

AI Trust, Risk and Security Management (AI TRiSM) Market Forecasts to 2034 – Global Analysis By Component (Solutions and Services), Deployment Mode, Technology, Security Layer, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global AI Trust, Risk and Security Management (AI TRiSM) Market is accounted for \$2.1 billion in 2026 and is expected to reach \$15.3 billion by 2034, growing at a CAGR of 28.2% during the forecast period. AI Trust, Risk and Security Management encompasses the comprehensive set of solutions, services, and frameworks designed to ensure the reliability, security, fairness, and compliance of artificial intelligence systems across their entire lifecycle. These solutions include AI governance platforms, AI security solutions, AI risk management solutions, AI compliance and audit solutions, and AI monitoring and explainability tools, supporting technologies such as machine learning, deep learning, generative AI, large language models, and explainable AI. This technology helps organizations govern AI deployments, manage model risks, secure AI environments, protect privacy, and enforce compliance policies.

Market Dynamics:

Driver:

Growing regulatory pressure and compliance requirements

The escalating regulatory pressure and compliance requirements serve as a primary driver for the AI Trust, Risk and Security Management market. Governments worldwide are enacting laws mandating algorithmic transparency, fairness, and accountability,

including the EU AI Act and sector-specific regulations. Organizations face significant financial and reputational risks from non-compliance, creating urgent demand for AI TRiSM solutions that enable governance, explainability, and auditability. The growing complexity of AI regulations across jurisdictions further accelerates adoption, as enterprises seek to operationalize compliance and demonstrate responsible AI practices to regulators and stakeholders.

Restraint:

Lack of standardized frameworks and skilled talent

The lack of standardized frameworks and shortage of skilled talent pose significant restraints to the AI TRiSM market. The rapidly evolving regulatory landscape creates uncertainty, making it difficult for organizations to implement consistent governance practices. Standardized metrics for model risk and bias assessment are still emerging, complicating compliance efforts. Furthermore, the shortage of professionals with expertise in AI governance, model risk management, and responsible AI practices limits the effective deployment of TRiSM solutions. These challenges can increase implementation costs, delay adoption, and reduce the overall effectiveness of AI trust and security programs.

Opportunity:

Integration of automated governance and continuous monitoring

The integration of automated governance and continuous monitoring presents significant opportunities for the AI TRiSM market. Organizations increasingly require real-time visibility into AI model behavior, data drift, and security posture to maintain trust and compliance. Platforms that offer automated bias detection, model explainability, and continuous risk assessment are positioned to capture substantial market share. The ability to operationalize AI governance through integrated workflows, policy enforcement, and audit trails enables enterprises to scale responsible AI practices efficiently. As AI deployments become more complex and distributed, the demand for automated, continuous trust and security management solutions continues to grow.

Threat:

Rapidly evolving AI threat landscape and model vulnerabilities

The rapidly evolving AI threat landscape and model vulnerabilities pose significant threats to the AI TRiSM market. Adversarial attacks, data poisoning, prompt injection, and model extraction techniques are becoming increasingly sophisticated, challenging existing security measures. The emergence of generative AI and large language models introduces new attack surfaces and risk vectors that require continuous adaptation of security controls. Organizations struggle to keep pace with evolving threats, creating gaps in AI security posture. These challenges can undermine trust in AI systems and increase the complexity and cost of maintaining effective TRiSM programs.

Covid-19 Impact:

The COVID-19 pandemic accelerated the adoption of AI TRiSM solutions as organizations rapidly deployed AI for critical applications including vaccine development, demand forecasting, and customer engagement. The surge in AI adoption highlighted the importance of governance, security, and explainability in ensuring reliable and ethical AI outcomes. Initial budget freezes delayed some TRiSM deployments, but the crisis underscored the dangers of ungoverned AI systems making life-critical decisions. The pandemic effectively elevated AI trust and risk management from a best practice to a business imperative, positioning the market for sustained growth as enterprises prioritize responsible AI alongside innovation.

The solutions segment is expected to be the largest during the forecast period

The solutions segment is expected to account for the largest market share during the forecast period, driven by the essential need for dedicated governance platforms, security solutions, risk management tools, and explainability software to operationalize AI trust and compliance at scale. Organizations require comprehensive solution suites that integrate model monitoring, bias detection, explainability, and policy enforcement into unified workflows. The increasing adoption of AI across regulated industries, coupled with the growing sophistication of AI risks and regulatory requirements, fuels demand for purpose-built TRiSM solutions. Vendors offering integrated platforms that address multiple layers of AI governance, security, and risk management are poised to capture significant market share as enterprises seek to streamline responsible AI operations.

