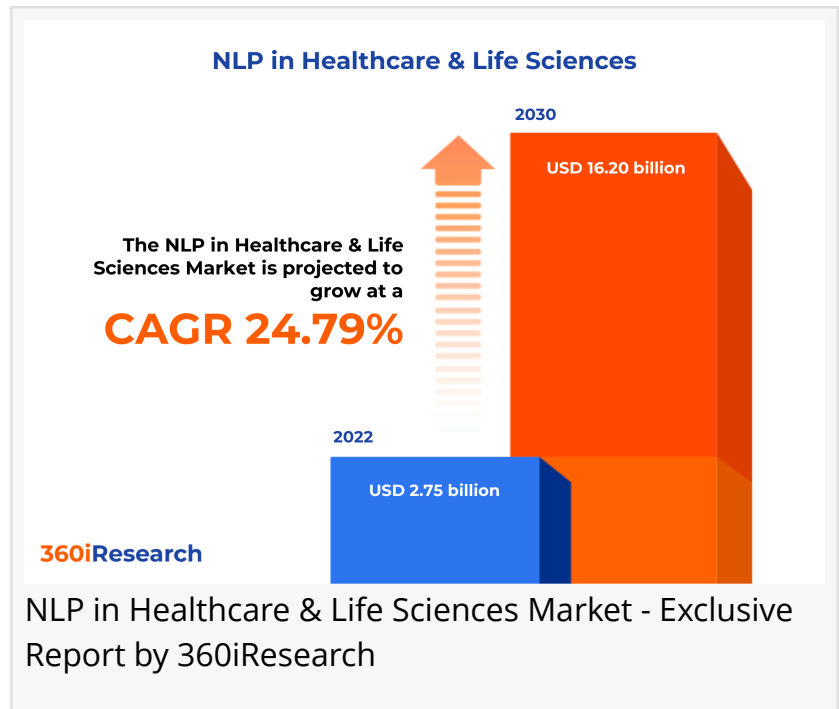# NLP in Healthcare & Life Sciences Market worth $16.20 billion by 2030 - Exclusive Report by 360iResearch

The Global NLP in Healthcare & Life Sciences Market to grow from USD 2.75 billion in 2022 to USD 16.20 billion by 2030, at a CAGR of 24.79%.

PUNE, MAHARASHTRA, INDIA , December 5, 2023 /EINPresswire.com/ -- The "NLP in Healthcare & Life Sciences Market by Component (Services, Solution), NLP Type (Hybrid, Neural, Rule-Based), NLP Technique, Application, Deployment Mode, Organization Size, End-User - Global Forecast 2023-2030" report has been added to 360iResearch.com's offering.

NLP in Healthcare & Life Sciences Market - Exclusive Report by 360iResearch

The Global NLP in Healthcare & Life Sciences Market to grow from USD 2.75 billion in 2022 to USD 16.20 billion by 2030, at a CAGR of 24.79%.

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Natural language processing (NLP) in Healthcare and Life Sciences is an interdisciplinary field that leverages computational linguistics, artificial intelligence, and data science to enable devices to understand, interpret, and generate human language in a meaningful and useful way. In healthcare, this involves the analysis of clinical notes, electronic health records (EHRs), research papers, patient surveys, and more, aiming to improve patient outcomes, enhance decision-making, and drive efficiencies. The increasing digitalization of healthcare data, growing demand for personalized healthcare services, and advancements in AI and machine learning increase the market demand. However, the privacy and security concerns related to patient data and the shortage of high-quality and diverse annotated datasets may impede the market's growth.

Nevertheless, the ongoing advancements in NLP for healthcare and life sciences solutions and improvement in predictive analytics for patient care are expected to create potential opportunities for the growth of the NLP in the healthcare and life sciences market.

