



2024

AI and Analytics Report

Exasol

A surreal landscape with rolling orange hills under a dark sky. A large, glowing Earth is visible in the upper right, and a small figure of a person is walking on the hills in the distance.

AI in Business: Current Challenges, Opportunities and Future Trends

Business and tech professionals know that AI is critical for their business' viability, yet despite growing stakeholder pressure to implement the technology quickly, regulatory and technological challenges are slowing the process. This report investigates the current state of AI implementation, top data analytics challenges, and the future of the C-suite given the explosive growth of data and adoption of emerging technologies. It presents the findings from a research study from Exasol in partnership with Vanson Bourne, an independent research firm, which surveyed 800 senior decision-makers, data scientists and analysts across the financial, healthcare, retail, and telecommunications sectors in the US, UK, and Germany.

The focus is to assess enterprises' data and analytics initiatives, including their top challenges and how they are planning to address those challenges. The report therefore gives a clear and valuable understanding of the current attitudes towards the integration of AI in data and analytics, the anticipated changes in workforce dynamics, and the concerns facing organizations as they plan their future initiatives.

Key Findings

91 %

of respondents believe **AI is crucial** for organizations in the next two years, with 72% saying that **failing to invest in AI now** could jeopardize **future business viability**.

45 %

There is **increasing pressure** from stakeholders to adopt **AI technology**, with 45% of respondents feeling this pressure.



Respondents recognise the importance of **AI** for creating new businesses or revenue sources, augmenting **workforce roles**, enhancing **market competitiveness**, and **automating processes**.



Companies nevertheless face significant barriers in implementing **AI**, such as evolving **regulatory requirements**, lack of **clear strategy**, poor **data quality**, insufficient **data volume**, and integration challenges with existing systems.

78 %

of decision-makers have identified gaps in **data science** and their **Machine Learning models**, with **latency** being a major issue affecting the speed of implementing new data requirements and slow reporting performance.

52 %

The role of the **Chief Data Officer (CDO)** is expected to evolve due to the integration of **AI**, with 52% believing the CDO will need to collaborate more closely with other **C-suite executives**.



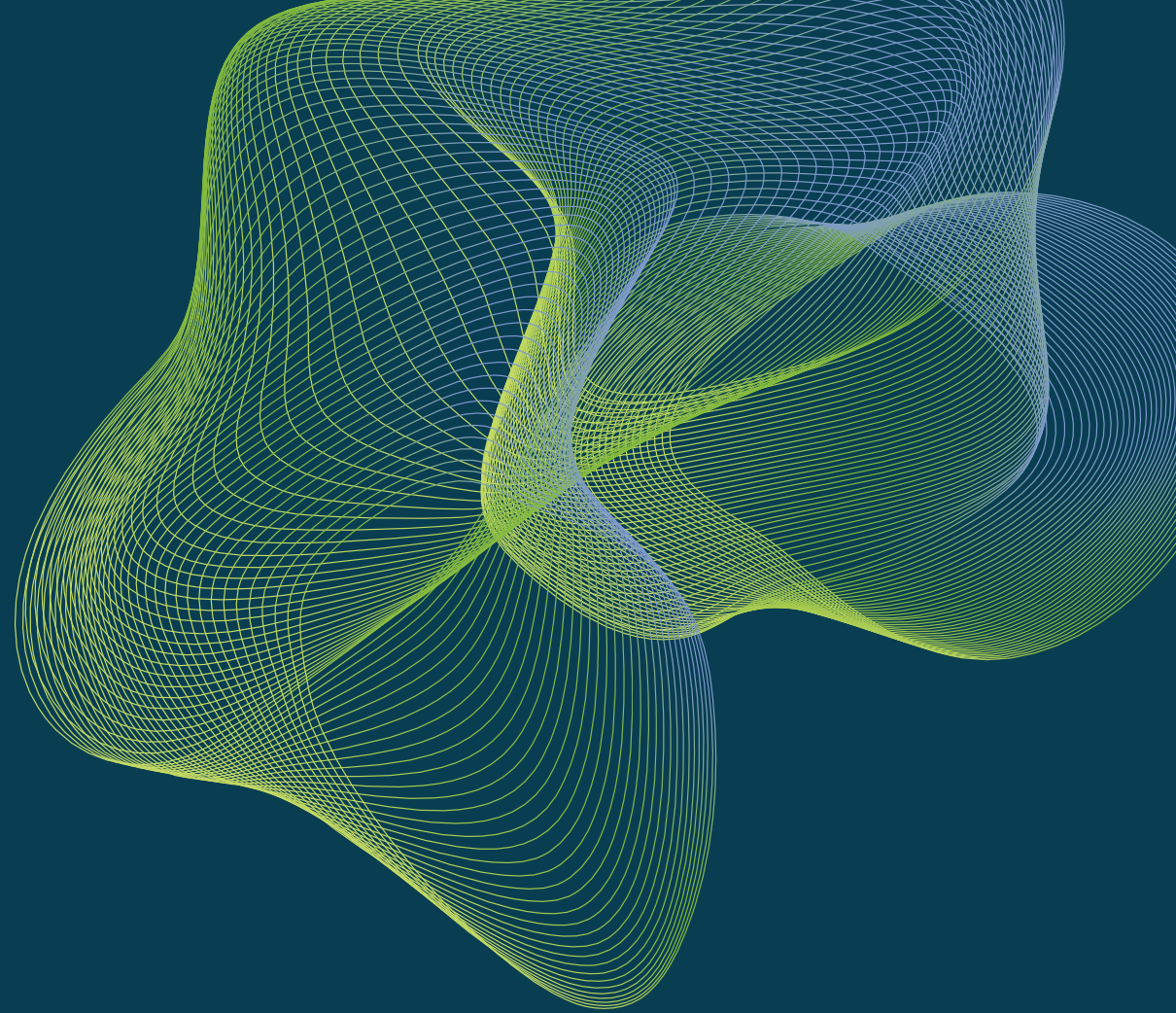
There is an **anticipated increase** in investment in **data-related roles**, but respondents also expressed concern that **Generative AI** may threaten existing jobs.

