

Automotive Acoustic Engineering Services Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 150 pages | Mordor Intelligence

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Report description:

The Automotive Acoustic Engineering Services Market was valued at USD 4273.15 Million in 2021 and is projected to grow to USD 6780.67 Million in 2027, witnessing a CAGR of 8.13% in terms of revenue during the forecast period (2022-2027).

The COVID-19 pandemic has affected the growth of the automotive acoustic engineering services market. The decline in passenger and commercial vehicle sales in 2020 and the temporary shutdown of vehicle and component production facilities have decreased. Major vehicle testing facilities have been stopped during the pandemic, which is likely to affect the market.

Factors such as increasing stringency in vehicle noise rules and demand for interior cabin comfort and luxury amenities are expected to raise the global automotive acoustic engineering services market. For instance,

Beginning with Directive 70/157/EEC in 1970, the United Nations Economic Commission for Europe (UNECE) released a series of 137 laws regarding vehicle noise. Furthermore, the International Organization for Standardization (ISO) and Technical Committee 43 (ISO/TC 43) are addressing global acoustics issues, some of which are connected to vehicle noise issues. As a result, the global enforcement of rules drives the need for automotive acoustic engineering equipment, fueling the growth of the global automotive acoustic engineering services market.

Engine downsizing entails using a smaller and lighter engine in a vehicle to produce the power of a bigger engine. It can be accomplished by lowering engine displacement and cylinder count or incorporating a forced aspiration device such as a turbocharger or supercharger and direct-injection technology. Both elements, however, may significantly impact the vehicle's overall noise, vibration, and harshness (NVH) behavior. During the projected period, the rising trend of engine downsizing is expected to provide lucrative prospects for advancing the global automotive acoustic engineering market.

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Powertrain Application dominating the market

Based on the application, the powertrain segment held a major market share in revenue in 2021. Powertrain noise, vibration, and harshness (NVH) testing are generally concerned with the overall driver experience during vehicle propulsion. These tests include everything that makes the mobility of a vehicle. The allowed noise levels and sound quality are the most important, as more of the auto parts assembled in the drive train is responsible for making unpleasant sounds during vehicle dynamics, thus making the driving experience worse.

The noise from several powertrain component sources includes the internal combustion engine (ICE), tailpipe, exhaust system, gearbox, pumps, belt drive system, and accessories used in cooling systems. Moreover, the fuel pump is known for transmitting airborne and structure-borne particles into the vehicle, thus contributing primarily to the overall vehicle acoustic standard. These component noises are regulated by legislation to enhance the vehicle's driving experience.

The United Nations Economic Commission for Europe (UNECE) and the working party on Noise and Tires coordinates gave the regulations for its 56 member states in Europe, Asia, and North America. The member states have executed certain regulations locally, including controlling the overall vehicle noise emission from the powertrain. In addition, manufacturers must determine their pass-by noise compliance with present regulations to ensure their noise emissions standards are within the compliance regulation limits.

Thus, many vehicle manufacturers conduct the powertrain test to maintain the standards compliances. These main tests cover sound pressure levels and powertrain integrity tests under several load conditions, including vehicle launch, acceleration, steady state, partial load, and maximum load.

Thus, the demand for power train acoustic testing is expected to witness high growth during the forecast period.

Asia-Pacific to hold major market share

Asia-Pacific witnessed major growth in terms of revenue in 2021. The rise in demand for electric vehicles across the region offers opportunities to acoustics services providers.

China is one of the world's largest automotive markets; more than 21.39 million passenger cars were sold in the country in 2021 and recorded an increase of 6% in yearly sales compared to 2020. Despite the economic conflicts with the United States and the impact of the COVID-19 pandemic, China is still one of the largest sellers of automobiles, which is a great opportunity for automotive acoustic engineering service providers to make their place in the Chinese automobile market. Moreover, in 2021, China has exported more than 1.6-million-unit passenger vehicles and 402,000 unit commercial vehicles.

Japan is expected to show remarkable deployment of automotive acoustic engineering services in electric vehicles during the forecast period due to the government initiative, which is likely to catalyze the rapid emergence of EVs in the country. For instance,

□ In November 2021, Japan government announced to double their incentives for electric vehicles to 800,000 Yen per vehicle and subsidizes charging infrastructure to catch up with matured economies, including North America and Europe.

In India, automakers are partnering with institutes for research in autonomous vehicles. For instance, in March 2021, MG Motor

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India joined IIT Delhi's Centre for Automotive Research and Tribology (CART) to research electric and autonomous vehicles. IIT Delhi will help MG to further focus on CASE mobility (Connected - Autonomous - Shared - Electric); by enabling supporting research for the deployment of electric and autonomous vehicles in the urban landscape in India, which would be an evident sign of the growth of automotive acoustic engineering services.

Thus, all the factors mentioned above will increase automotive acoustic engineering services adoption across various vehicle propulsion systems.

Automotive Acoustic Engineering Services Market Competitor Analysis

The Automotive Acoustic Engineering Services Market is concentrated, with a few players accounting for a major market share. Some prominent companies in the Automotive Acoustic Engineering Services Market are Siemens, Robert Bosch, Autoneum, Adler Pelzer, Bertrandt AG, Schaeffler Engineering GmbH, and others.

Key players are expanding by developing new research and manufacturing facilities to gain market share. For instance,

□ In May 2022, Adler Pelzer Group (APG) signed a Memorandum of Understanding with the Government of Taixing City, where it plans to manufacture parts for its customers using its latest technologies of composite material for interior and exterior hard trims.

□ In June 2021, Autoneum announced a collaboration with Free Field Technologies, a Belgian software company (FFT). Autoneum's proven acoustic simulation methods for vehicle acoustics are being integrated into FFT's leading modeling software, Actran, setting new standards in CAE design of noise, vibration, harshness (NVH), and data exchange.

Additional Benefits:

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

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