

Automatic Speech Recognition Apps Market
Assessment, By Type [Directed Dialogue
Conversations, Natural Language Conversations], By
Application [Speech-to-Text Conversion, Voice Search
& Command, Voice Assistants, Voice Translation,
Others], By End-user [Media & Entertainment,
Healthcare, Automotive, Retail, BFSI, Others], By
Region, Opportunities and Forecast, 2016-2030F

https://marketpublishers.com/r/AC4090830730EN.html

Date: March 2025

Pages: 238

Price: US\$ 4,500.00 (Single User License)

ID: AC4090830730EN

# **Abstracts**

Global automatic speech recognition apps market has experienced significant growth in recent years and is expected to maintain a strong pace of expansion in the coming years. With projected revenue of approximately USD 1.9 billion in 2022, the market is forecasted to reach USD 6.7 billion by 2030, displaying a robust CAGR of 16.8% from 2023 to 2030.

The automatic speech recognition (ASR) apps market is a dynamic and rapidly evolving sector within the broader speech and natural language processing technology field. ASR technology enables machines and devices to convert spoken language have to written text and has numerous applications across various industries. ASR apps convert speech into text, which can be used for various purposes, such as transcribing lectures, dictating emails, and controlling smart devices. ASR apps are becoming increasingly accurate and affordable, making them more accessible to a wider range of users. There has been a growing demand for ASR technology driven by the proliferation of voice-controlled devices, the need for transcription services, and the integration of voice assistants in various applications. ASR apps have found widespread use in transcription services across industries. Healthcare, legal, journalism professionals, and content



creation often rely on ASR for quick and accurate transcriptions.

Increasing Usage of Voice Assistant Functionality in Smart Homes and Mobile Devices

The proliferation of voice-controlled virtual assistants like Siri, Google Assistant, and Amazon Alexa has created a strong demand for ASR technology. Consumers use these assistants for tasks ranging from information retrieval to home automation. Voice assistants often support multi-modal interactions, combining voice commands with touch and visual inputs. This requires ASR technology to work with other user interfaces to provide a cohesive user experience. Parallelly, ASR technology is integrated into smartphones and tablets, enabling voice commands, voice search, and dictation. The convenience of using voice interfaces on mobile devices has boosted the adoption of ASR applications.

For example, in April 2022, Google LLC launched speech recognition technology to enhance voice user interfaces' performance. Google's Speech-to-Text API leverages a neural sequence-to-sequence model to improve accuracy across 23 languages and 61 supported regions.

Rapid Utilization of Deep Neural Engines and Networks

The robust adoption of emerging technologies, including IoT, artificial intelligence (AI), and machine learning, is a driving force behind the growth of the speech and voice recognition market. The increased use of voice-based authentication in smartphone apps has spurred the demand for voice and speech biometric systems. Furthermore, the applications of deep learning and neural networks in areas such as audio-visual speech recognition, isolated word recognition, speaker adaptation, and digital speaker recognition are driving the need for voice-related technologies. Major industry players prioritize these emerging technological advancements as part of their long-term business growth strategies.

For example, the 'Hey Siri' detector employs a Deep Neural Network (DNN) to transform the acoustic characteristics of human voice in real-time into a probability distribution across speech sounds. Subsequently, it employs a temporal integration method to calculate a confidence score, indicating the likelihood that the spoken phrase is 'Hey Siri.' When this score reaches a significant threshold, Siri becomes active and responsive.

North America Holds the Largest Share



North America is anticipated to maintain its leading position in the speech and voice recognition market during the projected period. It can be attributed to the presence of key market players like Amazon Web Services, Inc., IBM, Google LLC, and Microsoft Corporation, and others, which significantly contribute to market advancement. Furthermore, the rising prevalence of voice-enabled smartphone applications and the expanding utilization of voice and speech recognition across sectors, such as mobile banking, consumer electronics, and Internet of Things (IoT) devices, is poised to drive the North America market. For example, according to the 2021 report from Voicebot.AI, approximately 45.2 million adults in the United States utilized voice search for shopping a product at least once.

Speaker Diarization and Accuracy, Especially in Multilingual Context Hindering Market

As voice technology continues to advance, developers and engineers are actively addressing challenges associated with speech software. These challenges often disrupt the seamless performance of speech and voice recognition systems and encompass issues such as fluency, punctuation, accents, technical terminology, background noise, and speaker identification. One of the most significant hurdles is achieving high accuracy levels for languages other than US English. Voice-based technologies are poised to deliver increasingly personalized experiences as they become more adept at distinguishing while recognizing individual voices. Nevertheless, concern regarding the privacy of voice data continues to pose a threat, impeding market growth.

According to the Speechmatics Voice report from 2021, concerns related to accents and dialects are accounted for approximately 30.4% and 21.2%, respectively.

# Impact of COVID-19

The surge in remote work, office closures, and lockdown measures, has created a substantial opportunity for providers of speech and voice recognition software. The COVID-19 pandemic accelerated the development of various technologies to enhance safety and facilitate social distancing, ranging from telemedicine to contactless payments. Speech and voice recognition software played a crucial role during the pandemic. For example, Apple's Siri assisted patients by recommending telehealth apps is based on CDC COVID-19 assessments. Furthermore, conversational AI and voice technology made healthcare services accessible to quarantined individuals at home during the pandemic. Additionally, leading market players invested significantly in voice interfaces, including offerings like Cisco WebEx Assistant, Alexa for Business,



Microsoft Cortana, and Google Assistant.

For instance, in June 2020, Cisco expanded WebEx Assistant, to include WebEx Rooms. This extended voice assistant simplifies the process of connecting WebEx Rooms devices through voice commands, making it easier to join meetings with just a few spoken words. Furthermore, it facilitates device and meeting management from any location in the room.

Key Players Landscape and Outlook

Global automatic speech recognition apps market is witnessing a swift growth trajectory due to the increasing emphasis placed by companies worldwide on establishing advanced digital infrastructure. Furthermore, the market expansion is greatly facilitated by healthcare industry, along with significant investments made by companies to enhance research and development resources, engage in collaboration projects, bolster marketing efforts, and expand distribution networks. These factors collectively contribute to the rapid expansion of the market.

In October 2021, Sensory Inc. introduced a speech recognition system tailored for children. The solution can understand the specific linguistic patterns commonly associated with children's speech. It enables developers of children's toys, applications, wearable devices for kids, and educational technology to implement voice control technology with enhanced accuracy and security.



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