The Strategic Imperative of AI Adoption

Companies believe that not investing in AI will lead to failure, but there are significant barriers to implementation.

The consensus among decision-makers and technical analysts is unequivocal: AI isn't just a shiny new technology, but an essential tool for future business sustainability. An overwhelming 91% of industry respondents acknowledged AI as a pivotal topic for organizations within the next two years. Likewise, a striking 72% of these respondents see the failure to invest in AI today as a critical threat to their businesses' future, underscoring the perception that AI investment is no longer a luxury but a necessity for survival in an increasingly competitive landscape.

The urgency to adopt AI is further intensified by stakeholder pressure, with nearly half (45%) of decision-makers feeling the push to integrate AI technologies into their business models. This sense of urgency is driven by the broad potential of AI to spawn new business opportunities and revenue streams, which half of the respondents (50%) cited as a top reason for its importance. Additionally, AI is seen as a catalyst for reshaping workforce dynamics (47%), propelling businesses ahead in a competitive market (46%), and driving process automation to enhance efficiency (43%).





Challenges and Resilience in the AI Journey

Despite this widespread recognition of AI's power to transform, its adoption isn't without significant challenges.

A substantial 88% of respondents call attention to the complex bureaucracy surrounding AI, highlighting the need for clearer regulations and guidelines.

