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Global Superhard Tools for Automotive Manufaturing 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 Superhard Tools for Automotive Manufaturing market size was valued at US$ 724 million in 2025 and is forecast to a readjusted size of US$ 1041 million by 2032 with a CAGR of 5.4% during review period.

Superhard tools for automotive manufacturing are cutting tools made from polycarbonate (PCD) and cubic boron nitride (PCBN) using processes such as hot pressing and vapor deposition. They are specifically designed for high-precision machining of key automotive components such as aluminum alloys, titanium alloys, and high-strength steels, meeting the demands of lightweight, high-efficiency, and low-defect manufacturing. Global sales of Superhard tools for automotive manufacturing are expected to reach 32 million units in 2025, with an average selling price of approximately US$22 per unit. The upstream sector is the supply of superhard materials, including PCD/PCBN composite sheets and CVD diamond films. Domestic companies such as Zhongnan Diamond and Huanghe Cyclone have achieved technological breakthroughs, ensuring a stable supply. The midstream sector is tool manufacturing, encompassing welded, indexable, and monolithic structures. Technological approaches include hot pressing, sintering, and CVD deposition. Domestic companies already possess the production capacity for mid- to high-end tools. Downstream applications encompass system processing for engines, transmissions, and chassis, as well as emerging areas such as motor housings and battery trays for new energy vehicles, forming a closed loop of 'materials-manufacturing-application.'

The main market drivers include the following:

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Manufacturing upgrades drive dual improvements in processing precision and efficiency. As a typical sector of high-end manufacturing, automobile manufacturing continuously upgrades its requirements for the precision, surface quality, and production efficiency of parts processing. Traditional cutting tools are prone to rapid wear and thermal deformation when processing high-hardness materials (such as hardened steel and titanium alloys), leading to decreased processing precision and frequent tool changes and downtime. Superhard cutting tools (such as PCD diamond tools and PCBN cubic boron nitride tools), with their high hardness, high wear resistance, and excellent thermal stability, can achieve high-speed cutting and dry cutting, significantly improving processing efficiency. For example, in engine block machining, cermet inserts can operate stably at 1200?, reducing single-piece machining time by more than 30%, while eliminating the traditional grinding process, achieving a 'milling instead of grinding' technological innovation. This technological advantage directly aligns with the core needs of automobile manufacturing for 'quality and efficiency improvement,' becoming a core driving force for market growth.

New energy vehicles and export growth generate structural demand. The global automotive industry is undergoing electrification and intelligent transformation, with the production share of new energy vehicles continuing to rise. The application of lightweight materials (such as high-silicon aluminum alloys and carbon fiber composites) in new energy vehicles places higher demands on cutting tool performance. Traditional cutting tools are prone to chipping and short lifespan when machining these materials, while superhard cutting tools, with their superior cutting adaptability and long lifespan, have become the preferred choice for machining new energy vehicle parts. Furthermore, the growth in China's automobile exports has driven demand for overseas factory construction, increasing the reliance of overseas factories on localized cutting tool supply chains and providing market expansion opportunities for domestic superhard cutting tool companies. For example, domestically produced PCBN cutting tools have achieved import substitution in the machining of ball-cage universal joints for automotive steering systems, achieving an accuracy of ?0.002 micrometers, meeting the stringent standards of high-end models and further consolidating their market position.

Policy guidance and domestic substitution accelerate market penetration. At the national level, policies such as 'Made in China 2025' and the '14th Five-Year Plan for the Development of the Machine Tool Industry' have clearly identified high-end CNC machine tools and functional components as key development areas, emphasizing breakthroughs in key technologies and increasing the proportion of mid-to-high-end products. As a core consumable for CNC machine tools, superhard cutting tools directly

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benefit from policy dividends. Simultaneously, domestic companies are gradually breaking foreign technological monopolies through technological breakthroughs and supply chain collaboration. For example, companies like Zhengzhou Diamond Precision have overcome more than 3,800 technological challenges, covering 90% of the automotive sub-sectors and providing end-to-end tooling solutions from engines to new energy vehicles. Although the high-end market is still dominated by European, American, and Japanese companies, domestically produced superhard tools are rapidly penetrating the low-to-mid-end market due to their cost-effectiveness and have achieved large-scale applications in fields such as photovoltaics and 3C electronics, forming a dual-driven pattern of 'import substitution + export expansion'.

This report is a detailed and comprehensive analysis for global Superhard Tools for Automotive Manufaturing market. Both quantitative and qualitative analyses are presented by manufacturers, by 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 Superhard Tools for Automotive Manufaturing market size and forecasts, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Superhard Tools for Automotive Manufaturing market size and forecasts by region and country, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Superhard Tools for Automotive Manufaturing market size and forecasts, by Type and by Application, in consumption value ($ Million), sales quantity (K Units), and average selling prices (US$/Unit), 2021-2032

Global Superhard Tools for Automotive Manufaturing market shares of main players, shipments in revenue ($ Million), sales quantity (K Units), and ASP (US$/Unit), 2021-2026

The Primary Objectives in This Report Are:

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To determine the size of the total market opportunity of global and key countries

To assess the growth potential for Superhard Tools for Automotive Manufaturing

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 Superhard Tools for Automotive Manufaturing 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 Sumitomo, Kennametal, Mitsubishi, Mapal, Sandvik, Beijing World Diamond Tools, Iscar, Funik, Shanghai Nagoya Precision Tools, Ingersoll Cutting Tools, etc.

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

Market Segmentation

Superhard Tools for Automotive Manufaturing 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

Cubic Boron Nitride

Diamond

Market segment by Product Form

Weldable Type

Inverter Type

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Integrated Type

Market segment by Sales Channel

Online Sales

Offline Sales

Market segment by Application

New Energy Vehicles

Fuel Vehicles

Major players covered

Sumitomo

Kennametal

Mitsubishi

Mapal

Sandvik

Beijing World Diamond Tools

Iscar

Funik

Shanghai Nagoya Precision Tools

Ingersoll Cutting Tools

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YG-1

Kyocera

Weihai Weiying Tools

TaeguTec

Shenzhen Zhongtian Superhard Tools

Preziss Tool

Sifangda

Tungaloy

CERATIZIT S.A.

Zhuzhou Diamond

Zhengzhou Diamond Precision Manufacturing

Wirutex S.r.l.

Korloy

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

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Middle East & Africa)

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

Chapter 1, to describe Superhard Tools for Automotive Manufaturing product scope, market overview, market estimation caveats and base year.

Chapter 2, to profile the top manufacturers of Superhard Tools for Automotive Manufaturing, with price, sales quantity, revenue, and global market share of Superhard Tools for Automotive Manufaturing from 2021 to 2026.

Chapter 3, the Superhard Tools for Automotive Manufaturing competitive situation, sales quantity, revenue, and global market share of top manufacturers are analyzed emphatically by landscape contrast.

Chapter 4, the Superhard Tools for Automotive Manufaturing 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 Superhard Tools for Automotive Manufaturing 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 Superhard Tools for Automotive Manufaturing.

Chapter 14 and 15, to describe Superhard Tools for Automotive Manufaturing sales channel, distributors, customers, research findings and conclusion.

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3 COMPETITIVE ENVIRONMENT: SUPERHARD TOOLS FOR AUTOMOTIVE MANUFATURING BY MANUFACTURER

+357 96 030922
info@marketpublishers.com

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info@marketpublishers.com

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info@marketpublishers.com

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