
New Company Launches Ultra-light, Low Carbon ‘Aerogel’ Insulation Materials

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University of Bath spin-out company Aerogel Core Ltd set to develop next generation materials for the aerospace and automotive industries

A team of engineers from the [University of Bath](#) has created a new company, Aerogel Core Ltd, specialising in ultra-light ‘aerogels’ that can be used as soundproofing and heat-shielding materials for the aerospace and automotive industries.

The team has been funded by Innovate [UK](#) to spin out the company to commercialise its innovative and environmentally friendly aerogels, which are synthetic, porous materials manufactured by replacing the liquid component normally found in gels with gas.

Crucially, the team has found a way to use graphene to produce aerogels that retain their shape and strength, without the gel structure collapsing.

As well as tuneable acoustic properties, ultralight aerogels have other functional properties such as thermal, fire and electromagnetic interference shielding. The coupling of both acoustic and other functional properties provides a material that can have a large impact within many industrial sectors.

In particular, the material meets the functionalities of specific engineering applications for the aerospace sector, creating the best acoustic properties for a material with incredibly low density.

Principal Investigator Professor Michele Meo and Research Fellow Gian-Piero Malfense Fierro, both from the University’s Department of Mechanical Engineering, have been awarded

funding from the Innovate [UK](#) ICURe (Innovation and Commercialisation of University Research) programme.

Gian-Piero Malfense Fierro says: “Our initial calculations for a 280 aircraft fleet, like that of British Airways, would see an estimated 30-90 tonne reduction in CO2 emissions per year by using our material, due to reducing the weight of similar materials by up to 50%.

“This is ground-breaking for the aerospace industry. We look forward to commercialising the technology and proving the scalability of our manufacturing process.”

Professor Michele Meo adds: “The funding we have received from Innovate [UK](#) proves that our research is not just theoretical or done in the lab but has real-world application and, most importantly, contributes to society. Having spun out we now intend to reach other markets, such as the automotive, marine, and acoustic insulation, further supporting government targets of building back greener.”

Ali Hadavizadeh, the Technology Transfer Manager who supported the research team to develop their technology from Research and Innovation Services (RIS) at the University, says: “The calculations for CO2 reduction to the aerospace industry go a long way in demonstrating the potential to support the government with their net zero strategy to build back greener, which aims to decarbonise all sectors of the economy by 2050. It also provides an excellent example for our university strategy in supporting our research priority of sustainability and core value of adopting best environmental practice.”

The team will now focus on proving the scalability of the technology through automation of the manufacturing process and further material development. The awarded Innovate [UK](#) grant will provide the first steps towards commercial exploitation and expanding the business case for other markets.

Read the [original article](#) on University of Bath.