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Automotive Blockchain Market Report by Type (Public Blockchain, Private Blockchain, Hybrid Blockchain), Provider (Application and Solution, Middleware, Infrastructure and Protocol), Mobility Type (Personal Mobility, Shared Mobility, Commercial Mobility), Application (Financing, Mobility Solutions, Smart Contract, Supply Chain), End User (OEMs, Vehicle Owners, Mobility as a Service Provider, and Others), and Region 2024-2032

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Abstracts

The global automotive blockchain market size reached US$ 759.1 Million in 2023. Looking forward, IMARC Group expects the market to reach US$ 6,111.8 Million by 2032, exhibiting a growth rate (CAGR) of 25.6% during 2024-2032. The increasing number of cyberattacks like phishing on connected vehicles, rising inclination of individuals towards autonomous vehicles (AVs), and the growing number of car sharing services are some of the major factors propelling the market.

Automotive blockchain is a technology that combines the principles of blockchain with the automotive industry. It involves the use of distributed ledger technology to enhance various aspects of the automotive sector, such as supply chain management, vehicle data tracking, and transactions. It serves as a secure and transparent way to record and verify transactions, which makes it particularly useful for tasks like tracking the production and shipment of automotive parts, verifying the history of used vehicles, and managing warranty information.

The increasing number of cyberattacks like phishing and malware on connected

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vehicles is driving the adoption of automotive blockchain for enhanced security around the world. Moreover, the rising inclination of individuals towards autonomous vehicles (AVs) due to their numerous advantages is favoring the growth of the market. It can also be attributed to the growing demand for automation, rapid urbanization, and inflating income levels. In addition, the increasing number of car sharing services is catalyzing the use of automotive blockchain for secure and automated transactions between users. Apart from this, the shifting preferences towards mobility as a service (MaaS) platforms are influencing the adoption of automotive blockchain for secure and transparent payment transactions. Furthermore, the increasing sales of electric vehicles (EVs) are fueling the demand for automotive blockchain to verify the authenticity and history of battery components, which increases consumer trust.

Automotive Blockchain Market Trends/Drivers:
Increase in data security and transparency

Automotive Blockchain is in high demand due to its ability to enhance data security and transparency. As modern vehicles become more connected and autonomous, the need to safeguard sensitive information, such as vehicle performance data and personal details, is paramount. Blockchain technology ensures that data is stored in a decentralized and tamper-resistant manner, which reduces the risk of cyberattacks and unauthorized access. This bolsters consumer trust and helps manufacturers maintain the integrity of the data of their vehicles, which promotes safety and compliance.

Rise in supply chain efficiency

Another driving factor is the desire for improved supply chain efficiency within the automotive industry. Blockchain streamlines the complex supply chains by providing a transparent ledger of transactions and processes. This helps in tracking the origin of auto parts, reducing counterfeiting, and ensuring quality control. Automotive companies can optimize their operations, minimize delays, and cut costs through better supply chain management, which makes blockchain an attractive solution.

Growing smart contracts for AVs

The rise of AVs is fueling demand for blockchain technology. Smart contracts, a key feature of blockchain, enable self-executing agreements based on predefined conditions. In the context of autonomous cars, these contracts can facilitate communication between vehicles, infrastructure, and service providers. For instance, smart contracts can handle payments for tolls, parking, and charging automatically. This

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improves the efficiency of autonomous vehicle services and ensures trust and accountability in transactions, which is crucial for their widespread adoption.

Automotive Blockchain Industry Segmentation:
IMARC Group provides an analysis of the key trends in each segment of the market, along with forecasts at the global, regional, and country levels from 2024-2032. Our report has categorized the market based on type, provider, mobility type, application, and end user.

Breakup by Type:

Public Blockchain
Private Blockchain
Hybrid Blockchain

The report has provided a detailed breakup and analysis of the market based on the type. This includes public blockchain, private blockchain, and hybrid blockchain.

