Cognitive Radio Market to Reach USD 34.23 Billion by 2032 | Reports and Data

global cognitive radio market size was USD 8.4 Billion in 2022 and is expected to reach USD 34.23 Billion in 2032, and register a rapid revenue CAGR of 16%

Reports And Data

NEW YORK, NY, UNITED STATES , May 10, 2023 /EINPresswire.com/ -- The global Cognitive Radio Market was valued at USD 8.4 billion in 2022. It is projected to reach USD 34.23 billion by 2032, with a rapid revenue compound annual growth rate (CAGR) of 16% during the forecast period. The growth in market revenue is primarily driven by the increasing demand for effective spectrum utilization and improved spectrum management across various industries.

Cognitive radio is an intelligent wireless communication system designed to automatically identify and make the most of available spectrum. This technology has gained popularity due to its ability to enhance spectrum usage efficiency and reduce interference between wireless devices.

Furthermore, the need for effective spectrum utilization is a key factor contributing to the market's revenue growth. The growing use of wireless devices is placing significant strain on the available radio spectrum. Cognitive radio enables intelligent allocation of spectrum based on the requirements of different wireless devices, resulting in improved network performance and reduced chances of interference.

Moreover, the demand for better spectrum management across multiple industries is expected to drive market revenue growth. Cognitive radio technology finds applications in sectors such as military, healthcare, transportation, and telecommunications. In the military domain, it enables secure and reliable communication between units, even in hazardous situations. In healthcare, it facilitates remote patient monitoring, while in transportation, it enhances the efficiency and security of traffic control systems.

Additionally, government programs and regulations are expected to contribute to market revenue growth. Governments worldwide are increasingly focusing on the effective utilization of

spectrum to meet the growing demand for wireless communication. For instance, regulatory bodies like the Federal Communications Commission (FCC) in the United States have allocated a significant portion of spectrum for unlicensed usage.

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Segments Covered in the Report

The global cognitive radio market can be categorized by its components and applications. In terms of components, it consists of software and hardware. The software component encompasses the intelligent algorithms and programs that enable cognitive radio systems to operate efficiently. On the other hand, the hardware component refers to the physical devices and equipment that support the implementation of cognitive radio technology.

When it comes to applications, cognitive radio technology finds utility in various areas. One key application is spectrum sensing, which involves the ability of cognitive radio systems to detect and identify available spectrum for use. This capability allows for efficient spectrum utilization and avoids interference with other wireless devices.

Another application is spectrum analysis, which involves analyzing the characteristics and properties of the available spectrum. Cognitive radio systems use advanced analytical techniques to assess the quality, bandwidth, and other relevant parameters of the spectrum, enabling informed decision-making regarding its usage.

Spectrum allocation is another important application of cognitive radio. It involves the intelligent and dynamic allocation of spectrum to different wireless devices based on their specific needs. By optimizing spectrum allocation, cognitive radio technology enhances the performance of wireless networks and reduces the likelihood of interference, leading to improved efficiency and reliability.

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Strategic development:

Texas Instruments Inc. revealed in 2021 the introduction of a novel transceiver with ultra-low power consumption for cognitive radio applications. This advanced transceiver is specifically designed to enable long-range wireless communication while minimizing energy usage, making it highly suitable for devices powered by batteries.

In 2020, XG Technology Inc. announced the successful completion of the initial phase of its cognitive radio project commissioned by the U.S. Department of Defense. The primary objective

of this project was to develop a cognitive radio system capable of operating effectively in challenging environments, thereby facilitating more efficient utilization of the available spectrum.

NuRAN Wireless Inc., in 2020, entered into a strategic partnership with Orange, a telecommunications company based in West Africa. The primary focus of this collaboration was to collaborate on the development and implementation of cost-effective and sustainable wireless infrastructure solutions in rural and remote regions of Africa.

Cognitive Systems Corp., in 2020, secured a funding of $22.5 million to support the advancement and commercialization of its cognitive radio technology. The funding round, led by venture capital firms and strategic partners, aimed to accelerate the company's growth in the wireless communication market, allowing for the development of innovative solutions.

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Competitive Landscape:

Cognitive Systems Corp.
NuRAN Wireless Inc.
Shared Spectrum Company
Texas Instruments Inc.
XG Technology Inc.
Cognitive Radio Technologies
Cognovo Ltd.
Spectrum Signal Processing
Rockwell Collins Inc.
Qualcomm Inc.

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