AI Model Risk Management Market In 2029

The Business Research Company's AI Model Risk Management Global Market Report 2025 - Market Size, Trends, And Global Forecast 2025-2034

LONDON, GREATER LONDON, UNITED KINGDOM, December 31, 2025 /EINPresswire.com/ -- AI Model Risk Management Market to Surpass $11 billion in 2029. Within the broader Information Technology industry, which is expected to be $12,711 billion by 2029, the AI Model Risk Management market is estimated to account for nearly 0.1% of the total market value.

Top 5 Segments

AI Model Risk Management Global Market Report 2025

Solution
Cloud-Based
Large Enterprises
On-Premise
Small And Medium-sized Enterprises (SMEs)

$5B $4B $4B $3B $3B

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AI Model Risk Management Market Forecast

Which Will Be the Biggest Region in the AI Model Risk Management Market in 2029

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North America will be the largest region in the AI model risk management market in 2029, valued at $4,025 million. The market is expected to grow from $2,324 million in 2024 at a compound annual growth rate (CAGR) of 12%. The rapid growth can be attributed to the expansion of internal audit and compliance functions and rise in use of artificial intelligence (AI) and machine learning (ML) models in regulated industries.

Which Will Be The Largest Country In The Global AI Model Risk Management Market In 2029?
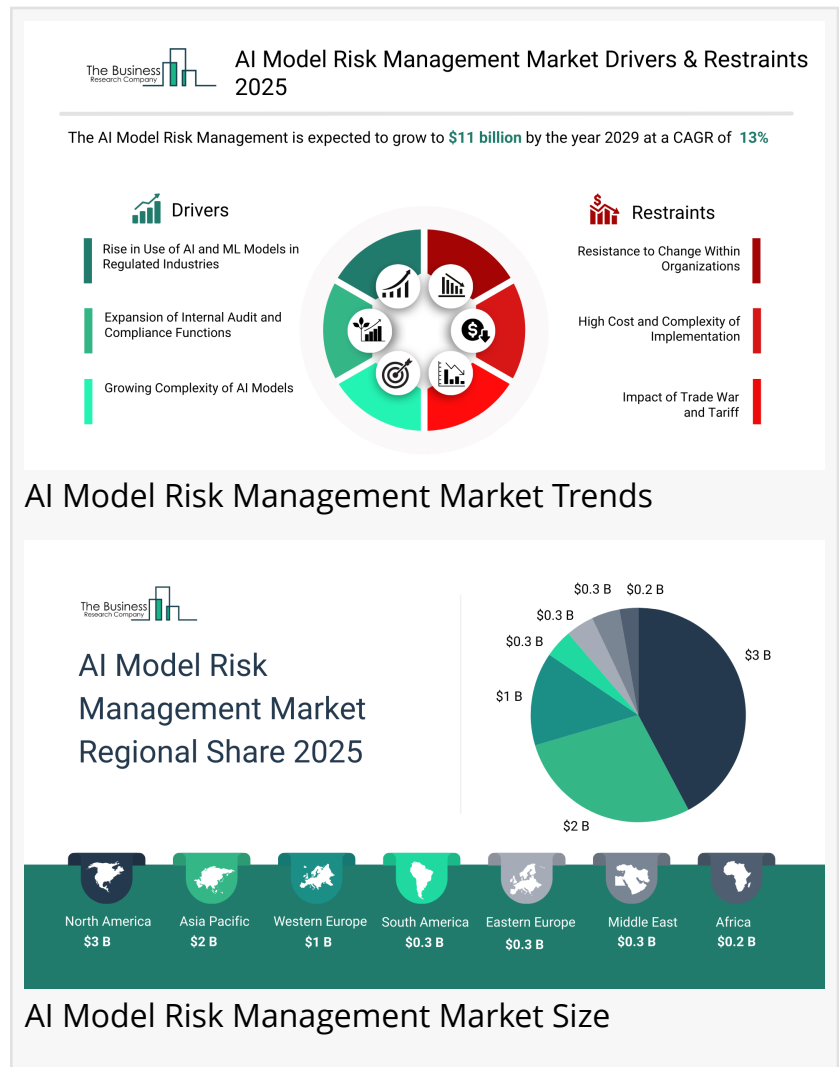
The USA will be the largest country in the AI model risk management market in 2029, valued at $3,571 million. The market is expected to grow from $2,050 million in 2024 at a compound annual growth rate (CAGR) of 12%. The rapid growth can be attributed to the expansion of internal audit and compliance functions and rise in use of artificial intelligence (AI) and machine learning (ML) models in regulated industries.

