



TOYODA GOSEI

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Toyoda Gosei Develops System to Experience Vehicle Interior Sounds with Sealing Parts for Quieter Cabin Space

Also helps to reduce worker-hours by proposing the optimum combination of parts

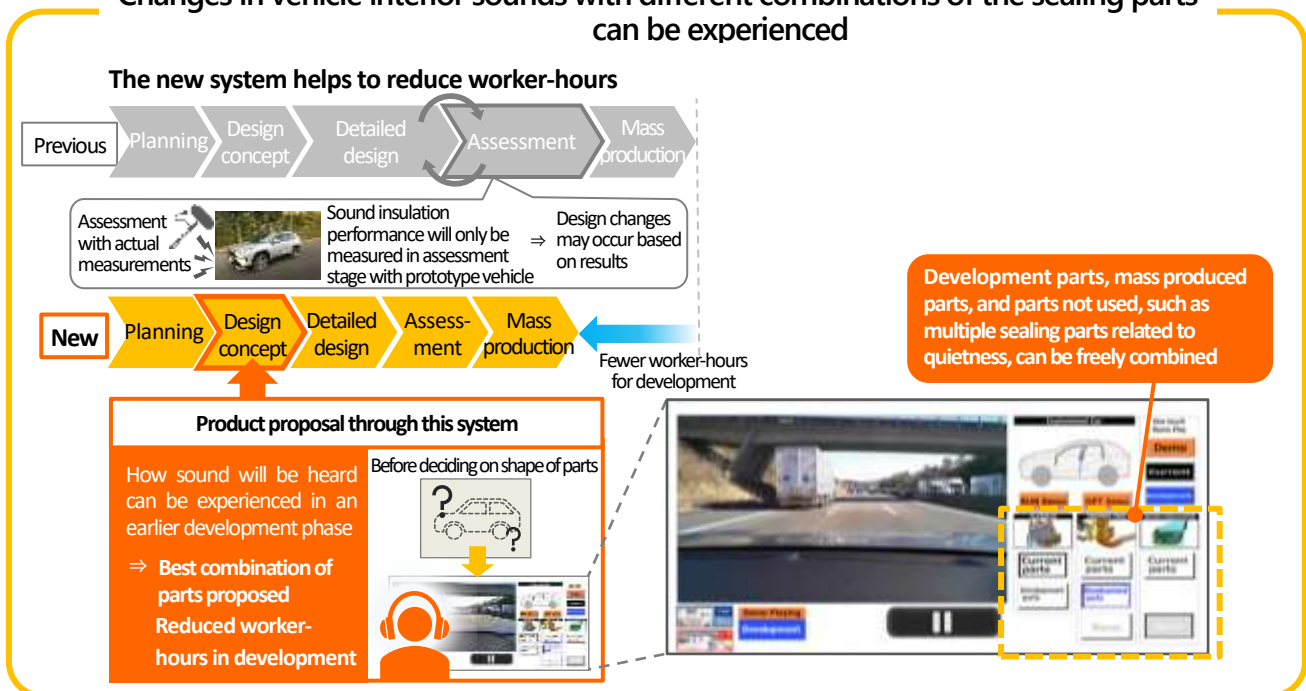
Kiyosu, Japan, September 13, 2024: Toyoda Gosei Co., Ltd. has developed a new system that enables automotive developers to experience changes in vehicle interior sounds with different combinations of the sealing parts (weatherstrips) installed on those vehicles. This contributes to the creation of more comfortable moving spaces through improved quietness in cabin.

The electric vehicles and fuel cell vehicles that are coming into wider use are quieter than traditional vehicles since they are driven by motors and have no engine noise. This means that more wind noise and road noise reach the ear, and demands better sound insulation parts. To meet these needs, Toyoda Gosei has been developing high performance sealing parts.

The company's new system makes it possible, in the design concept stage before deciding the shape of parts for new models, to hear driving sounds with sealing parts under development installed. This will lead to proposals for the best combination of sealing parts for the creation of quieter cabin space. It also helps to minimize the design changes in parts that have traditionally occurred following performance assessments of prototype vehicles, which is promising for the reduction of development worker-hours.

This system was achieved with the assessment technology using actual measurements of sound that Toyoda Gosei has cultivated up to this time. The company is planning to further raise the predictive accuracy of the new system by combining machine learning with artificial intelligence, to predict and reproduce how sound will be heard even before part prototypes are made. By proposing parts that raise quietness in the early stages of vehicle development, Toyoda Gosei aims to contribute to quieter and more comfortable mobility in society.

Changes in vehicle interior sounds with different combinations of the sealing parts can be experienced



Reference: Toyoda Gosei's sealing parts
Attached to door and window frames to improve quietness by keeping wind, rain and noise out of the vehicle cabin, and by holding and the smooth opening and closing of window glass

- (1) Opening trim weatherstrips
- (2) Door glass runs
- (3) Door weatherstrips

