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AI Model Risk Management Market Forecasts to 2032 – Global Analysis By Offering (Software and Services), Deployment Model (On-premise, Cloud-based and Hybrid), Risk Type, Application, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global AI Model Risk Management Market is accounted for $6.54 billion in 2025 and is expected to reach $17.31 billion by 2032 growing at a CAGR of 14.9% during the forecast period. The processes, frameworks, and controls used to identify, evaluate, track, and reduce risks related to the creation, application, and deployment of artificial intelligence models are collectively referred to as AI Model Risk Management (AI MRM). These risks may include operational failures, bias, overfitting, a lack of explanation, problems with data quality, and non-compliance with regulations. Thorough model validation, ongoing performance monitoring, model design and assumption documentation, edge case stress testing, and the establishment of governance frameworks to guarantee accountability are all necessary for effective AI MRM. Organizations can improve model reliability, foster trust, and adhere to changing legal and ethical requirements by proactively managing these risks.

According to the National Institute of Standards and Technology (NIST), the AI Risk Management Framework (AI RMF) was developed over 18 months through a transparent, multi-stakeholder process involving more than 240 organizations—spanning industry, academia, civil society, and government—to establish a voluntary, flexible resource that fosters trustworthy and responsible AI across all sectors and use cases.

Market Dynamics:

Driver:

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AI adoption across industries

AI is being quickly implemented in industries like manufacturing, logistics, retail, public safety, education, and even agriculture; it is no longer limited to tech giants or specialized use cases. Every one of these sectors has distinct requirements for risk management and compliance. Moreover, the FDA, for instance, has proposed rules for AI in medical devices that call for ongoing revalidation of continuous learning systems. According to national road safety regulations, artificial intelligence (AI) used in autonomous vehicles must pass safety and reliability testing. As more industries look for specialized governance frameworks that address their unique operational risks, the number of organizations that require AI MRM capabilities increases due to this sectoral expansion, propelling market growth.

Restraint:

Lack of qualified professionals

AI MRM is a relatively new field that combines technical AI knowledge with expertise in cybersecurity, ethics, risk governance, and regulatory compliance. There is a talent bottleneck because this skill intersection is uncommon. The demand for AI-related jobs is increasing quickly, but the talent pool for AI governance experts is not keeping up, according to the World Economic Forum. Additionally, insufficient expertise in AI MRM system design, implementation, and maintenance hinders organizations' ability to successfully operationalize governance frameworks. Due to this shortage, there are delays, uneven monitoring, and occasionally a dependence on general risk management techniques that do not take into account the risks unique to AI.

Opportunity:

Creation of governance platforms particular to AI

A growing market exists for specialized platforms that combine governance, risk assessment, and compliance reporting capabilities with AI model lifecycle management. In contrast to conventional GRC software, AI MRM platforms would handle AI-specific issues like explainability, bias detection, preventing adversarial attacks, and tracking continuous learning models. Data sheets, model cards, and risk registers should already be part of enterprise workflows, according to the Cloud Security Alliance (CSA). Furthermore, businesses implementing AI at scale may find that startups and well-

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established GRC providers who incorporate these features into unified dashboards can serve as vital infrastructure.

Threat:

Danger of dependence on automated MRM tools

As AI MRM software advances, companies run the risk of considering automated compliance dashboards to be a full replacement for human oversight. The Partnership on AI and the European Commission has emphasized that stakeholder engagement, ethical considerations, and contextual risk assessment still require human judgment. In the event that automated MRM tools overlook important risks, an over-reliance on them could lead to false assurances of safety or compliance, leaving organizations open to operational failures and regulatory penalties.

Covid-19 Impact:

The COVID-19 pandemic affected the market for AI Model Risk Management (AI MRM) in two ways: it highlighted governance flaws and accelerated adoption. Rapid AI deployment by organizations to tackle pandemic-related issues, including supply chain optimization, healthcare diagnostics, and fraud detection in relief efforts, and remote customer support, frequently outpaced thorough testing and governance, increasing the risk of bias, errors, and model drift. The need for strong MRM frameworks to guarantee dependability in emergency situations was highlighted by this spike in AI use, particularly since unstable market conditions made predictive models less reliable. Moreover, the post-pandemic demand for AI MRM solutions was further fuelled by regulatory agencies and industry associations, such as the OECD and NIST, which started highlighting resilience, transparency, and continuous monitoring as crucial elements of responsible AI.