Component: Burgeoning utilization of NLP solution as it can automate the extraction of insights from medical texts, enable advanced data analytics

Managed services refer to outsourcing NLP functions to specialized vendors responsible for the continuous management and upkeep of NLP systems. This includes tasks such as data processing, system maintenance, and updating NLP models with the latest medical terminologies, ensuring healthcare organizations have access to up-to-date and accurate information without needing in-house technical expertise. Professional services involve expert consulting, support, and implementation services in NLP provided by professionals to healthcare and life sciences organizations. A solution in the context of NLP in healthcare & life sciences refers to a package of software tools, platforms, or products that address specific needs within the field. Clinical variation management utilizes NLP to identify and reduce inconsistencies in healthcare delivery. NLP draws insights into practice variations, promoting standardized care that aligns with evidence-based guidelines and reduces unnecessary costs by analyzing clinical documentation and patient outcomes. Counter-fraud management leverages NLP to detect and prevent fraudulent activities in healthcare systems. NLP helps identify patterns and anomalies that may indicate fraudulent behavior by scrutinizing unstructured data such as insurance claims and billing information, thereby protecting financial resources and maintaining integrity within healthcare operations. Population health management is supported by NLP by mining clinical data to identify public health trends and stratify patient populations by risk. NLP in risk adjustment & claim management ensures accurate coding and documentation for healthcare services, which optimizes reimbursement processes and supports compliance. NLP aids in more precise risk scoring and streamlines the claims lifecycle from submission to settlement by automating extracting relevant information from medical records.

Deployment Mode: Significant adoption of Cloud-based deployment of Natural Language Processing (NLP) owing to the requirement of less investment

Cloud-based deployment of natural language processing (NLP) technologies in healthcare and life sciences refers to hosting NLP applications on remote servers, which external cloud service providers manage. This deployment mode offers scalable computing resources, making it suitable for handling large volumes of data commonly found in medical records and scientific literature. Moreover, on-cloud NLP solutions provide easy access to advanced analytics and machine learning models without significant upfront investment in infrastructure, enabling healthcare organizations to benefit from cost savings, regular software updates, and increased collaboration among research teams. On-premises deployment involves installing and running NLP systems directly within a healthcare or life science organization's local infrastructure. This approach offers greater control over data security and compliance with regulatory requirements, including HIPAA and GDPR, as sensitive patient information and proprietary research data can be kept within the organization's firewall. While on-premises solutions may require a higher initial investment in hardware and software licenses, they enable full customization and integration

with existing IT ecosystems, often resulting in optimized performance tailored to specific organizational needs.

End-User: Evolving usage of natural language processing (NLP) by Physicians in Healthcare and life Sciences setting

Clinical operators, such as nurses and administrative staff, benefit from natural language processing (NLP) by enhancing workflows and reducing administrative burdens. NLP can automate extracting pertinent information from clinical notes for patient management systems, improve scheduling by understanding and processing patient requests, and facilitate real-time documentation support. NLP technologies empower patients by providing more accessible and interactive ways to manage their health. Chatbots and virtual health assistants can interpret and respond to patient inquiries, offering personalized advice and support. Physicians utilize NLP to streamline and enhance clinical decision-making. NLP tools can process and summarize large volumes of unstructured clinical data, such as patient medical histories, lab results, and radiology reports, providing physicians with concise, relevant information and saving time. Healthcare and life sciences researchers use NLP to glean insights from vast amounts of biomedical literature and clinical reports. NLP facilitates systematic literature reviews by quickly extracting and synthesizing findings from published studies. It also supports the identification of patient cohorts for clinical trials by sifting through electronic health records to find candidates who meet specific criteria.