Private blockchain in the automotive industry refers to a closed and permissioned blockchain network. It restricts access to a select group of participants as compared to public blockchains, wherein anyone can participate and view the transactions. This type of blockchain is commonly used by automotive manufacturers, suppliers, and other stakeholders within a specific ecosystem. In a private blockchain, participants are required to obtain permission or credentials to join the network. This ensures a higher level of security and control over who can validate transactions and access sensitive data.

A hybrid blockchain combines elements of both public and private blockchains. In the context of the automotive industry, a hybrid blockchain might involve a public-facing layer for certain data or transactions, while maintaining a private and more controlled layer for sensitive information. It offers flexibility and customization, which makes them suitable for situations where a blend of public accessibility and private control is needed. It provides a middle ground that can accommodate various use cases within the automotive sector.

Breakup by Provider:

Application and Solution
Middleware

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Infrastructure and Protocol

Application and solution hold the largest share in the market

A detailed breakup and analysis of the market based on the provider has also been provided in the report. This includes application and solution, middleware and infrastructure and protocol. According to the report, application and solution accounted for the largest market share. In the context of automotive blockchain, applications and solutions refer to the practical uses and outcomes derived from implementing blockchain technology in the automotive sector. These applications can encompass a wide range of use cases, each designed to address specific challenges and improve various aspects of the industry. Additionally, blockchain solutions can be applied to areas like vehicle identity and provenance, enabling consumers to verify the authenticity of a history of the vehicle before purchasing. Furthermore, blockchain can facilitate secure and transparent transactions within the automotive ecosystem, such as for vehicle sales and financing.

Breakup by Mobility Type:

Personal Mobility
Shared Mobility
Commercial Mobility

The report has provided a detailed breakup and analysis of the market based on the mobility type. This includes personal mobility, shared mobility, and commercial mobility.

Personal mobility in automotive blockchain refers to the use of blockchain technology to enhance individual transportation experiences. This involves leveraging blockchain to improve the ownership and maintenance of personal vehicles. Automotive blockchain can securely store and share the maintenance history of a vehicle, ownership records, and facilitate peer-to-peer transactions for vehicle sales. Personal mobility solutions aim to make personal vehicle ownership more transparent, trustworthy, and efficient for consumers.

Shared mobility is about leveraging blockchain to transform the way people access and use transportation services collectively. Blockchain can play a vital role in creating trust and transparency in shared mobility platforms, such as ride-sharing or car-sharing services. It can enable secure and automated transactions, facilitate identity verification for users and drivers, and track the usage and maintenance of shared vehicles. This

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enhances the reliability and security of shared mobility services, promoting a seamless and efficient transportation ecosystem.

Breakup by Application:

Financing
Mobility Solutions
Smart Contract
Supply Chain

Supply chain holds the largest share in the market

A detailed breakup and analysis of the market based on the application has also been provided in the report. This includes financing, mobility solutions, smart contract, and supply chain. According to the report, supply chain accounted for the largest market share. Automotive blockchain is transformative and it provides end-to-end visibility and traceability, which makes it an invaluable tool for automakers and suppliers. Blockchain ensures the authenticity of components by tracking them from manufacturing to assembly. This reduces the risk of counterfeit parts entering the supply chain, enhances safety, and maintains the quality of vehicles.

Automotive blockchain is increasingly being utilized to revolutionize mobility solutions. One prominent application is in ride-sharing and car sharing platforms, wherein blockchain ensures secure and transparent transactions between users and drivers. It helps verify the identity of participants, track rides, and streamline payments, which enhances trust and efficiency within shared mobility services.

Breakup by End User:

OEMs
Vehicle Owners
Mobility as a Service Provider
Others

The report has provided a detailed breakup and analysis of the market based on the end user. This includes OEMs, vehicle owners, mobility as a service provider, and others.

