

A new breath for the future of urban mobility

Three years after the launch of the European project, an overview of the results achieved through collaboration between industry, research, and public services.

The European **RE-BREATH project**, co-financed by EU LIFE Programme, is completed with concrete and measurable results in the reduction of brake wear emissions from urban public transport vehicles.

After **16 months of real-world testing** conducted in **Bergamo and Bratislava**, the partners validated innovative technical solutions, developed advanced environmental analysis models, and promoted a culture of sustainable mobility with a stronger focus on air quality and public health.



Achievements

Significant increase in brake disc life during road demonstration, compared to historical data

➔ **+50%** compared to OE (original equipment) systems.

➔ **+100%** compared to AM (Aftermarket) systems.

PM10 emission reduction

➔ **-10%** comparing OE (Original Equipment) system to Re-Breath solution, using the bench test emission factor and the EEA (European Environment Agency) methodology for emission estimation.

PM10 concentration reduction

➔ A **decrease in concentration from 40% to 70%** was measured near the green barriers installed at bus stops.

Positive outcomes

- **Longer component lifespan** results in **less waste**, reduced **maintenance needs**, and **lower operational costs** for public transport operators.
- The **new braking system** demonstrated **strong performance** under **real-world conditions** in both pilot cities, proving its **robustness and reliability**, even on demanding urban routes.
- Tests showed the **scalability** of the solution in **high-demand transit environments**, paving the way for broader adoption across the public transport fleet.
- **Drivers reported improved comfort** due to **reduced braking noise**, leading to **lower noise pollution** in densely populated urban areas.
- To support the upcoming **EURO 7 regulations** for heavy-duty vehicles, **project data** were shared with **Task Force 5** (PMP group, UNECE) to contribute to the **development of future emission standards**.

Looking ahead

The RE-BREATH project has demonstrated that **integrating technology, science and urban governance** is essential to addressing the environmental challenges of mobility. The replicable model developed through the project can now be applied to other European cities, contributing to a more sustainable public transport system.

Looking to the future, it will be crucial to continue fostering collaboration between companies, institutions, and local communities to promote innovative, low-impact solutions.

Only through a **shared and integrated approach** will it be possible to build greener, more livable, and resilient cities, where urban mobility meets the needs of both citizens and the environment.

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