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What will be Largest Segment in the AI model risk management Market in 2029?

The AI model risk management market is segmented by component into solution and service. The solution market will be [the largest segment of the AI model risk management market](#) segmented by component, accounting for 68% or $7,461 million of the total in 2029. The solution market will be supported by its ability to provide advanced predictive analytics, real-time monitoring, automated decision-making, enhanced risk assessment and mitigation through machine learning algorithms, personalized, data-driven insights, growing need for regulatory compliance, increased adoption of artificial intelligence (AI) technologies across industries, rising concerns over cybersecurity, need for faster, more accurate risk analysis, scalability, integration capabilities with existing systems and improved operational efficiency.

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AI Model Risk Management Market Drivers & Restraints 2025

The AI Model Risk Management is expected to grow to **$11 billion** by the year 2029 at a CAGR of **13%**

Drivers
- Rise in Use of AI and ML Models in Regulated Industries
- Expansion of Internal Audit and Compliance Functions
- Growing Complexity of AI Models

Restraints
- Resistance to Change Within Organizations
- High Cost and Complexity of Implementation
- Impact of Trade War and Tariff

AI Model Risk Management Market Trends

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AI Model Risk Management Market Regional Share 2025

Region	Value
North America	$3 B
Asia Pacific	$2 B
Western Europe	$1 B
South America	$0.3 B
Eastern Europe	$0.3 B
Middle East	$0.3 B
Africa	$0.2 B

AI Model Risk Management Market Size

The AI model risk management market is segmented by deployment mode into cloud-based and on-premise. The cloud-based market will be the largest segment of the AI model risk management market segmented by deployment, accounting for 68% or $ 7,513 million of the total in 2029. The cloud-based market will be supported by its scalability, flexibility, cost-effectiveness, ability to provide real-time data processing, ease of integration with existing systems, enhanced collaboration across teams, secure storage and backup solutions, reduced IT (information technology) infrastructure costs, quick deployment, seamless updates and maintenance and the ability to handle large volumes of data efficiently.

The AI model risk management market is segmented by organization size into large enterprises and small and medium-sized enterprises (SMEs). The large enterprises market will be the largest segment of the AI model risk management market segmented by organization size, accounting for 61% or $6,756 millon of the total in 2029. The large enterprises market will be supported by its ability to handle complex risk profiles, access to vast amounts of data for more accurate predictions, scalability to manage growing risks, integration with advanced information technology (IT) infrastructure, ability to customize solutions based on specific business needs,

enhanced compliance with global regulatory standards, robust security protocols, real-time risk monitoring across multiple departments, improved decision-making capabilities and a high capacity for adopting and implementing artificial intelligence (AI)-driven risk management strategies.

The AI model risk management market is segmented by application into model documentation, model governance, model monitoring and model validation. The model validation market will be the largest segment of the AI model risk management market segmented by application, accounting for 34% or $3,726 million of the total in 2029. The model validation market will be supported by its ability to ensure the accuracy and reliability of artificial intelligence (AI) models, verify compliance with regulatory standards, reduce the risk of model errors or biases, improve model performance through rigorous testing, enhance trust and confidence in artificial intelligence (AI) systems, ensure alignment with business objectives, provide objective performance metrics, facilitate model optimization and refinement, support decision-making through validated outcomes and maintain model transparency and accountability.

The AI model risk management market is segmented by industry vertical into banking, financial services & insurance, healthcare, information technology (IT) & telecommunications, retail e-commerce and other industry vertical. The information technology (IT) & telecommunications market will be the largest segment of the AI model risk management market segmented by industry vertical, accounting for 33% or $3,609 million of the total in 2029. The information technology (IT) & telecommunications market will be supported by its ability to enhance network performance monitoring, predict and mitigate service outages, optimize traffic management, improve cybersecurity through anomaly detection, enable real-time risk assessment, reduce operational costs, support regulatory compliance, provide data-driven insights for customer experience improvement, increase efficiency in network management and facilitate rapid response to emerging risks and threats.

What is the expected CAGR for the AI Model Risk Management Market leading up to 2029?
The expected CAGR for the AI model risk management market leading up to 2029 is 13%.

What Will Be The Growth Driving Factors In The Global AI model risk management Market In The Forecast Period?
The rapid growth of the global AI model risk management market leading up to 2029 will be driven by the following key factors that are expected to reshape risk oversight, regulatory compliance, and operational efficiency in organizations worldwide.

