**PRESS RELEASE**

**Irish physicists win European Inventor Award 2023 with their advanced acoustic material to tackle noise pollution**

* **Rhona Togher and Eimear O’Carroll are winners in the ‘SMEs’ category of the European Inventor Award 2023**
* **The European Patent Office (EPO) honours the inventors for their composite technology that reduces noise**
* **The duo’s invention can be integrated into household appliances, as well as in the automotive, construction, and aerospace industries**

**Munich, 4 July 2023** – The European Patent Office (EPO) announced today that Irish inventors Rhona Togher and Eimear O’Carroll are the winners in the ‘SMEs’ category of the European Inventor Award 2023. Selected from over 600 candidates, these inventors created an **advanced acoustic material that reduces noise** to address chronic sleep issues.

"*We are honoured to win the European Inventor Award in the ‘SMEs’ category and would like to express our sincere gratitude to the European Patent Office. This award recognises many years of hard work and commitment to making the world a quieter place. It is a genuine privilege to be acknowledged alongside so many noteworthy inventors who have made such significant contributions to their fields,*” say Togher and O’Carroll.

According to the European Environment Agency (EEA) approximately 20% of the EU population lives in areas with unacceptable noise and vibration levels.High noise levels have been linked to poor sleep and higher instances of heart problems. Due to noise pollution, the EEA estimates that 22 million people across Europe currently suffer from chronic high annoyance, whilst 6.5 million suffer chronic high sleep disturbance. Exposure to loud noise can also cause high blood pressure, heart disease, sleep disturbances, and stress.

**A sound solution for millions of people**

Togher and O’Carroll’s invention, SoundBounce™, is a composite technology that reduces the negative effects of loud noise. It consists of a responsive material housed within a cellular structure that responds to agitation by becoming liquid and absorbing energy. One of its innovative features is the invention’s cellular structure; the second is a thixotropic gel (capable of liquefying when agitated and resolidifying when allowed to stand) placed inside the cells. Once sealed, they work together to **dampen sound, reducing noise transmission from one space to another**.This new material can also be integrated into machinery and vehicles to reduce noise output. It can be used in the automotive, construction, aerospace and home appliance industries.

**This material is particularly effective at low frequencies, which present a significant challenge** connected to products with engines, vibrations, and airflow. SoundBounce’s **thinner material** means that aeroplanes or vehicles using it could be lighter, thus reducing fuel consumption and leaving more space. In addition to the environmental advantages related to noise reduction, the materials used to make SoundBounce have a low environmental impact as they are non-toxic, and recyclable at end of life**.** Since SoundBounce was created, **Togher and O’Carroll’s company has developed partnerships with renowned organisations such as the European Space Agency.**

"*Receiving this award serves as a reminder of the importance of innovation and the impact it can have on our society. We hope that this recognition will inspire others, especially young girls, to pursue their own inventions and to continue to push the boundaries of what is possible,*” say Togher and O’Carroll.

The Irish duo behind the innovation have been named winners in the ‘SMEs’ category for this year’s European Inventor Award, which recognises outstanding inventors with inventions patented in Europe**.** **All the winners of the 2023 edition of the European Inventor Award were announced at a hybrid ceremony today** in Valencia (Spain). You can stream the ceremony on [this page](https://inventoraward.epo.org?mtm_campaign=EIA2023&mtm_keyword=EIA-pressrelease&mtm_medium=press).

Find more information about the invention’s impact, the technology and the inventors’ stories on [this page](https://new.epo.org/en/news-events/european-inventor-award/meet-the-finalists/rhona-togher-eimear-ocarroll?mtm_campaign=EIA2023&mtm_keyword=EIA-pressrelease&mtm_medium=press&mtm_group=press).

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**About the inventors**

Rhona Togher studied physics at Unversity College Dublin. She is an ambassador for Irish female entrepreneurship, working with Enterprise Ireland, the iWish foundation and the Ada Lovelace initiative to empower and support women in the tech sector

Eimear O’Carroll trained as a physicist at the University of Edinburgh. Applying this knowledge and expertise to global noise challenges, O’Carroll developed practical solutions to constantly develop and improve Lios’ products.

The pair founded Lios in 2009, which Rhona Togher heads as the CEO and co-founder. In her current role as CTO and co-founder of Lios, O’Carroll is the bridge between Lios' customers and the product development team focusing on creating effective noise reduction technologies.

**About the European Inventor Award**

The European Inventor Award is one of Europe's most prestigious innovation prizes. Launched by the EPO in 2006, the award honours individuals and teams, who have come up with solutions to some of the biggest challenges of our time. The finalists and winners are selected by an independent jury comprising former Award finalists. Together, they examine the proposals for their contribution towards technical progress, social and sustainable development, and economic prosperity. All inventors must have been granted a European patent for their invention. Read more [here](https://new.epo.org/en/news-events/european-inventor-award?mtm_campaign=EIA2023&mtm_keyword=EIA-pressrelease&mtm_medium=press) on the various categories, prizes, selection criteria and livestream ceremony to be held on 4 July 2023.

**About the EPO**

With 6,300 staff members, the [European Patent Office (EPO)](https://www.epo.org/?mtm_campaign=EIA2023&mtm_keyword=EIA-pressrelease&mtm_medium=press&mtm_group=press) is one of the largest public service institutions in Europe. Headquartered in Munich with offices in Berlin, Brussels, The Hague and Vienna, the EPO was founded with the aim of strengthening co-operation on patents in Europe. Through the EPO's centralised patent granting procedure, inventors are able to obtain high-quality patent protection in up to 44 countries, covering a market of some 700 million people. The EPO is also the world's leading authority in patent information and patent searching.