

PHONONIC VIBES | MERCEDES-BENZ

Lightweight Noise Reduction Metamaterials

Phononic Vibes, in cooperation with Mercedes-Benz and Adler Pelzer, has developed an innovative lightweight and silent metamaterial solution.

THE CHALLENGE

In the automotive industry, noise reduction and weight saving are a constant challenge, since addressing the former can impair the latter. Metamaterials offer a solution for this matter by combining lightweight design with performant noise and vibration capabilities. The three-party partnership connecting Phononic Vibes (startup), Adler Pelzer (Tier 1), and Mercedes-Benz (OEM), pursues the goal to realize the metamaterial technology for mass production.

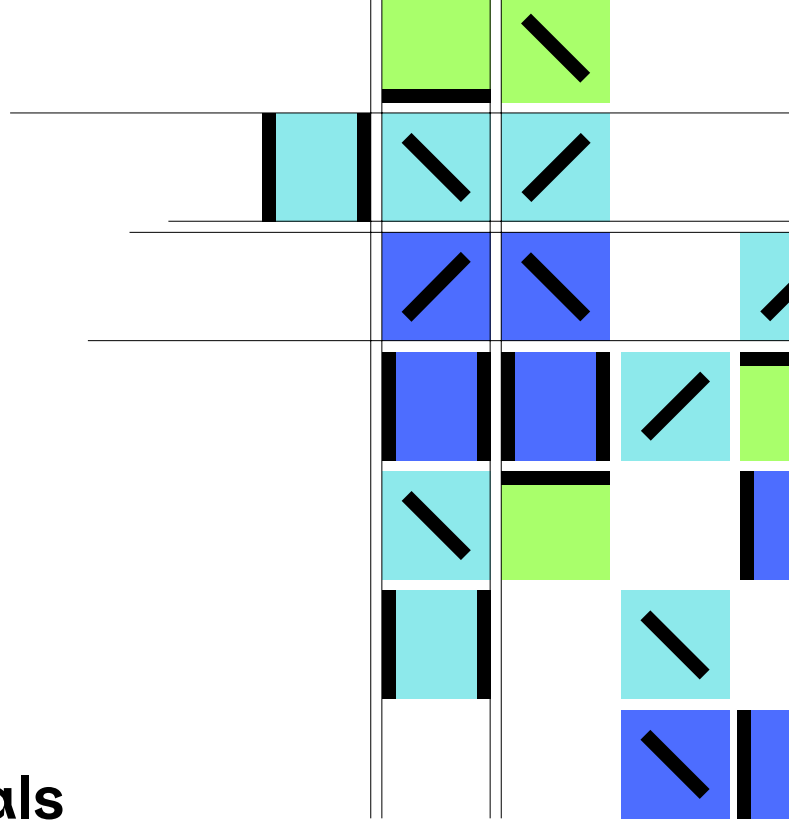
THE SOLUTION

Phononic Vibes along with the Mercedes-Benz and the Adler Pelzer teams designed a metamaterial technology that reduces mass and at the same time improves NVH performance of a dash insulation. The shared know-how among the three parties enables a unique combination of expertise: from tech to product development and implementation into series production.

THE OUTCOME

The developed metamaterial solution can reduce the weight of the car part by up to 30%, while keeping the same acoustic performance. This leads to a significant weight reduction in the vehicle, which is a highly important achievement for both Mercedes-Benz and Adler Pelzer. Given these positive results, the metamaterial is currently being prepared for series production.

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PHONONIC VIBES

WEBSITE

phononic-vibes.com

FOUNDED

2018

HEADQUARTERS

Milan, Italy

NO. OF EMPLOYEES

10–50



PHONONIC VIBES
THE METAMATERIAL EXPERIENCE

Phononic Vibes reduces noise and vibrations with lightweight and efficient metamaterial solutions.

Phononic Vibes's product improves noise and vibration mitigation with lightweight, cost-effective, and performant solutions. The improvement of noise mitigation efficiency is possible using metamaterial technology.

ABOUT STARTUP AUTOBAHN

STARTUP AUTOBAHN powered by Plug and Play is an open innovation platform that provides an interface between innovative tech companies and industry-leading corporations. The basis of the program is the partnership that develops between startups and the corporate business units. The two entities hold an equal footing from the get-go: together they evaluate the potential for a joint venture, move forward to pilot the technology, and work to achieve the ultimate goal – a successful production-ready implementation. Designed with the intention to exceed startup acceleration, STARTUP AUTOBAHN powered by Plug and Play moderates a community for collaboration with a focus on implementable results. Over the years, the platform has successfully cultivated over 400 projects with more than 300 startups since its founding in 2016.

ACKNOWLEDGEMENTS

We would like to express our sincere thanks to Johannes Weiss (Mercedes-Benz) and Luca Sangiuliano (Phononic Vibes).

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