The cloud segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the cloud segment is predicted to witness the highest growth

rate, due to the scalability, flexibility, and cost-effectiveness of cloud-based deployment for AI TRiSM solutions. Cloud platforms enable organizations to deploy governance and security controls across distributed AI environments, including hybrid and multi-cloud infrastructures. The integration of TRiSM capabilities with cloud-native AI services simplifies implementation and management for enterprises of all sizes. As organizations increasingly adopt cloud-based AI development and deployment, the demand for cloud-native trust, risk, and security management solutions continues to accelerate, offering faster time-to-value and reduced operational overhead.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, driven by early adoption of AI technologies, stringent regulatory frameworks, and substantial investment in AI governance and security. The presence of major technology vendors, cloud providers, and a mature enterprise software ecosystem accelerates the deployment of comprehensive TRiSM solutions. Strong demand across BFSI, healthcare, and government sectors, where compliance and risk management are paramount, contributes to market leadership. Additionally, a robust venture capital ecosystem and the availability of specialized talent in AI governance and cybersecurity reinforce the region's dominant position.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, fueled by rapid digital transformation, expanding AI deployments, and increasing regulatory focus on AI governance and data protection across major economies. Countries such as China, India, and Japan are witnessing significant growth in AI adoption across industries, driving demand for trust, risk, and security management solutions. Government initiatives promoting responsible AI development and data privacy frameworks further contribute to regional market expansion. The region's large enterprise base and growing awareness of AI risks position it as a key growth engine for the AI TRiSM market.

Key players in the market

Some of the key players in the AI Trust, Risk and Security Management (AI TRiSM) Market include IBM Corporation, ServiceNow Inc., Oracle Corporation, SAP SE, SAS Institute Inc., Hewlett Packard Enterprise (HPE), Rapid7 Inc., LogicManager, Moody's Corporation, Amazon Web Services (AWS), Microsoft Corporation, Google LLC,

Darktrace plc, Palo Alto Networks Inc., and F5 Networks Inc.

Key Developments:

In June 2026, IBM announced the next generation of watsonx.governance, expanding its AI governance capabilities to address the growing demands of enterprise AI deployments. The platform now includes enhanced model risk management, automated compliance monitoring, and integrated bias detection for generative AI and large language models. Additionally, IBM introduced new capabilities for AI security and runtime protection, enabling organizations to detect and respond to AI-specific threats in real-time.

In May 2026, ServiceNow unveiled its AI Control Tower, a comprehensive solution for governing AI agents and automation across enterprise environments. The platform provides end-to-end visibility, policy enforcement, and audit controls for both native and third-party AI agents, enabling organizations to manage AI trust, risk, and security at scale. The AI Control Tower integrates with ServiceNow's workflow automation capabilities to deliver automated governance and compliance monitoring.

Components Covered:

Solutions

Services

Deployment Modes Covered:

Cloud

On-Premises

Hybrid

Technologies Covered:

Machine Learning

Deep Learning

Generative AI

Large Language Models (LLMs)

Explainable AI (XAI)

Security Layers Covered:

AI Governance

Model Risk Management

AI Runtime Security

Privacy & Data Protection

AI Compliance & Policy Enforcement

Applications Covered:

AI Governance

AI Model Monitoring

Bias Detection & Fairness

Explainability & Transparency

Threat Detection & Response

Regulatory Compliance

AI Lifecycle Management

End Users Covered:

BFSI

Healthcare & Life Sciences

Government & Public Sector

IT & Telecommunications

Retail & E-commerce

Manufacturing

Energy & Utilities

Media & Entertainment

Transportation & Logistics

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of 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 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

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

Contents

1 EXECUTIVE SUMMARY

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

2 RESEARCH FRAMEWORK

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
 - 2.4.1 Data Collection (Primary and Secondary)
 - 2.4.2 Data Modeling and Estimation Techniques
 - 2.4.3 Data Validation and Triangulation
 - 2.4.4 Analytical and Forecasting Approach

3 MARKET DYNAMICS AND TREND ANALYSIS

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

4 COMPETITIVE AND STRATEGIC ASSESSMENT

- 4.1 Porter's Five Forces Analysis
 - 4.1.1 Supplier Bargaining Power
 - 4.1.2 Buyer Bargaining Power
 - 4.1.3 Threat of Substitutes
 - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