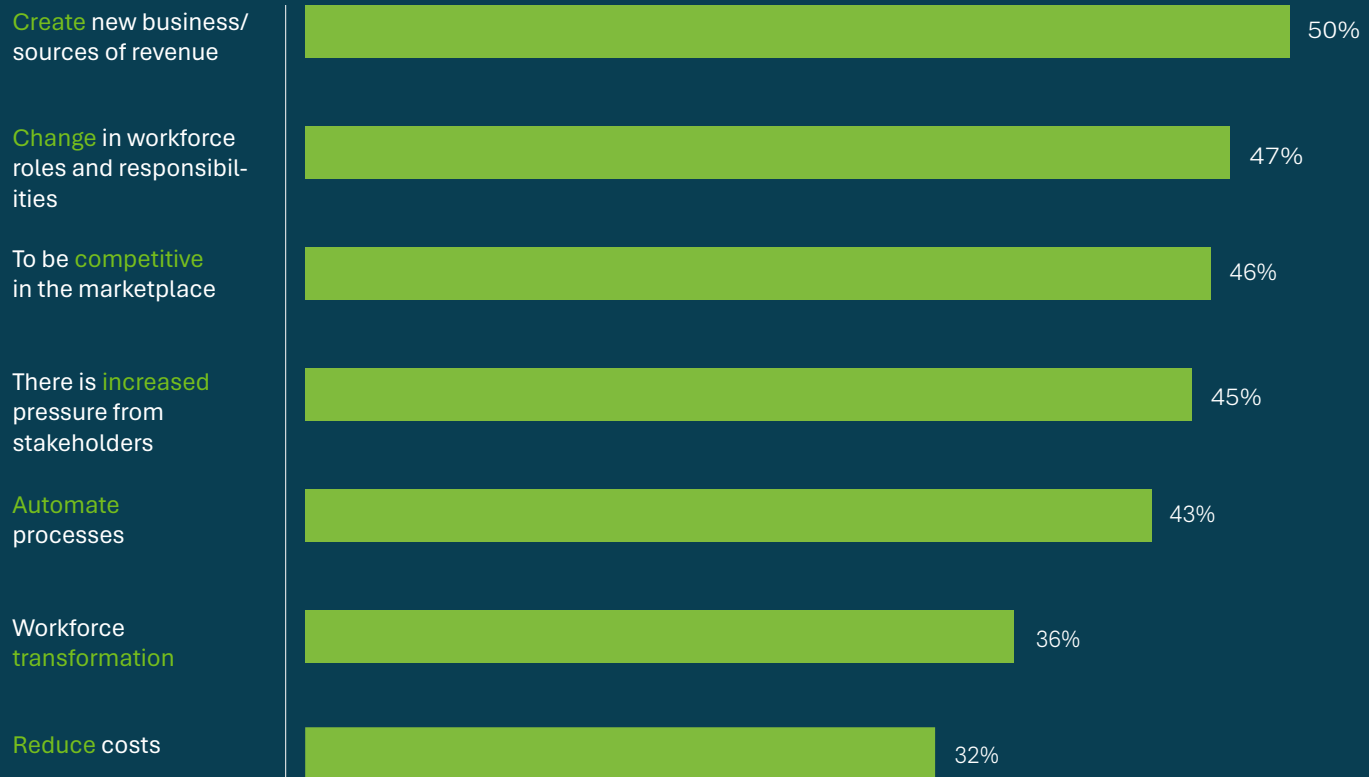
The obstacles to AI integration are multifaceted: 44% of respondents identify a lack of a strategic approach to implementation, while 43% are challenged by poor data quality or inadequate data volumes, and 38% face difficulties in

harmonizing AI with legacy systems. These challenges, while significant, have not dampened the resolve of organizations to advance their AI capabilities.

More than a third (38%) of businesses are planning to escalate their investment in AI infrastructure in the coming years. This statistic reflects a critical pivot point for enterprises as they acknowledge the need to navigate and overcome these barriers to harness the full potential of AI, not only to thrive but to simply survive in the future business ecosystem.

In summary, the drive toward AI adoption is marked by a keen awareness of its strategic importance and the cost of inaction. But the path forward is fraught with regulatory uncertainties, strategic deficiencies, data issues, and integration complexities. Companies are at a critical juncture where they must leap these hurdles to secure their place in a future where AI is integral to business success and operational viability.

Why is AI one of the most important topics in the next two years?



Overcoming Latency Challenges and Maximizing Potential

One of the most pressing issues the report identifies is the speed of implementation for new data requirements. Nearly half of the respondents (47%) pointed out that the time it takes to integrate new data sources or to adjust to changing data landscapes presents a considerable challenge. This delay in adaptation not only hampers the timely extraction of insights but also affects the decision-making processes that are increasingly reliant on data-driven strategies.

Despite the widespread adoption of Business Intelligence (BI) acceleration engines—technologies designed to enhance the efficiency of querying and reporting by integrating directly with BI tools—a significant portion of users (69%) report dissatisfaction with the performance of their reporting systems. These users experience slow reporting speeds, which can severely limit the ability of organizations to respond to market changes promptly and make informed decisions quickly.

