FUTURE SPACE TRANSPORTATION FLPP SPRING SESSION 2026

ESA FLPP

COMPANY INFORMATION

Company: Lios

Location: Ireland

Founded: 2009, working in space industry since 2020

Employees: >14

Mission: Lios is an advanced materials company – building technology to eradicate harmful noise pollution. Lios has developed SoundBounce – a revolutionary new material designed to tackle noise. This advanced material has applications across multiple industries, including aerospace, construction, and automotive. SoundBounce is a high performance, space-saving acoustic material. It is sustainable & cost-effective, delivering significant improvement in noise reduction. With up to 40% lighter and 4 times thinner solutions, SoundBounce is poised to transform the world into a quieter place for future generations.

ACTIVITY

Project name: New Concept of Material for Fairing Acoustic Protection

Objective: As pioneers in acoustic materials, Lios is working to develop, test, and qualify SoundBounce as a new Fairing Acoustic Protection (FAP). In Phase 1, Lios collaborated with Ariane Group and Beyond Gravity who contributed flight-ready specifications on the path to developing a new FAP. Phase 2 successfully qualified the lightweight feasibility of SoundBounce, reducing the area density over 6x from before Phase 1, coupled with high acoustic performance. Phase 3 will focus on further validation of SoundBounce as a FAP to reach TRL 6 for aerospace applications.

Applications:

- **Acoustic isolation** for Launch vehicle payload fairings
- **Vibration damping** for Payload and sensor protection
- **Small launch vehicles** for Mini launcher FAP

Our acoustic technology is also relevant in the aviation, construction, electronics, home appliances, hearing protection, automotive and industrial machinery industries.

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TECHNOLOGY AND INNOVATION

What we developed: SoundBounce has an advanced material core and adaptable housing, giving it the unique ability to attenuate low-frequency noise, outperforming traditional acoustic materials.

Unique features:

SoundBounce uses advanced materials in a cellular structure that respond to sound and vibration energy for superior sound insulation performance.






KEY RESULTS

- Lightweight feasibility for Fairing Acoustic Protection achieved
- High acoustic performance, particularly at low frequencies
- Achieved TRL 3 for aerospace applications

NEXT STEPS AND MARKET READINESS

Roadmap:

The next phase of development will reach TRL 6 for aerospace applications, including:

- Scaled manufacturing feasibility
- Predictive modelling and simulation
- Material testing & space flight qualification

Opportunities: Looking for opportunities using SoundBounce to tackle noise and vibration challenges in the aerospace sector:

- Acoustic isolation
- Vibration damping
- Small launch vehicles

Target Launch: 2031

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