

Global Automotive Artificial Intelligence Market Size Study, by Offering, by Technology (Deep Learning, Machine Learning, Computer Vision, Context-aware Computing, and Natural Language Processing), by Process, by Application, and Regional Forecasts 2022-2032

<https://marketpublishers.com/r/GFC557E84CBDEN.html>

Date: February 2025

Pages: 285

Price: US\$ 4,950.00 (Single User License)

ID: GFC557E84CBDEN

Abstracts

The Global Automotive Artificial Intelligence Market is valued at approximately USD 2.85 billion in 2023 and is projected to grow at an impressive CAGR of 24.1% over the forecast period from 2024 to 2032. The automotive industry is undergoing a paradigm shift, with artificial intelligence (AI) taking center stage in the transformation of vehicles and transportation systems. AI's potential to enhance vehicle safety, enable autonomous driving, and optimize manufacturing processes is reshaping how automotive systems are developed, deployed, and experienced by end-users.

AI technologies such as deep learning, natural language processing, and computer vision are pivotal in enabling intelligent features like real-time decision-making and predictive maintenance. With increasing adoption of advanced driver-assistance systems (ADAS) and autonomous vehicles, the market for automotive AI is poised for significant expansion. Furthermore, the advent of connected cars, integration of IoT, and smart traffic management systems are accelerating demand for AI applications across the automotive ecosystem.

Global market growth is largely driven by the growing need for safety enhancements, the push towards autonomous vehicles, and government initiatives supporting AI in transportation. For instance, countries worldwide are investing heavily in AI research to integrate smart mobility solutions and improve road safety. The market's expansion is

further supported by collaborations between automotive OEMs and tech companies to develop sophisticated AI-powered platforms. However, challenges such as data privacy concerns, high implementation costs, and regulatory complexities may hinder market growth.

Regional analysis reveals that North America dominated the automotive AI market in 2023, attributed to the presence of leading technology providers, supportive regulatory frameworks, and advanced infrastructure for autonomous vehicle testing. Europe follows closely, benefiting from stringent vehicle safety regulations and robust R&D activities. Meanwhile, the Asia-Pacific region is projected to grow at the fastest rate during the forecast period due to rapid urbanization, increasing vehicle demand, and proactive government investments in smart mobility initiatives.

Major market players included in this report are:

NVIDIA Corporation

Alphabet Inc. (Waymo)

Intel Corporation

Tesla, Inc.

BMW AG

General Motors Company

Ford Motor Company

Uber Technologies, Inc.

Toyota Motor Corporation

Baidu, Inc.

Volvo Car Corporation

Aptiv PLC

Continental AG

Honda Motor Co., Ltd.

Daimler AG

The detailed segments and sub-segments of the market are explained below:

By Offering:

Hardware

Software

Services

By Technology:

Deep Learning

Machine Learning

Computer Vision

Context-aware Computing

Natural Language Processing

By Process:

Data Processing

Signal Recognition

Image Recognition

By Application:

Autonomous Driving

Driver Assistance Systems

Human-Machine Interface

Fleet and Traffic Management

Predictive Maintenance

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Italy

ROE

Asia-Pacific

China

India

Japan

South Korea

RoAPAC

Latin America

Brazil

Mexico

Middle East & Africa

UAE

South Africa

RoMEA

Years considered for the study:

Historical Year – 2022

Base Year – 2023

Forecast Period – 2024 to 2032

Key Takeaways:

Market estimates and forecasts for ten years from 2022 to 2032.

Annualized revenues and regional-level analysis for each market segment.

Country-level analysis for major regions.

Comprehensive competitive landscape with details on major players in the

market.

Strategic recommendations and future market approach insights.

Detailed analysis of demand-side and supply-side trends.

Contents

CHAPTER 1. GLOBAL AUTOMOTIVE ARTIFICIAL INTELLIGENCE MARKET EXECUTIVE SUMMARY

1.1. Global Automotive AI Market Size & Forecast (2022-2032)

1.2. Regional Summary

1.3. Segmental Summary

1.3.1. By Offering

Hardware

Software

Services

1.3.2. By Technology

Deep Learning

Machine Learning

Computer Vision

Context-aware Computing

Natural Language Processing

1.3.3. By Process

Data Processing

Signal Recognition

Image Recognition

1.3.4. By Application

Autonomous Driving

Driver Assistance Systems

Human-Machine Interface

Fleet and Traffic Management

Predictive Maintenance

1.4. Key Trends

1.5. Recession Impact

1.6. Analyst Recommendation & Conclusion

CHAPTER 2. GLOBAL AUTOMOTIVE ARTIFICIAL INTELLIGENCE MARKET DEFINITION AND RESEARCH ASSUMPTIONS

2.1. Research Objective

2.2. Market Definition

2.3. Research Assumptions

2.3.1. Inclusion & Exclusion

2.3.2. Limitations

2.3.3. Supply Side Analysis

Availability

Infrastructure

Regulatory Environment

Market Competition

Economic Viability (Consumer's Perspective)