Furthermore, an overwhelming 79% of respondents have voiced that the implementation of new business analysis re-

quirements by their data teams is too sluggish. This bottleneck in adapting to new analytical demands not only affects the organization's agility but also its capacity to innovate and stay ahead in a competitive landscape. The delay in translating new business requirements into actionable data analytics and AI projects signifies a critical gap between the potential of these technologies and their practical, timely application in business contexts.

In brief, while the promise of data analytics and AI to transform businesses is undeniable, the prevalent issue of latency poses a significant challenge to achieving these goals. Organizations must address the gaps in their data processing and analysis capabilities to mitigate the impacts of latency. This involves investing in advanced technologies, optimizing data architectures, and fostering closer collaboration between data teams and business stakeholders. By overcoming these challenges, organizations can unlock the full potential of their data analytics and AI initiatives, driving innovation and securing a competitive edge in the digital era.

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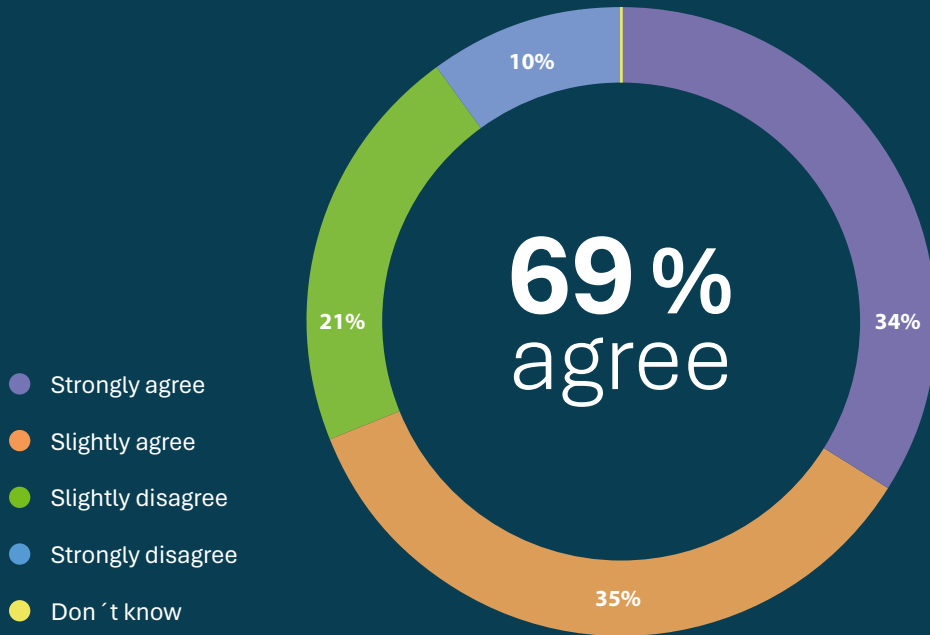
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79%

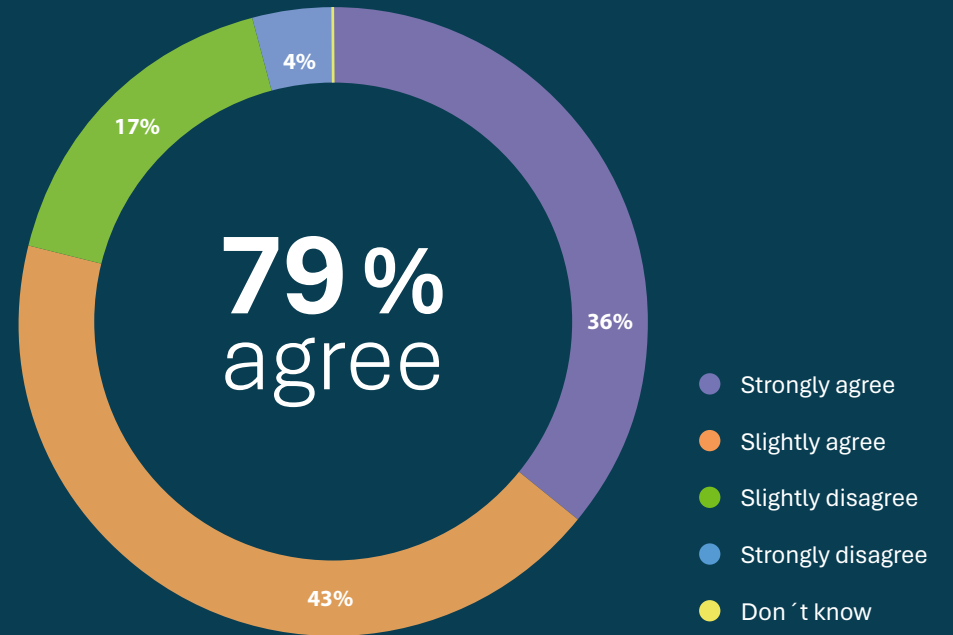
of the respondents are dissatisfied with the performance of their data teams.

