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Global AI Chips for Self-Driving Market 2026 by Manufacturers, Regions, Type and Application, Forecast to 2032

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Abstracts

According to our (Global Info Research) latest study, the global AI Chips for Self-Driving market size was valued at US$ 10845 million in 2025 and is forecast to a readjusted size of US$ 35626 million by 2032 with a CAGR of 18.5% during review period.

In 2025, the global AI chips for self-driving market records an annual production volume of approximately 34 million pieces against a global installed production capacity of around 45 million pieces per year, with average unit price USD 310, while leading suppliers maintain gross margins of roughly 52%. AI chips for self-driving are specialized automotive-grade semiconductors designed to execute real-time perception, sensor fusion, localization, prediction, and driving-policy inference by accelerating AI workloads such as convolutional neural networks, transformers, and classical vision algorithms under strict latency, safety (ISO 26262), and power constraints. Their supply chain begins with IP and architecture design (CPU/GPU/NPU/ASIC cores, safety islands, and software toolchains), followed by logic wafer fabrication at advanced foundries (primarily 5–7 nm, with some 10–16 nm for cost and reliability), advanced packaging (2.5D/3D, chiplets, high-bandwidth memory integration), and automotive qualification and testing; upstream materials and equipment suppliers (EDA tools, lithography, substrates, and memory) feed this process, while downstream Tier-1 automotive suppliers integrate the chips into domain controllers or centralized compute platforms, which are then validated with vehicle OEMs and deployed across passenger cars, robotaxis, and commercial vehicles, supported by long-term software updates and lifecycle management.

This report is a detailed and comprehensive analysis for global AI Chips for Self-Driving market. Both quantitative and qualitative analyses are presented by manufacturers, by

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region & country, by Type and by Application. As the market is constantly changing, this report explores the competition, supply and demand trends, as well as key factors that contribute to its changing demands across many markets. Company profiles and product examples of selected competitors, along with market share estimates of some of the selected leaders for the year 2025, are provided.

Key Features:

Global AI Chips for Self-Driving market size and forecasts, in consumption value ($ Million), sales quantity (K Pcs), and average selling prices (US$/Pcs), 2021-2032

Global AI Chips for Self-Driving market size and forecasts by region and country, in consumption value ($ Million), sales quantity (K Pcs), and average selling prices (US$/Pcs), 2021-2032

Global AI Chips for Self-Driving market size and forecasts, by Type and by Application, in consumption value ($ Million), sales quantity (K Pcs), and average selling prices (US$/Pcs), 2021-2032

Global AI Chips for Self-Driving market shares of main players, shipments in revenue ($ Million), sales quantity (K Pcs), and ASP (US$/Pcs), 2021-2026

The Primary Objectives in This Report Are:

To determine the size of the total market opportunity of global and key countries
To assess the growth potential for AI Chips for Self-Driving
To forecast future growth in each product and end-use market
To assess competitive factors affecting the marketplace

This report profiles key players in the global AI Chips for Self-Driving market based on the following parameters - company overview, sales quantity, revenue, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include NVIDIA, Qualcomm, Intel, AMD, Tesla, Black Sesame Technologies, NIO, XPeng, Rivian, Samsung, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Market Segmentation

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AI Chips for Self-Driving market is split by Type and by Application. For the period 2021-2032, the growth among segments provides accurate calculations and forecasts for consumption value by Type, and by Application in terms of volume and value. This analysis can help you expand your business by targeting qualified niche markets.

Market segment by Type

CPU-centric AI Chips

GPU-based AI Chips

NPU-centric AI Chips

Market segment by AI Performance

Low AI Compute (500 TOPS)

Market segment by Application

Passenger Vehicles

Commercial Vehicles

Robotaxis

Major players covered

NVIDIA

Qualcomm

Intel

AMD

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Tesla

Black Sesame Technologies

NIO

XPeng

Rivian

Samsung

Tenstorrent

BOS Semiconductors

Hailo

Syntiant

Graphcore

Broadcom

NXP

Renesas

Market segment by region, regional analysis covers
North America (United States, Canada, and Mexico)
Europe (Germany, France, United Kingdom, Russia, Italy, and Rest of Europe)
Asia-Pacific (China, Japan, Korea, India, Southeast Asia, and Australia)
South America (Brazil, Argentina, Colombia, and Rest of South America)
Middle East & Africa (Saudi Arabia, UAE, Egypt, South Africa, and Rest of Middle East & Africa)

The content of the study subjects, includes a total of 15 chapters:

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Chapter 1, to describe AI Chips for Self-Driving product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of AI Chips for Self-Driving, with price, sales quantity, revenue, and global market share of AI Chips for Self-Driving from 2021 to 2026.

Chapter 3, the AI Chips for Self-Driving competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the AI Chips for Self-Driving breakdown data are shown at the regional level, to show the sales quantity, consumption value, and growth by regions, from 2021 to 2032.

Chapter 5 and 6, to segment the sales by Type and by Application, with sales market share and growth rate by Type, by Application, from 2021 to 2032.

Chapter 7, 8, 9, 10 and 11, to break the sales data at the country level, with sales quantity, consumption value, and market share for key countries in the world, from 2021 to 2026.and AI Chips for Self-Driving market forecast, by regions, by Type, and by Application, with sales and revenue, from 2027 to 2032.

Chapter 12, market dynamics, drivers, restraints, trends, and Porters Five Forces analysis.

Chapter 13, the key raw materials and key suppliers, and industry chain of AI Chips for Self-Driving.

Chapter 14 and 15, to describe AI Chips for Self-Driving sales channel, distributors, customers, research findings and conclusion.

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Figure 91. Research Process and Data Source

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