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VisualSISAB acoustic simulation software with even higher performance

With the innovative acoustic simulation software VisualSISAB, Autoneum has for over 30 years been setting standards in the simulation of acoustic behavior of vehicle components. Now the software has received a high-level upgrade and has been expanded with new functions. VisualSISAB thus combines Autoneum's pioneering acoustic competence with the specific requirements of automobile manufacturers. This way Autoneum supports the development departments of the OEMs in swiftly evaluating effective, lightweight and cost-effective noise protection components.

Autoneum's multifunctional noise and heat protection components contribute to driving comfort and in doing so also make an important contribution to vehicle quality. As these components have to fulfil a variety of complex requirements depending on where they are deployed in the vehicle, Autoneum makes use during their development of a simulation software application designed especially for this purpose. VisualSISAB enables material compositions and thicknesses of press-molded components already to be reviewed with respect to these requirements and adjusted if necessary during the CAD stage by means of computer-controlled simulations – a prerequisite for the development and manufacture of effective, lightweight and cost-optimized noise protection components.

Virtual prototype development and automated "trial and error"

While VisualSISAB from Autoneum was already one of the highest performing applications for simulating the acoustic behavior of components, the software has now been expanded with two additional pioneering features. Dr Maurizio Mantovani, Head of Research and Technology at Autoneum, explains: "The upgrade of VisualSISAB reflects our extensive expertise in the development of acoustic components. The new feature provides an automated 'trial-and-error' procedure for analyzing acoustic behavior, testing millions of combinations of potential materials and degrees of compression before automatically suggesting the optimal combination for meeting predefined acoustic and weight requirements. The enhanced software also enables virtual prototype development, whereby component material thicknesses are automatically adjusted to the available packaging space."

The application areas of VisualSISAB are varied and cover a broad spectrum of needs. The high-performance software not only plays a decisive role in the development of new product technologies but also offers a whole range of benefits for the further development of existing components – design adjustments can be quickly reviewed in terms of possible effects on acoustic behavior, thereby reducing toolmaking and prototype costs, for instance.

From SISAB to VisualSISAB

The SISAB software was launched by Autoneum in the 1980s and has undergone continuous further development ever since. SISAB stands for “Sandwich Insulation and Absorption”. “Sandwich” refers to the press-molded multilayer acoustic components, “Insulation” to noise-reducing and “Absorption” to noise-absorbing properties. SISAB was later upgraded with 3D visualization and has since borne the label VisualSISAB. The software makes use of a large number of mathematical models based on complex homogenization theories to calculate the acoustic properties. VisualSISAB is the only software solution that includes the geometry and shape of components in an extremely time-efficient simulation. This makes VisualSISAB the leading software application in the field of acoustic simulation.

The VisualSISAB software application was originally developed for internal purposes but can today also be purchased by automobile manufacturers.

Photos

Picture material of VisualSISAB is available for download at www.autoneum.com/media/press-kits.

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About Autoneum

Autoneum, with its headquarters in Winterthur, Switzerland, is the globally leading producer of vehicle acoustics and thermal management systems. The company develops and manufactures components, modules and complete systems for interior and engine bay as well as heatshields and underbody shields. Customers include leading automobile producers in the key markets of Europe, North America, South America and Asia. Autoneum is represented at around 50 locations in over 20 countries and employs more than 11,000 people worldwide, of whom about 5% are in Switzerland. The company is listed on the SIX Swiss Exchange (ticker symbol AUTN).

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