InnoMatch

powered by

EIC INNOVATION PROCUREMENT PROGRAMME

SoundBounce

case study

Lios™

with the support of

Kingspan

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Innovation Council and SMEs Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

PILOT: Lios & Kingspan Holdings

SoundBounce | Sustainable Building Construction and Acoustic Materials

18 to 37 dB	4x THINNER	0 mm	4 OUT OF 4
NOISE REDUCTION GAIN	**REDUCED MATERIAL BULK**	**ZERO ADDED PANEL THICKNESS**	**PROJECT TARGETS MET**
Significant sound reduction improvement across low to high sound frequencies	Four times thinner than traditional bulky acoustic mineral wool backings	Attaches to ceiling tiles without taking up extra interior room space	Full technical validation across manufacturing, testing, and performance

PILOT PROFILE

EIC Awardee: Lios (Restored Hearing Ltd.)

Solution: SoundBounce

Partner: Kingspan Holdings (IRL) Limited

Testing Ground: Accredited independent third-party Alpha Cabin acoustic laboratory testing integrated with commercial wood-fibre ceiling tiles

Sector & Challenge Focus: Sustainable Building Construction and Acoustic Materials

The Challenge

Modern commercial buildings, schools, and offices suffer from background noise and echo, which harm concentration and health. Traditional sound-absorbing materials—such as mineral wool or fibreglass insulation—are thick, heavy, and bulky. They take up valuable interior ceiling space, add extra weight to building structures, and are often difficult to recycle. Furthermore, standard thin ceiling panels struggle to block low-frequency noises (such as heavy machinery hums, traffic, or footsteps) without becoming excessively thick.

The Solution

SoundBounce is an advanced, lightweight acoustic material. It uses a novel smart material core that actively responds to sound wave vibrations, trapping noise energy far more efficiently than conventional foam or mineral wool. It can be manufactured as a thin backing layer attached directly to standard wood-fibre acoustic ceiling panels (such as Troldtekt ceiling tiles), delivering superior sound absorption while remaining four times thinner than traditional insulation.

Objectives

The trial aimed to test whether SoundBounce can be integrated into commercial ceiling tile manufacturing processes and verify its acoustic performance in an accredited testing laboratory. The building materials

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Innovation Council and SMEs Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

manufacturer wanted to evaluate whether the material can enhance tile soundproofing without increasing panel thickness or weight.

Constrains

The engineering team had to adapt factory manufacturing tools to apply SoundBounce evenly onto wood-fibre ceiling tiles during batch production. The material also had to satisfy strict commercial building safety standards, including fire resistance rules and non-disclosure commercial agreements.

Performance

In accredited third-party laboratory tests, ceiling tiles equipped with SoundBounce demonstrated a dramatic acoustic improvement of 18 decibels to 37 decibels across the 250 Hertz to 10,000 Hertz sound frequency spectrum compared to standard tiles. The team produced three full-scale commercial prototype panels, proving that the material can deliver high sound insulation with zero added panel bulk.

Partner Operational Improvements

Enhanced acoustic insulation rating for ceiling tiles, reduced material shipping weight, and improved eco-friendly product market position.

SUCCESSFUL PILOT VALIDATION

Technical validation reached Technology Readiness Level 7. The partners are preparing full-ceiling room trials in late 2026, completing formal fire safety certification, and finalizing commercial supply agreements for market launch in 2027.

Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Innovation Council and SMEs Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.