OEMs are companies responsible for designing, manufacturing, and assembling

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vehicles and automotive components. They are pivotal in the automotive supply chain. Automotive blockchain offers several benefits to OEMs. It enables transparent and secure supply chain management. OEMs can track the production and distribution of components and materials, ensuring their authenticity and quality. This reduces the risk of counterfeit parts entering the supply chain and improves the overall safety and reliability of vehicles.

Vehicle owners are people who purchase and use automobiles. Automotive blockchain benefits vehicle owners by providing transparent vehicle histories. Through blockchain, they can access immutable records and the maintenance of a vehicle, accident history, and ownership changes. This information helps buyers make informed decisions when purchasing used vehicles, fostering trust in the used car market.

Breakup by Region:

North America
United States
Canada
Asia-Pacific
China
Japan
India
South Korea
Australia
Indonesia
Others
Europe
Germany
France
United Kingdom
Italy
Spain
Russia
Others
Latin America
Brazil
Mexico
Others
Middle East and Africa

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North America exhibits a clear dominance, accounting for the largest automotive blockchain market share

The market research report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, North America accounted for the largest market share.

Increasing vehicle production processes represent one of the primary factors driving the demand for automotive blockchain in the North American region. Moreover, the rising need for faster transactions is favoring the growth of the market in the region. Besides this, the growing emphasis on reducing data leaks and manipulations is influencing the market positively in the region.

Asia Pacific is estimated to witness stable growth, owing to increasing investment in AVs, extensive research and development (R&D) activities, integration of advanced technologies, etc.

Competitive Landscape:
The leading companies are integrating artificial intelligence (AI), machine learning (ML), the internet of things (IoT), sensors, and connected devices with automotive blockchain to collect real time data from vehicles. These advancements in vehicles transmit data related to performance, maintenance needs, and even driver behavior. This data is securely recorded on the blockchain, which enables proactive maintenance, improves safety, and supports autonomous vehicle development. These advanced technologies enable predictive maintenance and can anticipate maintenance needs, reducing downtime and improving vehicle reliability by analyzing historical data recorded on the blockchain. Moreover, key players are adopting the use of blockchain based decentralized identity solutions to enable secure and private verification of driver and vehicle identities. This technology is crucial for services like ridesharing and car rentals, wherein quick and trustworthy identity verification is essential.

The market research report has provided a comprehensive analysis of the competitive landscape. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

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Accenture plc
BigchainDB GmbH
carVertical
ConsenSys
GemOS
HCL Technologies Limited (HCL Enterprise)
International Business Machines Corporation
Microsoft Corporation
NXM Labs Inc.
ShiftMobility Inc.
Tech Mahindra Limited

(Please note that this is only a partial list of the key players, and the complete list is provided in the report.)

Recent Developments:
In 2023, Tech Mahindra Limited recently partnered with Anyverse, a hyperspectral synthetic data generation platform that accelerates the development of computer vision-based solutions for autonomous applications. This is focusing on accelerating AI adoption in the automotive industry by simplifying the use of synthetic data to train, test, and validating AI systems.
In 2022, NXM Labs Inc. developed its NXM Autonomous Security™ platform that prevents hackers from gaining unauthorized access to commercial, industrial, medical, automotive, or consumer internet of things (IoT) devices.
In 2020, carVertical developed a mobile app CAR HISTORY CHECK to uncover the past & specs of the vehicle.

Key Questions Answered in This Report

1. What was the size of the global automotive blockchain market in 2023?
2. What is the expected growth rate of the global automotive blockchain market during 2024-2032?
3. What are the key factors driving the global automotive blockchain market?
4. What has been the impact of COVID-19 on the global automotive blockchain market?
5. What is the breakup of the global automotive blockchain market based on the provider?
6. What is the breakup of the global automotive blockchain market based on the application?
7. What are the key regions in the global automotive blockchain market?

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8. Who are the key players/companies in the global automotive blockchain market?

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