BI Reporting Challenges and New Business Implementation

BI users are struggling with **slow reporting performance**



New business analysis requirements take too long to be implemented by the data/BI teams



Growing data volumes and AI acceleration will make the Chief Data Officer's role more integrated, impactful, and challenging

As changes to the data and analytics teams are seen as unavoidable, respondents believe that those in more senior roles must also evolve and respond as AI technologies integrate with the data and analytics ecosystem. The vast majority of those surveyed believe that the Chief Data Officer role in particular will remain, but that it is poised for a significant transformation in many different ways.

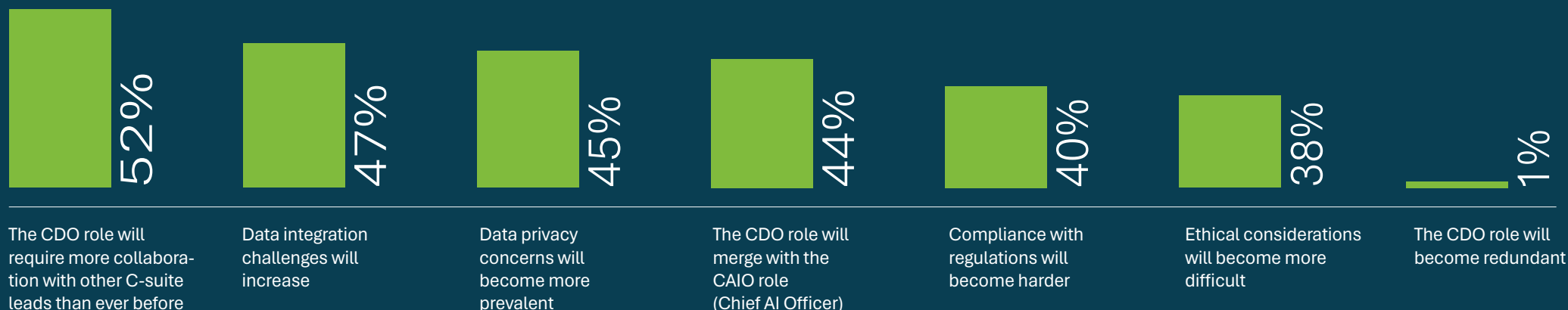
As organizations increasingly integrate AI into their operations, the CDO's responsibilities are expanding beyond traditional data management and governance to encompass infrastructure development, AI-driven automation, and the derivation of

insights from advanced analytics. More than half of the industry leaders surveyed (52%) foresee the CDO's role evolving to necessitate a more collaborative approach with other executives within the C-suite. This shift is indicative of the heightened strategic importance of data and AI in driving business outcomes. A noteworthy 44% of respondents predict that the functions of the CDO will converge with those of the Chief AI Officer, underscoring the interdependency of data strategy and AI initiatives.

As organizations navigate the complex terrain of AI integration, the CDO will also play a critical role in addressing ethical

considerations and compliance issues. The intersection of data governance and AI ethics is becoming a focal point for CDOs, as they must ensure that AI systems are transparent, fair, and comply with regulatory standards.

Looking ahead at business strategic planning, there's a unanimous agreement among 90% of enterprises that they will ramp up their investment in human resources and budgets over the next two years to accommodate the anticipated data growth and data use. This is a clear indication that businesses are preparing to scale their data capabilities in anticipation of future needs.





