusted data (see Figure 2).

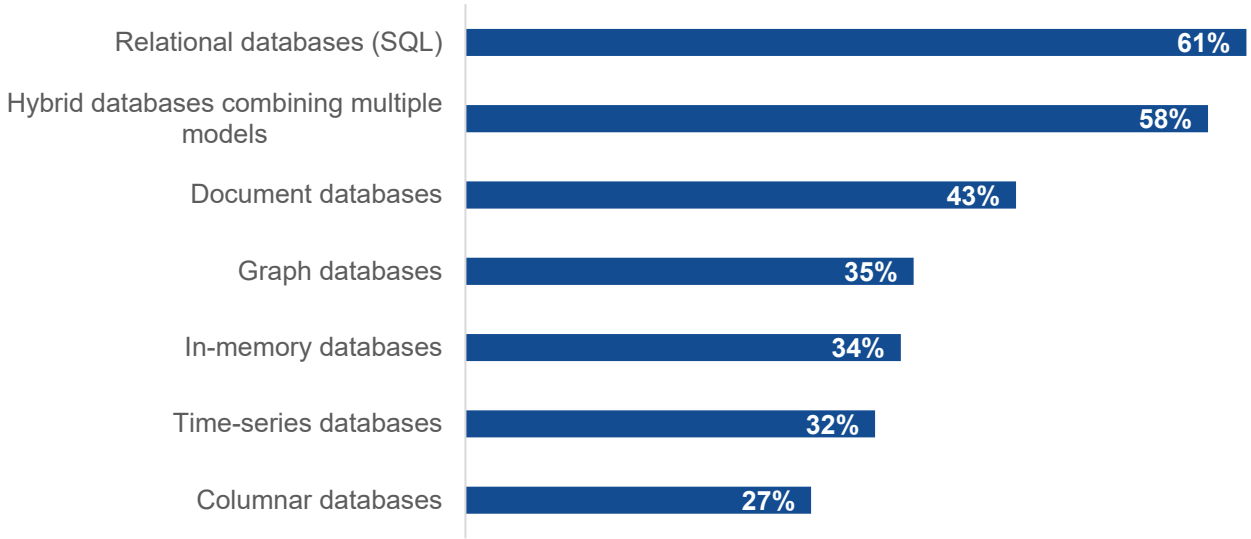
Figure 2. Strong Rise Planned for Generative AI Adoption With Enterprise Data



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Organizations reported a diverse mix of database requirements to support their generative AI initiatives. This strongly supports the need for a converged database to manage the multi-models, formats, and management of structured and unstructured data with consolidated security and governance. As shown in Figure 3, the foundation of enterprise data for generative AI is a mix of many types of data with specific attributes that need to be addressed.

Figure 3. Organizations Need Many Data Formats Supported for Generative AI



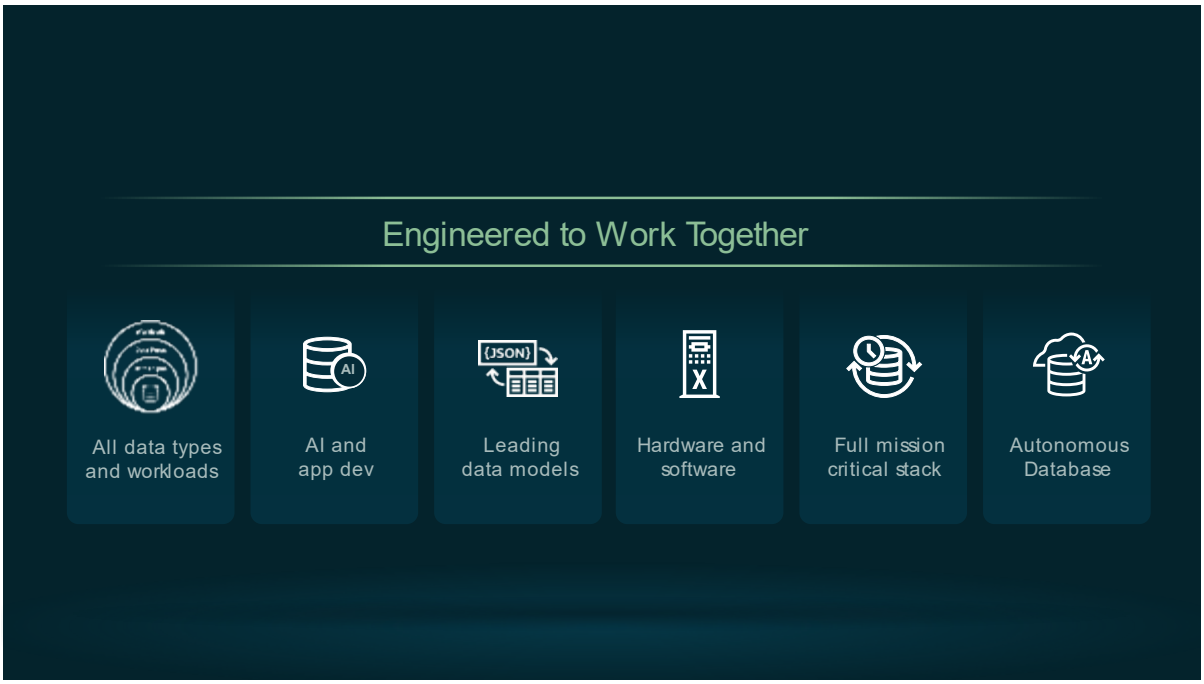
Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Instead of managing and integrating data across multiple specialized databases, Database Oracle 23ai and the Autonomous Database (fully managed version of 23ai) are engineered to deliver an integrated ecosystem that supports all data types and workloads. This comprehensive platform enables organizations to meet advanced AI and app development requirements by using Oracle AI Vector Search and AI Select in conjunction with leading large language models to ensure more accurate results, and developer productivity. By unifying hardware and software within a full mission-critical stack, Oracle enables consistent high performance, scalability, and security. The Autonomous Database further enhances this by automating data management tasks: provisioning, patching, backups, auditing, disaster recovery, and more, enabling businesses to focus on innovation while reducing operational overhead (see Figure 4).

In fact, one customer who presented at the summit noted that when searching vast media archives, speed is of the essence and shared that the AI Vector Search capability in Oracle Database 23ai deployed on Oracle Autonomous Database and running on Exadata is simplifying workflows and delivering a 7X vector search performance increase over their prior solution, improving the productivity of their post-production users.

Another customer uses Oracle Autonomous Database and AI Vector Search to analyze bacterial infections and provide tailored antibiotic recommendations. With this solution, they can rapidly analyze massive genomic data sets for advanced DNA sequencing, cutting diagnostic time from five days to under four hours and getting 50% better performance at one-third to one-half the cost of competitive offerings.

Figure 4. Oracle 23ai – Converged Database



Source: Oracle

Conclusion

The growing adoption of generative AI is fundamentally reshaping the data management landscape, requiring organizations to support a wider range of data types and workloads than ever before. Research clearly shows that enterprises recognize this challenge and are actively planning to scale their GenAI initiatives, which depend on the availability of trusted, well-managed data. To meet this demand, IT organizations must prioritize investments in converged databases such as Oracle Database 23ai that simplify operations, reduce complexity, and deliver consistent performance across all data formats and workloads. Enterprise Strategy Group recommends that any organization looking to build AI-powered solutions with enterprise data strongly consider Oracle.

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