2.3.4. Demand Side Analysis

Regulatory Frameworks

Technological Advancements

Environmental Considerations

Consumer Awareness & Acceptance

2.4. Estimation Methodology

2.5. Years Considered for the Study

2.6. Currency Conversion Rates

CHAPTER 3. GLOBAL AUTOMOTIVE ARTIFICIAL INTELLIGENCE MARKET DYNAMICS

3.1. Market Drivers

3.1.1. Enhanced Vehicle Safety

3.1.2. Advancement in Autonomous Driving Technologies

3.1.3. Optimization of Manufacturing Processes

3.1.4. Growing Adoption of ADAS

3.2. Market Challenges

3.2.1. Data Privacy Concerns

3.2.2. High Implementation Costs

3.2.3. Regulatory Complexities

3.2.4. Integration and Compatibility Issues

3.3. Market Opportunities

3.3.1. Collaborations between Automotive OEMs and Tech Companies

3.3.2. Expansion of Connected Car Technologies and IoT Integration

3.3.3. Government Initiatives Supporting Smart Mobility

3.3.4. Innovations in Advanced Driver-Assistance Systems (ADAS)

CHAPTER 4. GLOBAL AUTOMOTIVE ARTIFICIAL INTELLIGENCE MARKET INDUSTRY ANALYSIS

4.1. Porter's 5 Force Model

- 4.1.1. Bargaining Power of Suppliers
- 4.1.2. Bargaining Power of Buyers
- 4.1.3. Threat of New Entrants
- 4.1.4. Threat of Substitutes
- 4.1.5. Competitive Rivalry
- 4.1.6. Futuristic Approach to Porter's 5 Force Model
- 4.1.7. Porter's 5 Force Impact Analysis
- 4.2. PESTEL Analysis
 - 4.2.1. Political
 - 4.2.2. Economical
 - 4.2.3. Social
 - 4.2.4. Technological
 - 4.2.5. Environmental
 - 4.2.6. Legal
- 4.3. Top Investment Opportunities
- 4.4. Top Winning Strategies
- 4.5. Disruptive Trends
- 4.6. Industry Expert Perspective
- 4.7. Analyst Recommendation & Conclusion

CHAPTER 5. GLOBAL AUTOMOTIVE AI MARKET SIZE & FORECASTS BY OFFERING 2022-2032

- 5.1. Segment Dashboard
- 5.2. Global Automotive AI Market: Offering Revenue Trend Analysis, 2022 & 2032 (USD Million/Billion)
 - 5.2.1. Hardware
 - 5.2.2. Software
 - 5.2.3. Services

CHAPTER 6. GLOBAL AUTOMOTIVE AI MARKET SIZE & FORECASTS BY TECHNOLOGY 2022-2032

- 6.1. Segment Dashboard
- 6.2. Global Automotive AI Market: Technology Revenue Trend Analysis, 2022 & 2032 (USD Million/Billion)
 - 6.2.1. Deep Learning
 - 6.2.2. Machine Learning
 - 6.2.3. Computer Vision

- 6.2.4. Context-aware Computing
- 6.2.5. Natural Language Processing

CHAPTER 7. GLOBAL AUTOMOTIVE AI MARKET SIZE & FORECASTS BY PROCESS AND APPLICATION 2022-2032

- 7.1. By Process
 - 7.1.1. Data Processing
 - 7.1.2. Signal Recognition
 - 7.1.3. Image Recognition
- 7.2. By Application
 - 7.2.1. Autonomous Driving
 - 7.2.2. Driver Assistance Systems
 - 7.2.3. Human-Machine Interface
 - 7.2.4. Fleet and Traffic Management
 - 7.2.5. Predictive Maintenance

CHAPTER 8. GLOBAL AUTOMOTIVE AI MARKET SIZE & FORECASTS BY REGION 2022-2032

- 8.1. North America
 - 8.1.1. U.S. Automotive AI Market
 - 8.1.1.1. By Offering breakdown size & forecasts, 2022-2032
 - 8.1.1.2. By Technology breakdown size & forecasts, 2022-2032
 - 8.1.2. Canada Automotive AI Market
- 8.2. Europe
 - 8.2.1. UK Automotive AI Market
 - 8.2.2. Germany Automotive AI Market
 - 8.2.3. France Automotive AI Market
 - 8.2.4. Italy Automotive AI Market
 - 8.2.5. Rest of Europe (ROE) Automotive AI Market
- 8.3. Asia-Pacific
 - 8.3.1. China Automotive AI Market
 - 8.3.2. India Automotive AI Market
 - 8.3.3. Japan Automotive AI Market
 - 8.3.4. South Korea Automotive AI Market
 - 8.3.5. Rest of Asia-Pacific (RoAPAC) Automotive AI Market
- 8.4. Latin America
 - 8.4.1. Brazil Automotive AI Market

- 8.4.2. Mexico Automotive AI Market
- 8.5. Middle East & Africa
 - 8.5.1. UAE Automotive AI Market
 - 8.5.2. South Africa Automotive AI Market
 - 8.5.3. Rest of Middle East & Africa (RoMEA) Automotive AI Market

