Explainable Artificial Intelligence For Diagnostics Market to Reach USD $4.2 Billion by 2029 at 25.7% CAGR

The Business Research Company's Explainable Artificial Intelligence For Diagnostics Global Market Report 2025 – Market Size, Trends, And Forecast 2025-2034

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What Is The Estimated Industry Size Of Explainable Artificial Intelligence For Diagnostics Market?

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The [market size for explainable artificial intelligence for diagnostics](#) has seen considerable expansion in the past few years. It is projected to rise, going from $1.34 billion in 2024 to an estimated $1.69 billion in 2025, a compound annual growth rate (CAGR) of 26.0%. The surge during the historical period can be tied to various factors such as the rising occurrence of chronic illnesses and lifestyle-related diseases, the increasing necessity for early detection of diseases as well as growing patient knowledge about customised care. Additionally, the escalating requirement for precise and efficient diagnostic solutions and the expanded use of medical imaging and pathology data have also contributed to the growth.

Predictions forecast robust growth for the market size of explainable artificial intelligence in diagnostics over the following years. By 2029, it will reach $4.21 billion with a Compound Annual Growth Rate (CAGR) of 25.7%. This increase during the forecast period can be ascribed to the escalating requirement for comprehensible and explainable AI solutions, an increased interest in personalized medicine, an expanding focus on predictive analytics, augmented regulatory

backing for AI-centred diagnostics, and an increasing call for clarity in medical decision-making procedures. Significant trends for the forecast duration comprise of AI algorithm advancements towards transparent predictions, incorporation of AI in medical imaging and genomics; development of AI diagnostic platforms based on cloud, enhancements in automated pathology scoring systems, and advances in user-friendly interpretability dashboards.

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What Are The Major Factors Driving The Explainable Artificial Intelligence For Diagnostics Global Market Growth?
The growth of the explainable artificial intelligence for diagnostics market is predicted to be fueled by the rising need for personalized medicine. Personalized medicine signifies a healthcare strategy that modifies prevention, diagnosis, and therapy according to a person's genetic makeup, lifestyle, and surroundings. As advancements in genomic data and sequencing technologies allow for more precise, focused, and effective treatments tailored to individual patients, the demand for personalized medicine is growing. Personalized medicine is made possible by explainable artificial intelligence in diagnostics, which offers clear, understandable insights into patient-specific data, steering informed treatment choices. For example, the Personalized Medicine Coalition, a non-profit based in the US, noted in February 2024 that in 2023, 16 new personalized treatments were approved by the FDA for patients with rare diseases, a significant increase from six in 2022. The approved personalized treatments for 2023 also covered seven drugs for cancer and three for other illnesses and conditions. Hence, the surging need for personalized medicine is boosting the expansion of the explainable artificial intelligence for diagnostics market.

Who Are The Leading Companies In The Explainable Artificial Intelligence For Diagnostics Market?
Major players in the Explainable Artificial Intelligence For Diagnostics Global Market Report 2025 include:
• Fujitsu Limited
• Koninklijke Philips N.V.
• Tempus AI
• Owkin Inc.
• PathAI Inc.
• Aidoc Medical Ltd.
• Viz.ai Inc.
• Qure.ai Technologies Private Limited
• Paige.AI Inc.
• Digital Diagnostics Inc.

What Are The Future Trends Of The Explainable Artificial Intelligence For Diagnostics Market?
Leading firms in the explainable artificial intelligence for diagnostics sector are concentrating on

pioneering advanced methods, such as the AI-powered HER2 scoring algorithm. This innovative approach similarly strives to enhance diagnostic accuracy, foster clear decision-making processes, and assist personalized cancer treatments. AI-powered HER2 scoring algorithm is a machine learning system purposed for examining medical images, like breast cancer tissue samples, to automatically determine the levels of HER2 protein expression. As such, it offers precise, consistent, and interpretable results required for diagnosis and personalized treatment decisions. For instance, in July 2023, the AI-powered digital pathology firm based in the US, PathAI Inc., introduced AIM-HER2 Breast Cancer, targeted at improving the detection of accurate HER2 status in breast cancer patients. This system features automated HER2 scoring with explainable AI heatmaps that point out crucial tissue aspects, thereby boosting diagnostic confidence and openness. It assesses entire breast cancer biopsy slides without manually choosing regions, which simplifies the workflow of pathologists, especially in complex borderline cases. The primary goal of this AI-powered instrument is to enhance accuracy, productivity, and faith in HER2 scoring for biopharma research and clinical labs.

What Are The Primary Segments Covered In The Global Explainable Artificial Intelligence For Diagnostics Market Report?
The explainable artificial intelligence for diagnostics market covered in this report is segmented as
1) By Component: Software, Hardware, Services
2) By Deployment Mode: On-Premises, Cloud
3) By Application: Medical Imaging, Pathology, Genomics, Risk Assessment, Treatment Recommendation, Other Applications
4) By End-User: Hospitals, Diagnostic Laboratories, Research Institutes, Clinics, Other End-Users

Subsegments:
1) By Software: Machine Learning Platforms, Natural Language Processing Tools, Computer Vision Tools
2) By Hardware: Imaging Devices, Computational Devices, Sensors And Scanners
3) By Services: Consulting And Implementation, Maintenance And Support, Training And Education

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Which Region Is Forecasted To Grow The Fastest In The Explainable Artificial Intelligence For Diagnostics Industry?
In 2024, North America took the lead as the biggest region in the global market for explainable artificial intelligence in diagnostics. The region expected to have the most rapid growth is Asia-Pacific. The regions evaluated in the report on the global market for explainable artificial intelligence in diagnostics include Asia-Pacific, Western Europe, Eastern Europe, North America, South America, the Middle East and Africa.

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