

Report Information

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Gasoline Direct Injection (GDI) Market Research Report – Global Forecast To 2030

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Description:

Gasoline Direct Injection (GDI) Market Outlook

The gasoline direct injection (GDI) market is projected to register a CAGR of 5.90% from 2022 to 2030. Fuel is insulated directly into the combustion chamber of an automobile by a process called gasoline direct injection (GDI). This technique creates a mixture of gasoline-powered internal combustion engines. Due to its increased fuel efficiency and strong power output, the gasoline direct injection (GDI) accomplishes its system, which is far more precise than conventional fuel-injection systems or carburetors. The market is growing due to the increasing use of GDI in passenger cars and commercial vehicles. The market is also expanding due to rising demand for high-performance, fuel-efficient vehicles. However, emerging trends in the automotive industry for vehicle electrification are weighing on the growth of the gasoline direct injection (GDI) system market. The advancement of advanced technology, such as the gasoline turbo injection system, as well as the integration of GDI in hybrid vehicles to improve vehicle propulsion, creates a lucrative opportunity for market participants in the gasoline direct injection (GDI) market. The gasoline direct injection (GDI) market size is expected to reach approximately USD 11,280 Million by 2030.

COVID-19 Impact Analysis

In 2020, the world economy was severely hit by a large decline in mobility, the closure of industries, reduced road travel, and other factors related to the coronavirus pandemic outbreak and unprecedented turbulence in the market. In addition, the immigration ban and lockdown rules have made trained workers scarce, which has disrupted the industrial industry. Due to supply chain disruption and rising demand for raw materials, such as steel spools and engine components, the COVID-19 pandemic has caused a setback for automotive component producers worldwide and stalled component demand in the automobile industry. Additionally, COVID-19's effects on fuel demand have led to large fluctuations in fuel prices across several regions, which has led to a fall in the sales and use of gasoline-powered automobiles.

Market Dynamics

As per the gasoline direct injection (GDI) market dynamics, the factors driving the market's growth include the increasing automobile manufacturing. The market is also expanding due to rapidly rising demand for high fuel efficiency and rigorous government requirements, expanding application of environmental regulations, and expanding acceptance of innovative automotive technologies. The gasoline direct injection (GDI) market driver includes adopting cutting-edge technology to keep up with the leading manufacturers in the automobile sector. The gasoline direct injection (GDI) market report indicated that factors, including the rise in the use of alternative fuels like ethanol and the rising trend of engine downsizing, are driving its demand. Numerous automobile industry enterprises have a bright outlook thanks to increased investment.

Gasoline Direct Injection (GDI) Market Drivers

- **Increasing demand for fuel efficiency and improved operational engine performance**

As per the market overview, specific measures are being taken to develop and enforce stricter vehicle emission standards to reduce tailpipe unburned hydrocarbons, nitrogen oxides (NOx), and particulate matter due to growing concerns about the deteriorating ambient air quality (PM). In order to cut down on the number of carbon emissions into the atmosphere, regions with modern technology began concentrating on controlling the levels of pollutants. Gasoline direct injection (GDI) engines can deliver the appropriate balance of high performance and fuel efficiency to regulate and

optimize vehicle performance at an affordable price. A wide variety of solutions are made specifically to adhere to pollution regulations and offer higher fuel efficiency. For instance, in May 2021, STMicroelectronics made electronic control possible for the following generation of gasoline direct injection engines, a recent breakthrough in the context.

- **Government regulations for automotive emission reduction**

Market Restraints:

- **Rising electric vehicle demand to hamper market growth**

Sales of automobiles with internal combustion engines have decreased as the number of electric cars on the road has grown, indicating that less oil is being used to generate power. Due to this, IC engine parts like injectors and fuel rails are now being produced at a lower rate. Additionally, as more governments adopt this technology due to recent developments in clean energy for cars, the sales and output of conventional internal combustion engines are declining. For instance, 12.5% of new light-duty vehicle registrations in California in 2021 were Plug-in Electric Vehicles (PEV). Hybrid electric vehicle registrations in the European Union increased to 19.6% of all new passenger car registrations in 2021 from 11.9% in 2020, while sales of gasoline-powered vehicles decreased by approximately 33.5%, with decreases seen in nearly all EU markets. Thus, as per the market research, the increased sale of electric vehicle limit the market growth.

Market Opportunities:

- **Growing demand for engine downsizing and lightweight vehicles**

Engine downsizing is a technique that helps internal combustion engines use less fuel and emit fewer emissions. Due to this, manufacturers concentrate on engine reduction to improve fuel efficiency and engine performance. For instance, Hyundai introduced the new, smaller "SmartStream 3.5 FR T-GDI" engine in 2021 to replace its 5.0-liter V8 engine. Future Demand for GDI systems is anticipated to increase due to this tendency toward engine reduction. The gasoline direct injection (GDI) market size is increasing as a result of an increase in consumer preference for smaller engines and lighter automobiles.

Segment Overview

By Vehicle Type Insights

The gasoline direct injection (GDI) market segmentation on the basis of stroke type include compact vehicles, mid-sized vehicles, premium vehicles, luxury vehicles, commercial vehicles, and heavy commercial vehicles. The gasoline direct injection (GDI) market growth was prominently high under the commercial vehicle segment in 2021 due to consumers' increasing preference for luxury and premium vehicles, particularly in developed nations, and the installation of direct injection systems in those vehicles.

