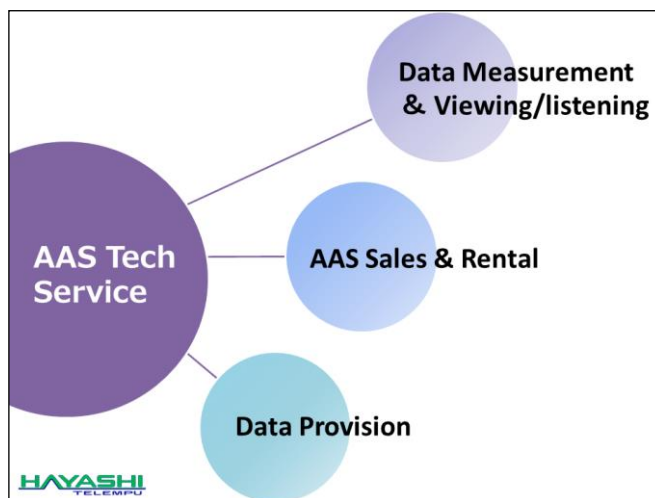


New service of the original vehicle acoustic simulator Virtualization of test drives and providing in-car sound data, etc.

HAYASHI TELEMPU CORPORATION (HQ located in Nagoya, JAPAN) is launching a new business, "the AAS Tech Service" (hereinafter referred to as the "AAS Service"), to support research and development in the field of soundproofing for the automotive industry by providing a variety of services through the original Advanced Acoustic Simulator (hereinafter referred to as "AAS"), which is capable of reproducing the sound inside a car while driving in a realistic manner.

Specifically, it will provide: (1) a data measurement and viewing/listening service, which we measure the customer's vehicle's interior sound while driving on a designated course or vehicle, and make it available for viewing/listening on the AAS; (2) unit sales and rentals, which the customer can use the AAS; and (3) a data providing service, which the customer can view/listen a data library that records the interior sound of vehicles of various segments and categories while driving on the AAS.



AAS service is scheduled to expand to North America, Europe, China and Thailand.



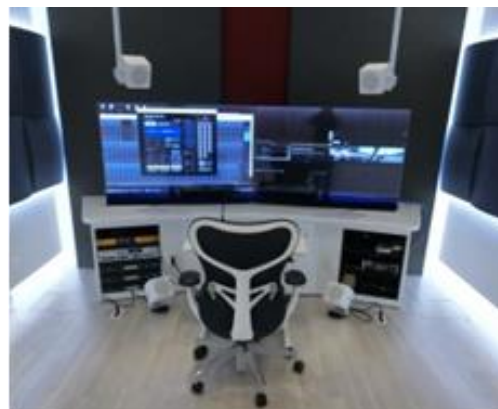
The AAS is equipped with a 3D sound system, a curved OLED display and seats with a vibration function.

What is the Advanced Acoustic Simulator?

Our original vehicle acoustic simulator, AAS, uniquely developed in 2018, is a system that uses 3D acoustic technology to faithfully reproduce pre-recorded in-car sound during driving. Not only does it reproduce sound, but it also links video and vibrations for even more realistic reproduction, and is equipped with a function to reproduce actual sound based on analysis data to predict changes in sound when changes are made to the position, material or thickness of soundproofing materials.

(1) Data Measurement and Viewing/listening Service

With the data measurement and viewing/listening service, we measure the sound inside the vehicle while driving on a customer-specified course or vehicle and makes it available for viewing/listening on the AAS. This makes it possible to hold virtual test drives to evaluate the vehicle's quietness. Traditional test drives using actual vehicles have been affected by weather conditions and driver's habits and so that it makes difficult to compare vehicles under the exact same conditions.



AAS Operations Room

With AAS, pre-recorded data is used, such comparisons can be made under the same conditions as many times as needed. By simply switching data, a comparison with another vehicle can be made immediately, which means that there is no extra time and the experience can be compared at ideal intervals. In addition, the service is able to reproduce the predicted changes in sound when modifications are made to the soundproofing material, based on our analysis data in real sound. It is also possible to virtually compare and study the sound of a development target.

(2) AAS sales and rental

Until now, AAS has been used mainly within our group. In order to make it useful for the research and development of more automotive-related manufacturers, we will now begin full-scale sales and rentals of the unit. Customers can hold virtual test drives and view/listen the driving sound data library (see below) flexibly by using the system.

(3) Data Providing Service

The ASS data providing service offers users to view/listen and compare the interior sound data of various types of domestic and foreign vehicles, including electric vehicles.

The service allows users to virtually compare the sound of any number of vehicles, from mass-market cars to luxury cars, using HAYASHI TELEMPU's extensive library of precisely recorded data. The vehicle lineup will be expanded further. A Usage-based system and a subscription system are available, allowing customers to operate the service in accordance with their own style.

〈About Service Operators〉

We have established a new subsidiary, Tokai Labo, Ltd. (HQ located in Nagoya, Japan), to develop our AAS business in a speedy and attentive manner. They will manage the AAS service and propose optimal solutions that take advantage of our Group's comprehensive capabilities.

〈For further information〉

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