5 GLOBAL AI TRUST, RISK AND SECURITY MANAGEMENT (AI TRISM) MARKET, BY COMPONENT

- 5.1 Solutions
 - 5.1.1 AI Governance Platforms
 - 5.1.2 AI Security Solutions
 - 5.1.3 AI Risk Management Solutions
 - 5.1.4 AI Compliance & Audit Solutions
 - 5.1.5 AI Monitoring & Explainability Solutions
- 5.2 Services
 - 5.2.1 Consulting
 - 5.2.2 Integration & Deployment
 - 5.2.3 Support & Maintenance
 - 5.2.4 Managed Services

6 GLOBAL AI TRUST, RISK AND SECURITY MANAGEMENT (AI TRISM) MARKET, BY DEPLOYMENT MODE

- 6.1 Cloud
- 6.2 On-Premises
- 6.3 Hybrid

7 GLOBAL AI TRUST, RISK AND SECURITY MANAGEMENT (AI TRISM) MARKET, BY TECHNOLOGY

- 7.1 Machine Learning
- 7.2 Deep Learning
- 7.3 Generative AI
- 7.4 Large Language Models (LLMs)
- 7.5 Explainable AI (XAI)

8 GLOBAL AI TRUST, RISK AND SECURITY MANAGEMENT (AI TRISM) MARKET, BY SECURITY LAYER

- 8.1 AI Governance

- 8.2 Model Risk Management
- 8.3 AI Runtime Security
- 8.4 Privacy & Data Protection
- 8.5 AI Compliance & Policy Enforcement

9 GLOBAL AI TRUST, RISK AND SECURITY MANAGEMENT (AI TRISM) MARKET, BY APPLICATION

- 9.1 AI Governance
- 9.2 AI Model Monitoring
- 9.3 Bias Detection & Fairness
- 9.4 Explainability & Transparency
- 9.5 Threat Detection & Response
- 9.6 Regulatory Compliance
- 9.7 AI Lifecycle Management

10 GLOBAL AI TRUST, RISK AND SECURITY MANAGEMENT (AI TRISM) MARKET, BY END USER

- 10.1 BFSI
- 10.2 Healthcare & Life Sciences
- 10.3 Government & Public Sector
- 10.4 IT & Telecommunications
- 10.5 Retail & E-commerce
- 10.6 Manufacturing
- 10.7 Energy & Utilities
- 10.8 Media & Entertainment
- 10.9 Transportation & Logistics

11 GLOBAL AI TRUST, RISK AND SECURITY MANAGEMENT (AI TRISM) MARKET, BY GEOGRAPHY

- 11.1 North America
 - 11.1.1 United States
 - 11.1.2 Canada
 - 11.1.3 Mexico
- 11.2 Europe
 - 11.2.1 United Kingdom
 - 11.2.2 Germany

- 11.2.3 France
- 11.2.4 Italy
- 11.2.5 Spain
- 11.2.6 Netherlands
- 11.2.7 Belgium
- 11.2.8 Sweden
- 11.2.9 Switzerland
- 11.2.10 Poland
- 11.2.11 Rest of Europe
- 11.3 Asia Pacific
 - 11.3.1 China
 - 11.3.2 Japan
 - 11.3.3 India
 - 11.3.4 South Korea
 - 11.3.5 Australia
 - 11.3.6 Indonesia
 - 11.3.7 Thailand
 - 11.3.8 Malaysia
 - 11.3.9 Singapore
 - 11.3.10 Vietnam
 - 11.3.11 Rest of Asia Pacific
- 11.4 South America
 - 11.4.1 Brazil
 - 11.4.2 Argentina
 - 11.4.3 Colombia
 - 11.4.4 Chile
 - 11.4.5 Peru
 - 11.4.6 Rest of South America
- 11.5 Rest of the World (RoW)
 - 11.5.1 Middle East
 - 11.5.1.1 Saudi Arabia
 - 11.5.1.2 United Arab Emirates
 - 11.5.1.3 Qatar
 - 11.5.1.4 Israel
 - 11.5.1.5 Rest of Middle East
 - 11.5.2 Africa
 - 11.5.2.1 South Africa
 - 11.5.2.2 Egypt
 - 11.5.2.3 Morocco