CHAPTER 9. COMPETITIVE INTELLIGENCE

- 9.1. Key Company SWOT Analysis
 - 9.1.1. NVIDIA Corporation
 - 9.1.2. Alphabet Inc. (Waymo)
 - 9.1.3. Intel Corporation
- 9.2. Top Market Strategies
- 9.3. Company Profiles
 - 9.3.1. NVIDIA Corporation
 - 9.3.1.1. Key Information
 - 9.3.1.2. Overview
 - 9.3.1.3. Financial (Subject to Data Availability)
 - 9.3.1.4. Product Summary
 - 9.3.1.5. Market Strategies
 - 9.3.2. Tesla, Inc.
 - 9.3.3. BMW AG
 - 9.3.4. General Motors Company
 - 9.3.5. Ford Motor Company
 - 9.3.6. Uber Technologies, Inc.
 - 9.3.7. Toyota Motor Corporation
 - 9.3.8. Baidu, Inc.
 - 9.3.9. Volvo Car Corporation
 - 9.3.10. Aptiv PLC
 - 9.3.11. Continental AG
 - 9.3.12. Honda Motor Co., Ltd.
 - 9.3.13. Daimler AG

CHAPTER 10. RESEARCH PROCESS

- 10.1. Research Process
 - 10.1.1. Data Mining
 - 10.1.2. Analysis
 - 10.1.3. Market Estimation

10.1.4. Validation

10.1.5. Publishing

10.2. Research Attributes

List Of Tables

LIST OF TABLES

TABLE 1. Global Automotive AI Market, Report Scope

TABLE 2. Global Automotive AI Market Estimates & Forecasts by Region 2022-2032 (USD Million/Billion)

TABLE 3. Global Automotive AI Market Estimates & Forecasts by Offering 2022-2032 (USD Million/Billion)

TABLE 4. Global Automotive AI Market Estimates & Forecasts by Technology 2022-2032 (USD Million/Billion)

TABLE 5. Global Automotive AI Market by Process, Estimates & Forecasts, 2022-2032 (USD Million/Billion)

TABLE 6. Global Automotive AI Market by Application, Estimates & Forecasts, 2022-2032 (USD Million/Billion)

TABLE 7. Global Automotive AI Market by Region, Segment Estimates & Forecasts, 2022-2032 (USD Million/Billion)

TABLE 8. North America Automotive AI Market Estimates & Forecasts, 2022-2032 (USD Million/Billion)

TABLE 9. Europe Automotive AI Market Estimates & Forecasts, 2022-2032 (USD Million/Billion)

TABLE 10. Asia-Pacific Automotive AI Market Estimates & Forecasts, 2022-2032 (USD Million/Billion)

TABLE 11. Latin America Automotive AI Market Estimates & Forecasts, 2022-2032 (USD Million/Billion)

TABLE 12. Middle East & Africa Automotive AI Market Estimates & Forecasts, 2022-2032 (USD Million/Billion)

(This list is not complete; the final report contains more than 100 tables. The list may be updated in the final deliverable.)

List Of Figures

LIST OF FIGURES

- FIG 1. Global Automotive AI Market, Research Methodology
 - FIG 2. Global Automotive AI Market, Market Estimation Techniques
 - FIG 3. Global Market Size Estimates & Forecast Methods
 - FIG 4. Global Automotive AI Market, Key Trends 2023
 - FIG 5. Global Automotive AI Market, Growth Prospects 2022-2032
 - FIG 6. Global Automotive AI Market, Porter's 5 Force Model
 - FIG 7. Global Automotive AI Market, PESTEL Analysis
 - FIG 8. Global Automotive AI Market, Value Chain Analysis
 - FIG 9. Global Automotive AI Market by Offering, 2022 & 2032 (USD Million/Billion)
 - FIG 10. Global Automotive AI Market by Technology, 2022 & 2032 (USD Million/Billion)
 - FIG 11. Global Automotive AI Market by Process, 2022 & 2032 (USD Million/Billion)
 - FIG 12. Global Automotive AI Market by Application, 2022 & 2032 (USD Million/Billion)
 - FIG 13. Global Automotive AI Market, Regional Snapshot 2022 & 2032
 - FIG 14. North America Automotive AI Market, 2022 & 2032 (USD Million/Billion)
 - FIG 15. Europe Automotive AI Market, 2022 & 2032 (USD Million/Billion)
 - FIG 16. Asia-Pacific Automotive AI Market, 2022 & 2032 (USD Million/Billion)
 - FIG 17. Latin America Automotive AI Market, 2022 & 2032 (USD Million/Billion)
 - FIG 18. Middle East & Africa Automotive AI Market, 2022 & 2032 (USD Million/Billion)
 - FIG 19. Global Automotive AI Market, Company Market Share Analysis (2023)
- (This list is not complete; the final report contains more than 50 figures. The list may be updated in the final deliverable.)

I would like to order

Product name: Global Automotive Artificial Intelligence Market Size Study, by Offering, by Technology (Deep Learning, Machine Learning, Computer Vision, Context-aware Computing, and Natural Language Processing), by Process, by Application, and Regional Forecasts 2022-2032

Product link: <https://marketpublishers.com/r/GFC557E84CBDEN.html>

Price: US\$ 4,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/GFC557E84CBDEN.html>