In addition, the commercial vehicle market is expected to expand steadily as a result of increased international trade and road traffic. Diesel-powered heavy and medium commercial vehicles greatly increase vehicle emissions, making the use of gasoline-powered engines necessary to reduce their negative effects on the environment.

By Sales Channel Insights

The gasoline direct injection (GDI) market segmentation on the basis of sales channel includes OEM, and aftermarket. The OEM segment had a prominent share in 2021. The development in automotive manufacturers regarding various feature installments is driving the OEM segment of the gasoline direct injection market.

Global Gasoline Direct Injection (GDI) Market Share by Region, 2021 (%)

Gasoline Direct Injection (GDI) Market Share by Region, 2021
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Gasoline Direct Injection (GDI) Market Overview, by Region

As per the market forecast, the gasoline direct injection (GDI) market has been divided into North

America, Europe, Asia-Pacific, and the Rest of the World. Asia-Pacific accounted for the most extensive market share. North America is projected to exhibit the highest CAGR during the review period.

Asia-Pacific

Asia-Pacific accounted for the most extensive gasoline direct injection (GDI) market share in 2021, owing to a rise in passenger vehicle manufacture and sales in the area. In addition, automakers like Volkswagen, Tata Motors, and Suzuki are seeing strong demand for passenger cars in developing economies like Indonesia and India. Leading automakers like Tata Motors, Suzuki, Hyundai, and Toyota are all based in Asia Pacific, which has a big impact on the demand for gasoline direct injection technology.

North America

North America is anticipated to encounter the fastest growth rate during the forecast period owing to GDI gasoline direct injection technology penetration in light commercial vehicles and passenger vehicles. A shift in customer preferences toward more fuel-efficient automobiles is anticipated to propel industry growth over the forecasted period. To reduce carbon emissions, the government is enforcing rigorous regulations that include engine modifications and fuel economy standards.

Gasoline Direct Injection (GDI) Market Competitive Landscape

The competitive market landscape includes tier-1, tier-2, and local players. The key market participants generally pursue new gasoline direct injection (GDI) market categories. Leading companies are concentrating on purchasing feed mills and small factories for the growth of their operations in domestic and international markets. For instance, in February 2022, based on its knowledge of the Standard Rail System (CRS), Denso Corporation was able to assist automakers all over the world in developing more responsive, effective, and dependable automobiles. The business has successfully marketed its GDI system with cutting-edge fuel injectors, electronics, and pumps.

Prominent players in the gasoline direct injection (GDI) market include TI Automotive (Heidelberg), STMicroelectronics, Keihin, Stanadyne Holdings, GP Performance, Infineon Technologies, Eaton, Denso, Bosch, Magneti Marelli, Delphi Automotive, Continental (indicative list), among others.

Scope of the Gasoline Direct Injection (GDI) Market Segmentation

Gasoline Direct Injection (GDI) Market, By Stroke Type Outlook

- 2 Stroke
- 4 Stroke

Gasoline Direct Injection (GDI) Market, By Vehicle Type Outlook

- Compact Vehicle
- Mid-Sized Vehicle
- Premium Vehicle
- Luxury Vehicle
- Commercial Vehicle
- Heavy Commercial Vehicle

Gasoline Direct Injection (GDI) Market, By Sales Channel Outlook

- OEM
- Aftermarket

Gasoline Direct Injection (GDI) Market, By Region Outlook

- North America
 - US
 - Canada
 - Mexico

- Europe
 - UK
 - Germany
 - France
 - Italy
 - Spain
 - Rest of Europe
- Asia-Pacific
 - China
 - India
 - Japan
 - Australia and New Zealand
 - Rest of Asia-Pacific
- Rest of the World
 - South America
 - Middle East
 - Africa

Objectives of the Study

The objectives of the study are summarized in 5 stages. They are as mentioned below:

- **Gasoline Direct Injection (GDI) Market Forecast & Size:**

To identify and estimate the market size for the gasoline direct injection (GDI) market report segmented by stroke type, vehicle type, & sales channel sector by value (in U.S. dollars). Also, to understand the consumption/demand created by consumers with gasoline direct injection (GDI) market forecast between 2022 and 2030.

- **Market Landscape and Trends:**

To identify and infer the drivers, restraints, opportunities, and challenges for the gasoline direct injection (GDI) market growth

- **Market Influencing Factors:**

To find out the factors which are affecting the gasoline direct injection (GDI) market size among consumers

- **Impact of COVID-19:**

To identify and understand the various factors involved in the gasoline direct injection (GDI) market affected by the pandemic

- **Company Profiling:**

To provide a detailed insight into the major companies operating in the market. The profiling will include the financial health of the company's past 2-3 years with segmental and regional revenue breakup, product offering, recent developments, SWOT analysis, and key strategies.

Intended Audience

- Gasoline Direct Injection (GDI) Manufacturers
- Raw Material Suppliers
- Retailers, Wholesalers, and Distributors
- Governments, Associations, and Industrial Bodies
- Investors and Trade Experts

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