

Automotive Ahss Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 70 pages | Mordor Intelligence

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Report description:

The Global Automotive AHSS (advanced high-strength steel) Market was valued at USD 18.68 Billion in 2021 and is expected to grow to USD 32.9 Billion by 2027, registering a CAGR of about 9.9% in terms of revenue during the forecast period (2022-2027).

The automotive industry was already struggling before the outbreak of COVID-19. The outbreak led to lockdowns and shutdowns of vehicle and vehicle component manufacturing facilities, dealerships, and showrooms, which eventually resulted in less demand and decreased production. However, with life returning to normalcy, vehicle production is gaining pace which is likely to help the automotive AHSS market grow during the forecast period.

Advanced high-strength steels (AHSS) help to enhance vehicle safety, efficiency, emissions, manufacturability, durability, and quality at a low cost, which is likely to increase the demand for AHSS. According to the Steel Market Development Institute (SMDI), in the future, new grades of steel are bound to play significant roles in vehicles. Advanced high-strength steel (AHSS) significantly outperforms the competing materials, for current and future automotive applications.

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Steel makes up around 70 % of an average automobile's weight. Compared to standard steel, AHSS enables to reduce vehicle weight by 23-35% which is around 165 to 250 kg, for a regular passenger car, saving 3 - 4.5 tons of greenhouse gases over the vehicle's total life cycle. This saving in emissions is much more substantial than the CO2 emitted during the complete production of steel needed in a car.

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Automotive AHSS Market Trends

Growing demand for Electric Vehicles

Electric mobility is swiftly growing globally, owing to which, the goods transportation companies are also converting their existing fleets into electric propulsion-based vehicles. OEM is redefining their roadmap for electric vehicles. For instance,?

Daimler announced a new investment plan worth EUR 70 billion or USD 85 billion for 2021 through 2025 for bringing 30 electric vehicles to the market, including 20 all-electric battery vehicles.

Due to the high cost of aluminum as compared to steel the price of electric vehicle is becoming higher . Therefore, advanced high-strength steels (AHSS) are being used as alternatives due to their stiffness, strength, and ability to absorb energy in the event of a crash. As AHSS has such a high strength, the thickness of the parts can be reduced, helping to bring down the weight. Major vehicle manufacturer use AHSS over conventional steel, which reduces the weight by 25 - 39%., such reduction in vehicle weight help to enhance the vehicle fuel efficiency. For instance,

In October 2021, Mercedes-Benz has officially commenced series production of the Mercedes-Benz eActros, its first battery-electric truck, proposed for heavy-duty distribution. The vehicle used advanced high strength steel (AHSS) had lower the vehicle weight by 25%.

Ford Motors launched Ford Mustang Mach-E consist of an electric all-wheel drive (eAWD). The vehicle provides an excellent occupant and storage space. The application of AHSS, which represents more than 50 percent of this body's structural weight, allows for optimal strength-to-weight that delivers outstanding safety ratings with an exciting driving dynamic.

Governments globally have been proactive in enacting policies to encourage the adoption of electric vehicles. China, India, France, and the United Kingdom have announced plans to completely phase out the petrol and diesel vehicles industry before 2040.? By 2040, nearly 54% of the new car sales and 33% of the global car fleets are expected to be electric. Out of it, more than 50% will be battery-electric. ?

Europe is Expected to Dominate the Market

Europe is projected to dominate automotive advanced high strength steel market during the forecast period. Within Europe, Germany is one of the prominent markets for AHSS in automobiles. The country is the largest steel producer in the EU28, with an annual production of approximately 40.07 million metric ton of crude steel in 2021. Germany is one of the fastest-growing European countries, even in the electric vehicles market.

According to IEA, in 2021, Germany registered nearly 681 thousand units of electric vehicle (EV) sales (including battery electric vehicles (BEVs) and plug-in-hybrid vehicles (PHEVs)). Future applications of advanced high-strength steel in these electric vehicles are also anticipated to propel the market.

Additionally, due to existence of major companies like ThyssenKrupp AG, this region is expected to rise towards high growth, high value segments in coming years. Additionally, Asia-Pacific will remain an extremely attractive market over the forecast period due to the rising automotive production along with green field investments around the region.

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Carmakers such as Daimler, Volkswagen, Fiat-Chrysler Research Centre, Volvo, Opel, and Toyota are working together to produce more efficient vehicles. Their goal is to reduce energy consumption by 10% and global warming potential (GWP) by 6% by reducing the vehicle's weight by 31 to 33% while maintaining the cost. These developments are expected to help the market grow.

Followed to Europe, Asia-Pacific also dominate the significant market share in terms of revenue during the forecast period. An enactment of stringent regulations regarding vehicle fuel efficiency and vehicle safety across the globe is likely to boost the market.

Automotive AHSS Market Competitor Analysis

The major companies in the automotive Advanced High-Strength Steel (AHSS) market include ArcelorMittal SA, ThyssenKrupp AG, SSAB AB, Kobe Steel Ltd, Tata Steel, and Cleveland-Cliffs Inc. Most of the steel companies are now investing heavily in advanced high-strength steel (AHSS). For instance,

In November 2021, SSAB and automotive safety supplier Autoliv have collaborated to research and develop fossil-free steel components for automotive safety products, such as airbags and seatbelts.

In September 2021, SSAB and Mercedes-Benz are launched a partnership to introduce fossil-free steel into vehicle production. ArcelorMittal SA is developing a third-generation, advanced high-strength steel, known as HF1050; HF stands for highly formable. Its versatility factor comes with weight savings, ranging between 10% and 20%, in vehicle parts.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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