The model risk segment is expected to be the largest during the forecast period

The model risk segment is expected to account for the largest market share during the forecast period. This dominance results from AI MRM frameworks' primary goal of addressing model-specific risks, including bias, overfitting, lack of explainability, problems with data quality, and performance degradation over time. In sectors like banking, insurance, and healthcare, where AI models have a direct impact on crucial choices like credit approvals, fraud detection, and diagnostic recommendations, model risk management is essential. Additionally, validating models, testing against edge

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cases, recording assumptions, and regularly monitoring outputs are all highly valued in regulatory frameworks, such as the NIST AI Risk Management Framework and the Basel Committee's principles for model risk governance.

The fraud detection and risk reduction segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the fraud detection and risk reduction segment is predicted to witness the highest growth rate. The increasing sophistication of fraud schemes, especially in banking, fintech, insurance, and e-commerce, which necessitate sophisticated AI systems that can identify anomalies in real time, is driving this segment's rapid growth. Organizations are using AI models with continuous learning capabilities to spot subtle patterns and stop financial and reputational losses as fraud tactics change. Furthermore, to maintain objectivity, explainability, and compliance with laws like the U.S. Bank Secrecy Act, the EU AI Act, and anti-money laundering (AML) directives, these models must, nevertheless, function under stringent risk governance.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, driven by the region's robust regulatory framework, early AI technology adoption, and the existence of significant technology firms, financial institutions, and providers of AI governance solutions. Because of strict compliance requirements from organizations like the Federal Reserve, the Office of the Comptroller of the Currency (OCC), and the National Institute of Standards and Technology (NIST), which demand strong model validation, monitoring, and governance practices, the United States leads the world in this regard. Furthermore, the need for thorough risk management frameworks has increased due to the quick integration of AI in banking, healthcare, and government services; further supporting market expansion are Canada's AI ethics and transparency initiatives.

Region with highest CAGR:

Over the forecast period, the Asia-Pacific region is anticipated to exhibit the highest CAGR, driven by the quickening pace of digital transformation, the growing use of AI in the government, banking, manufacturing, and healthcare sectors, as well as the growing emphasis on responsible AI by regulators. In addition to making significant investments in AI infrastructure, nations like China, India, Singapore, and Japan are also implementing frameworks and guidelines to address model governance, algorithmic

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bias, and data privacy. Moreover, Asia-Pacific is the fastest-growing region in this field because of government-backed AI initiatives like Singapore's AI Governance Framework and India's National AI Strategy, which are laying a solid basis for long-term market expansion.

Key players in the market

Some of the key players in AI Model Risk Management Market include Microsoft, Google, LogicGate Inc, Amazon Web Services (AWS), IBM Corporation, H2O.ai, SAS Institute, Alteryx, UpGuard Inc, DataRobot, Inc., MathWorks Inc, ComplyCube, BigID, Holistic AI and ValidMind Inc.

Key Developments:

In August 2025, Cloud services giant Amazon Web Services (AWS) and Malaysian clean energy solutions provider Gentari have signed a power purchase agreement (PPA) for an 80MW wind power project in Tamil Nadu, India, a state on the south-eastern coast of the Indian peninsula.

In July 2025, Alphabet Inc.’s Google inked a deal worth more than $1 billion to provide cloud-computing services to software firm ServiceNow Inc., a win for Google Cloud’s efforts to get major enterprises onto its platform. ServiceNow committed to spending $1.2 billion over five years, according to a person familiar with the agreement who asked not to be identified discussing internal information.

In July 2025, Microsoft has achieved a breakthrough with CISPE, the European cloud organization. After years of negotiations, an agreement has been reached on better licensing terms for European cloud providers. The agreement aims to strengthen competition and support European digital sovereignty.

Offerings Covered:

- Software
- Services

Deployment Models Covered:

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On-premise

Cloud-based

Hybrid

Risk Types Covered:

Model Risk

Operational Risk

Compliance Risk

Reputational Risk

Strategic Risk

Ethical Risk

Applications Covered:

Fraud Detection and Risk Reduction

Data Classification and Labelling

Sentiment Analysis

Model Inventory Management

Customer Segmentation and Targeting

Regulatory Compliance Monitoring

Other Applications

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End Users Covered:

- Banking, Financial Services, And Insurance (BFSI)
- Retail & E-commerce
- IT & Telecom
- Manufacturing
- Healthcare & Life Sciences
- Media & Entertainment
- Government and Public Sector
- Other End Users

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France

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- Spain
- Rest of Europe

Asia Pacific

- Japan
- China
- India
- Australia
- New Zealand
- South Korea
- Rest of Asia Pacific

South America

- Argentina
- Brazil
- Chile
- Rest of South America

Middle East & Africa

- Saudi Arabia
- UAE
- Qatar
- South Africa

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Rest of Middle East & Africa

What our report offers:
- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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