Rise In Use Of AI And ML Models In Regulated Industries – The rise in use of artificial intelligence (AI) and machine learning (ML) models in regulated industries will become a key driver of growth in the AI model risk management market by 2029. As artificial intelligence (AI) systems are deployed in high-impact areas such as credit scoring, medical diagnostics and compliance monitoring, even minor failures can lead to significant financial, legal and reputational consequences. These incidents highlight the urgent need for frameworks that ensure continuous

monitoring, performance validation and risk mitigation throughout the model lifecycle. Organizations are increasingly adopting comprehensive governance platforms to proactively detect and manage model risks, reinforcing accountability and building trust in AI-driven decisions. As a result, the rise in use of artificial intelligence (AI) and machine learning (ML) models in regulated industries is anticipated to contributing to a 1.5% annual growth in the market.

Expansion Of Internal Audit And Compliance Functions – The expansion of internal audit and compliance functions will emerge as a major factor driving the expansion of the market by 2029. As artificial intelligence (AI) and machine learning (ML) models become integral to decision-making in regulated environments, internal audit teams are tasked with ensuring these models are transparent, explainable and compliant with evolving regulatory standards. This has led to increased investment in tools that offer standardized governance, version control and audit trails for model development and deployment. Organizations are prioritizing integrated risk management platforms that support documentation, traceability and validation core requirements for meeting internal compliance mandates and external regulatory scrutiny. Consequently, the expansion of internal audit and compliance functions is projected to contributing to a 1.0% annual growth in the market.

Growing Complexity Of AI Models - The growing complexity Of artificial intelligence (AI) models will serve as a key growth catalyst for the market by 2029. As models evolve to include deep learning architectures, ensemble methods and multi-source data inputs, their behaviour becomes more difficult to interpret, validate and control. This complexity raises concerns around bias, performance drift, explainability and regulatory compliance. Organizations are now investing in sophisticated risk management frameworks that can handle advanced model architectures, monitor ongoing performance and ensure transparency across the AI lifecycle. Therefore, this growing complexity of artificial intelligence (AI) models is projected to supporting to a 0.7% annual growth in the market.

Increase In Model Failure Incidents - The increase in model failure incidents will become a significant driver contributing to the growth of the market by 2029. As more laboratories engage in large-scale sequencing, gene editing and molecular diagnostics, manual extraction methods become impractical due to time and labor constraints. Automated systems enable faster processing of diverse sample types with consistent quality, accelerating research timelines. This growth in genomic research thus directly fuels market adoption and innovation in automated extraction technologies. Consequently, the increase in model failure incidents is projected to contributing to a 0.5% annual growth in the market.

Access the detailed AI Model Risk Management Market report here:
https://www.thebusinessresearchcompany.com/report/ai-model-risk-management-global-market-report

What Are The Key Growth Opportunities In The AI Model Risk Management Market in 2029?

The most significant growth opportunities are anticipated in the cloud-enabled AI model risk management market, the AI model risk management assurance solutions market, the large enterprise AI model risk management market, the AI model risk management for validation and risk oversight market, and the AI model risk management for IT–telecom market. Collectively, these segments are projected to contribute over $13 billion in market value by 2029, driven by escalating regulatory pressures, the rapid proliferation of enterprise-scale AI systems, and the increasing need for transparent, auditable, and trustworthy model lifecycle controls. This momentum is further reinforced by rising adoption of cloud-native artificial intelligence (AI) architectures, expanding deployment of high-risk artificial intelligence (AI) applications across critical sectors, and heightened demand for automated, real-time model monitoring capabilities. As organizations accelerate digital transformation and confront growing artificial intelligence (AI) governance challenges, these markets are positioned to play a pivotal role in shaping resilient, scalable, and compliant AI ecosystems—fuelling transformative growth within the broader AI model risk management industry.

The cloud-enabled AI model risk management market is projected to grow by $3,652 million, the AI model risk management assurance solutions market by $3,329 million, the large enterprise AI model risk management market by $2,900 million, the AI model risk management for validation and risk oversight market by $1,725 million, and the AI model risk management for IT–telecom market by $1,668 million over the next five years from 2024 to 2029.

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The Business Research Company
Americas +1 310-496-7795
Europe +44 7882 955267
Asia & Others +44 7882 955267 & +91 8897263534

Email: info@tbrc.info

Oliver Guirdham
The Business Research Company
+44 7882 955267
info@tbrc.info
Visit us on social media:
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Facebook
X

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