NLP Technique: Growing adoption of image and pattern recognition technique as it monitors treatment progress

Image and pattern recognition is an advanced area of NLP and machine learning where algorithms are designed to identify patterns and visual cues within images. This technique is pivotal in healthcare and life sciences for analyzing medical imagery such as X-rays, MRI scans, and pathology slides. Named entity recognition is an NLP method used to identify and classify key information in text into predefined categories, including the names of drugs, medical conditions, dosages, and biological processes. In Healthcare and life Sciences, NER can process vast amounts of unstructured clinical notes, research papers, and reports to extract relevant entities. Optical character recognition (OCR) is invaluable for digitizing patient records, prescriptions, and research material, making the information more accessible and reducing manual data entry errors. This digitization is crucial for integrating historical health records into modern electronic health record systems. Sentiment analysis is the determining the sentiment or emotional tone behind words by computational process. It is used in healthcare and life sciences to gauge patient satisfaction, analyze survey feedback, and monitor social media for public perception of health-related topics. This NLP technique can provide insights into patient experiences and emotions, which is helpful in quality of care assessments. Text Classification involves categorizing textual data into organized groups. In Healthcare and Life Sciences, this could mean sorting clinical documents into various types, such as lab reports, radiology reports, clinical notes, etc. Categorization helps efficiently retrieve information from medical literature and supports compliance by properly handling sensitive information. Topic Modeling is useful in analyzing medical literature, patient feedback, and online health forums. Topic Modeling aids in

identifying disease outbreaks, understanding public health concerns, and guiding research and development by uncovering prevailing themes and trends in unstructured data.

Regional Insights:
Natural language processing (NLP) in the Healthcare and Life Sciences market is evolving in the Americas owing to their investments are mainly directed towards AI-driven startups and research initiatives by large tech companies and top-tier universities. The General Data Protection Regulation (GDPR) regulations have driven advancements in data security and privacy in NLP technologies, influencing purchasing behavior favoring compliant solutions and strategic partnerships and funding for AI research, further increasing the market growth in the EMEA region. On the other hand, in Middle Eastern countries, NLP in healthcare is largely driven by the need to provide medical services in multiple languages and improve accessibility in remote regions. In Asia-Pacific, major market players are investing heavily in AI healthcare services, focusing on solutions that cater to the large population, with a shift towards mobile health applications and online healthcare services. In addition, in the Asia-Pacific region, governments are actively promoting research in AI and NLP, with initiatives focused on addressing the aging population through technology-enhanced healthcare solutions.

FPNV Positioning Matrix:

The FPNV Positioning Matrix is essential for assessing the NLP in Healthcare & Life Sciences Market. It provides a comprehensive evaluation of vendors by examining key metrics within Business Strategy and Product Satisfaction, allowing users to make informed decisions based on their specific needs. This advanced analysis then organizes these vendors into four distinct quadrants, which represent varying levels of success: Forefront (F), Pathfinder (P), Niche (N), or Vital(V).

Market Share Analysis:

The Market Share Analysis offers an insightful look at the current state of vendors in the NLP in Healthcare & Life Sciences Market. By comparing vendor contributions to overall revenue, customer base, and other key metrics, we can give companies a greater understanding of their performance and what they are up against when competing for market share. The analysis also sheds light on just how competitive any given sector is about accumulation, fragmentation dominance, and amalgamation traits over the base year period studied.

Key Company Profiles:

The report delves into recent significant developments in the NLP in Healthcare & Life Sciences Market, highlighting leading vendors and their innovative profiles. These include 3M Company, Amazon Web Services, Inc., Apixio Inc., Averbis, Cerner Corporation, Dolbey Systems Inc., Gnani.a, Google LLC by Alphabet Inc., Heath Fidelity, Hewlett Packard Enterprise Development LP, Inovalon, International Business Machines Corporation, Lexalytics by InMoment, Linguamatics by

IQVIA, and Microsoft Corporation.

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Market Segmentation & Coverage:

This research report categorizes the NLP in Healthcare & Life Sciences Market in order to forecast the revenues and analyze trends in each of following sub-markets:

Based on Component, market is studied across Services and Solution. The Services is further studied across Managed Services and Professional Services. The Solution is further studied across Clinical Variation Management, Counter Fraud Management, Population Health Management, and Risk Adjustment & Claim Management. The Solution is projected to witness significant market share during forecast period.