The Future Outlook

In terms of specific roles, there is an expectation of increased demand for BI/analytics developers and engineers, as well as data analysts and data architects/modelers, each category expected to see a nearly 50% rise in headcount. These roles are essential for extracting value from large datasets and transforming them into actionable business insights.

Despite this optimistic outlook on job growth, nearly half of the survey participants (47%) express apprehension that Generative AI may pose a risk to their current roles. This concern reflects a broader uncertainty about the impact of AI on the job market, where automation and advanced AI capabilities have the potential to redefine professional landscapes.

The CDO's position is therefore becoming more central, influential, and complex as responsibility for the increased headcount will fall under the role and as data volumes surge and AI capabilities advance. The future will require CDOs to be versatile, navigating new technological frontiers while fostering collaboration across organizational hierarchies and ensuring ethical standards are upheld. As enterprises prepare to scale their data and AI operations, it is imperative that they also address the workforce concerns related to AI's impact on employment, ensuring that the transition to a more AI-integrated future is managed with foresight and sensitivity to the evolving role of human capital.

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AI has become critical to business success, but it's only as effective as the tools, technology and people powering it on the backend. Our study further proves there is a significant gap between current BI tools and their output – more tools does not necessarily mean faster performance or better insights. As CDOs prepare for more complexity and are tasked to do more with less, they must evaluate the data analytics stack to ensure productivity, speed, and flexibility – all at a reasonable cost.

— **Joerg Tewes**, CEO of Exasol

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Conclusion

The findings from this report provide a compelling narrative about the indispensable role of AI in contemporary business. Despite the enthusiasm for AI's potential, businesses must navigate significant challenges, including data quality issues, regulatory uncertainty, and integration complexities.

This report finds that the successful implementation of AI is not just about the technology, but also about the strategic alignment and governance frameworks that underpin its adoption.

Appendix

Methodology

The insights in this report are based on research into data, analytics, and AI commissioned by Exasol from Vanson Bourne, an independent market research firm. The study surveyed 800 senior decision-makers in IT and non-IT roles, as well as data scientists/analysts, in November 2023.

Respondents were from the US, UK and Germany, and from organizations with 1,000 or more employees, across the following sectors: financial services, healthcare (public and private), retail and telecommunications. All interviews were conducted using a rigorous multi-level screening process to ensure that only suitable candidates were given the opportunity to participate, and all respondents had some responsibility or knowledge of their organizations' data science and analytics strategy or program.



About Exasol

Exasol is the high-performance analytics database provider bringing increased productivity, cost-savings and flexibility to redefine how businesses use data – on their own terms, without having to compromise.

Exasol helps companies transform business intelligence (BI) into better insights with Exasol Espresso, the world's fastest, most versatile query engine that plugs into existing data stacks. With its purposely-built columnar database, Massively Parallel Processing architecture and auto-tuning capabilities, Espresso serves as an easy-to-deploy BI accelerator, working with any data tool to turbocharge complex queries and deliver insights at blazing speeds. With Exasol Espresso, organizations can turn higher volumes of data into faster, deeper and cheaper insights.

Exasol also provides an unmatched price-performance ratio, with over 300% ROI through reduced licensing, implementation, maintenance and training costs. With Exasol, businesses have the flexibility to manage data in the cloud, SaaS, on-premises, or hybrid, without rip-and-replace disruption.

Join the world's biggest brands – like T-Mobile, Piedmont Healthcare, and Allianz – and leave the competition behind with Exasol. Start accelerating your insights to the speed of now, without compromising.

The Exasol logo features the word "Exasol" in a white, sans-serif font. The letter "x" is highlighted in a vibrant green color.

About Vanson Bourne

Vanson Bourne is an independent specialist in market research for the technology sector. Their reputation for robust and credible research-based analysis is founded upon rigorous research principles and their ability to seek the opinions of senior decision-makers across technical and business functions, in all business sectors and all major markets. For more information, visit www.vansonbourne.com.

The Vanson Bourne logo consists of a stylized icon on the left, composed of two overlapping shapes: a light grey one and a teal one. To the right of the icon, the words "VansonBourne" are written in a white, sans-serif font.



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