11.5.2.4 Rest of Africa

12 STRATEGIC MARKET INTELLIGENCE

12.1 Industry Value Network and Supply Chain Assessment

12.2 White-Space and Opportunity Mapping

12.3 Product Evolution and Market Life Cycle Analysis

12.4 Channel, Distributor, and Go-to-Market Assessment

13 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES

13.1 Mergers and Acquisitions

13.2 Partnerships, Alliances, and Joint Ventures

13.3 New Product Launches and Certifications

13.4 Capacity Expansion and Investments

13.5 Other Strategic Initiatives

14 COMPANY PROFILES

14.1 IBM

14.2 ServiceNow

14.3 Oracle

14.4 SAP

14.5 SAS Institute

14.6 Hewlett Packard Enterprise (HPE)

14.7 Rapid7

14.8 LogicManager

14.9 Moody's

14.10 Amazon Web Services (AWS)

14.11 Microsoft

14.12 Google

14.13 Darktrace

14.14 Palo Alto Networks

14.15 F5

List Of Tables

LIST OF TABLES

Table 1 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Region (2023-2034) (\$MN)

Table 2 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Component (2023-2034) (\$MN)

Table 3 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Solutions (2023-2034) (\$MN)

Table 4 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By AI Governance Platforms (2023-2034) (\$MN)

Table 5 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By AI Security Solutions (2023-2034) (\$MN)

Table 6 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By AI Risk Management Solutions (2023-2034) (\$MN)

Table 7 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By AI Compliance & Audit Solutions (2023-2034) (\$MN)

Table 8 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By AI Monitoring & Explainability Solutions (2023-2034) (\$MN)

Table 9 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Services (2023-2034) (\$MN)

Table 10 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Consulting (2023-2034) (\$MN)

Table 11 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Integration & Deployment (2023-2034) (\$MN)

Table 12 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Support & Maintenance (2023-2034) (\$MN)

Table 13 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Managed Services (2023-2034) (\$MN)

Table 14 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Deployment Mode (2023-2034) (\$MN)

Table 15 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Cloud (2023-2034) (\$MN)

Table 16 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By On-Premises (2023-2034) (\$MN)

Table 17 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Hybrid (2023-2034) (\$MN)

Table 18 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,

By Technology (2023-2034) (\$MN)

Table 19 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Machine Learning (2023-2034) (\$MN)

Table 20 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Deep Learning (2023-2034) (\$MN)

Table 21 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Generative AI (2023-2034) (\$MN)

Table 22 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Large Language Models (LLMs) (2023-2034) (\$MN)

Table 23 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Explainable AI (XAI) (2023-2034) (\$MN)

Table 24 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Security Layer (2023-2034) (\$MN)

Table 25 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By AI Governance (2023-2034) (\$MN)

Table 26 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Model Risk Management (2023-2034) (\$MN)

Table 27 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By AI Runtime Security (2023-2034) (\$MN)

Table 28 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Privacy & Data Protection (2023-2034) (\$MN)

Table 29 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By AI Compliance & Policy Enforcement (2023-2034) (\$MN)

Table 30 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Application (2023-2034) (\$MN)

Table 31 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By AI Governance (2023-2034) (\$MN)

Table 32 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By AI Model Monitoring (2023-2034) (\$MN)

Table 33 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Bias Detection & Fairness (2023-2034) (\$MN)

Table 34 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Explainability & Transparency (2023-2034) (\$MN)

Table 35 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Threat Detection & Response (2023-2034) (\$MN)

Table 36 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By Regulatory Compliance (2023-2034) (\$MN)

Table 37 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook,
By AI Lifecycle Management (2023-2034) (\$MN)

Table 38 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By End User (2023-2034) (\$MN)

Table 39 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By BFSI (2023-2034) (\$MN)

Table 40 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Healthcare & Life Sciences (2023-2034) (\$MN)

Table 41 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Government & Public Sector (2023-2034) (\$MN)

Table 42 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By IT & Telecommunications (2023-2034) (\$MN)

Table 43 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Retail & E-commerce (2023-2034) (\$MN)

Table 44 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Manufacturing (2023-2034) (\$MN)

Table 45 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Energy & Utilities (2023-2034) (\$MN)

Table 46 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Media & Entertainment (2023-2034) (\$MN)

Table 47 Global AI Trust, Risk and Security Management (AI TRiSM) Market Outlook, By Transportation & Logistics (2023-2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World (RoW) are also represented in the same manner as above.

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