Based on NLP Type, market is studied across Hybrid, Neural, Rule-Based, and Statistical. The Rule-Based is projected to witness significant market share during forecast period.

Based on NLP Technique, market is studied across Image & Pattern Recognition, Name Entity Recognition, Optical Character Recognition, Sentiment Analysis, Text Classification, and Topic Modeling. The Optical Character Recognition is projected to witness significant market share during forecast period.

Based on Application, market is studied across IVR, Pattern & Image Recognition, Predictive Risk Analytics, Reporting & Visualization, Summarization & Categorization, and Text & Speech Analytics. The IVR is projected to witness significant market share during forecast period.

Based on Deployment Mode, market is studied across On-Cloud and On-premises. The On-premises is projected to witness significant market share during forecast period.

Based on Organization Size, market is studied across Large Enterprises and Small & Medium-Sized Enterprises. The Large Enterprises is projected to witness significant market share during forecast period.

Based on End-User, market is studied across NLP for Clinical Operators, NLP for Patients, NLP for Physician, and NLP for Researchers. The NLP for Physician is projected to witness significant market share during forecast period.

Based on Region, market is studied across Americas, Asia-Pacific, and Europe, Middle East & Africa. The Americas is further studied across Argentina, Brazil, Canada, Mexico, and United States. The United States is further studied across California, Florida, Illinois, New York, Ohio, Pennsylvania, and Texas. The Asia-Pacific is further studied across Australia, China, India,

Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam. The Europe, Middle East & Africa is further studied across Denmark, Egypt, Finland, France, Germany, Israel, Italy, Netherlands, Nigeria, Norway, Poland, Qatar, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Turkey, United Arab Emirates, and United Kingdom. The Americas commanded largest market share of 37.51% in 2022, followed by Europe, Middle East & Africa.

Key Topics Covered:

1. Preface
2. Research Methodology
3. Executive Summary
4. Market Overview
5. Market Insights
6. NLP in Healthcare & Life Sciences Market, by Component
7. NLP in Healthcare & Life Sciences Market, by NLP Type
8. NLP in Healthcare & Life Sciences Market, by NLP Technique
9. NLP in Healthcare & Life Sciences Market, by Application
10. NLP in Healthcare & Life Sciences Market, by Deployment Mode
11. NLP in Healthcare & Life Sciences Market, by Organization Size
12. NLP in Healthcare & Life Sciences Market, by End-User
13. Americas NLP in Healthcare & Life Sciences Market
14. Asia-Pacific NLP in Healthcare & Life Sciences Market
15. Europe, Middle East & Africa NLP in Healthcare & Life Sciences Market
16. Competitive Landscape
17. Competitive Portfolio
18. Appendix

The report provides insights on the following pointers:
1. Market Penetration: Provides comprehensive information on the market offered by the key players
2. Market Development: Provides in-depth information about lucrative emerging markets and analyzes penetration across mature segments of the markets
3. Market Diversification: Provides detailed information about new product launches, untapped geographies, recent developments, and investments
4. Competitive Assessment & Intelligence: Provides an exhaustive assessment of market shares, strategies, products, certification, regulatory approvals, patent landscape, and manufacturing capabilities of the leading players
5. Product Development & Innovation: Provides intelligent insights on future technologies, R&D activities, and breakthrough product developments

The report answers questions such as:
1. What is the market size and forecast of the NLP in Healthcare & Life Sciences Market?

2. Which are the products/segments/applications/areas to invest in over the forecast period in the NLP in Healthcare & Life Sciences Market?
3. What is the competitive strategic window for opportunities in the NLP in Healthcare & Life Sciences Market?
4. What are the technology trends and regulatory frameworks in the NLP in Healthcare & Life Sciences Market?
5. What is the market share of the leading vendors in the NLP in Healthcare & Life Sciences Market?
6. What modes and strategic moves are considered suitable for entering the NLP in Healthcare & Life Sciences Market?

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