

AI-Driven Medical Device Vigilance Platform Market – Key Trends, Drivers, Insights, and Forecast Analysis 2025

TBRC's Artificial Intelligence (AI)-Driven Medical Device Vigilance Platform Global Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034

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Artificial Intelligence (AI)-Driven Medical Device Vigilance Platform Global Market Report 2025

Artificial Intelligence [\(AI\)-Driven Medical Device Vigilance Platform Market](#) Growth Forecast: What To Expect By 2025?

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The market size for the artificial intelligence (AI) powered medical device vigilance platform has been expanding rapidly in the past few years. Anticipated to rise from \$1.64 billion in 2024 to \$2.02 billion in 2025, the market's compound annual growth rate (CAGR) is 23.1%. The historical growth can be credited to an increased presence of complicated medical devices needing superior monitoring, a surge in the need for swift regulatory reporting and adherence, a rise in the application of big data and real-world proof in device tracking, an escalating demand for compatible vigilance systems, and a growing

emphasis on patient-centered surveillance methods.

The market for AI-powered medical device vigilance platforms is set to skyrocket in the coming years, reaching \$4.58 billion in 2029 with a CAGR of 22.7%. This increase within the projected period can be linked to the upswing in partnerships to create compatible vigilance platforms, boosted demand for swift and precision-based device performance assessments, heightened focus on minimizing manual inaccuracies in adverse event reporting, growing demand for

economical and scalable AI vigilance systems, and an escalated emphasis on enhancing patient outcomes using AI-generated insights. Notable trends for the forecast period encompass advancements in real-time data analytics for monitoring device safety, sophisticated integration of AI algorithms for predictive risk evaluation, innovation in generative AI technologies for detecting adverse events, incorporation of natural language processing for automatic report assessment, and breakthroughs in cloud-based vigilance platforms for remote surveillance.

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What Are Key Factors Driving The Demand In The Global Artificial Intelligence (AI)-Driven Medical Device Vigilance Platform Market?

The expected increase in healthcare expenditure is predicted to boost the artificial intelligence (AI) driven medical device vigilance platform market. Healthcare expenditure encompasses the total amount spent by individuals, institutions, and governments on services and activities intended to preserve or improve health. This expenditure is on an upward trend because of the increasing incidence of chronic diseases, necessitating constant medical care, long-term treatment, and management resources. Such expenditure fortifies AI-driven medical device vigilance platforms by providing hospitals and healthcare providers with the monetary means to enforce thorough safety and monitoring protocols, guaranteeing compliance with regulatory standards and better patient protection. An example of this is seen in April 2025 when, according to the UK-based Office for National Statistics, government-funded healthcare represented the majority of healthcare spendings in the UK, with a total of \$344 billion (£258 billion) in 2024 - a real-term 2.5% increase from 2023. Consequently, the rising healthcare expenditure fuels the maturity of the AI-driven medical device vigilance platform market. Boosted Public-Private Funding and Research Infrastructure Drive Market Growth Through Expansion of Clinical Research

Who Are The Leading Players In The Artificial Intelligence (AI)-Driven Medical Device Vigilance Platform Market?

Major players in the Artificial Intelligence (AI)-Driven Medical Device Vigilance Platform Global Market Report 2025 include:

- Amazon Web Services Inc.
- Johnson & Johnson Services Inc.
- International Business Machines Corporation
- Oracle Corporation
- Abbott Laboratories
- Medtronic Plc
- Siemens Healthineers AG
- Stryker Corporation
- Koninklijke Philips N.V.
- GE HealthCare Technologies Inc.

What Are Some Emerging Trends In The Artificial Intelligence (AI)-Driven Medical Device Vigilance Platform Market?

Prominent enterprises functioning in the market for artificial intelligence (AI)-enabled medical device supervision platforms are concentrating on creating cutting-edge solutions, including post-market device monitoring systems. These are designed to provide medical manufacturers and caregivers with crucial insights to enhance patient health and maximize the efficiency of device utilization. These post-market surveillance platforms are systems designed to monitor and evaluate the safety and performance of medical devices once they are in use in healthcare facilities. For example, Basil Systems, an AI platform development company based in the US, introduced the MedTech Safety Signaling platform in October 2025. This platform employs AI technology to detect potential hazards early on, transforming post-market device surveillance from a reactive to a proactive safety strategy. It analyses regulatory documents, inspection reports, and reports of adverse events using large language models. Trained on a vast industry dataset, it uncovers patterns that are hard to recognize manually and arranges and deciphers the data, linking related incidents back to their original sources with confidence levels. These features allow manufacturers to identify safety trends, enhance preventive strategies, foresee regulatory scrutiny, and influence product development decisions.

Analysis Of Major Segments Driving The Artificial Intelligence [\(AI\)-Driven Medical Device Vigilance Platform Market Growth](#)

The artificial intelligence (ai)-driven medical device vigilance platform market covered in this report is segmented –

- 1) By Component: Software, Hardware, Services
- 2) By Deployment Mode: On-Premises, Cloud-Based
- 3) By Application: Adverse Event Detection, Regulatory Compliance, Risk Management, Data Analytics, Other Applications
- 4) By End-User: Hospitals, Medical Device Manufacturers, Regulatory Agencies, Contract Research Organizations, Other End-Users

Subsegments:

- 1) By Software: Predictive Analytics, Signal Detection, Risk Management, Data Integration, Reporting And Visualization
- 2) By Hardware: Servers, Storage Devices, Networking Equipment, Sensors, Monitoring Devices
- 3) By Services: Implementation Services, Maintenance And Support, Consulting Services, Training Services, Data Management Services

View the full artificial intelligence (ai)-driven medical device vigilance platform market report:

<https://www.thebusinessresearchcompany.com/report/artificial-intelligence-ai-driven-medical-device-vigilance-platform-global-market-report>

Which Region Is Expected To Lead The Artificial Intelligence (AI)-Driven Medical Device Vigilance Platform Market By 2025?

In the AI-Driven Medical Device Vigilance Platform Global Market Report 2025, North America holds the top position for 2024. It is also anticipated that Asia-Pacific will demonstrate the most accelerated growth within the forecast period. The report provides coverage of various regions including Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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