



## Press Release

### **A decisive new step for air quality: the world's first trial of an anti-pollution technology for bus braking.**

*Mulhouse Alsace Agglomération (m2A), Transdev, Tallano Technologies and IVECO BUS are launching a full-scale trial of a system for capturing fine particles from braking at source on urban buses. This French innovation, a world first in ecological transition, prepares the way for the entry into force of European Euro 7 regulations.*

**Mulhouse, June 5, 2025** - As part of its **Territorial Climate-Air-Energy Plan**, m2A marks a new milestone with the launch of an **unprecedented field trial** on buses belonging to the **Soléa** network, a semi-public company partnered with Transdev.

Following the announcement of the project in April 2024, the inauguration of this operational phase took place in the presence of the President of Mulhouse Alsace Agglomération, Fabian Jordan, and the Chairman and CEO of Transdev group, Thierry Mallet. This is a **world first**, carried out on the Soléa network, the historic mobility operator in the Mulhouse conurbation.

The first bus, now fitted with a particulate filter by Tallano Technologies, will **start** operating on **July 1, 2025**. The solution is being deployed on three buses, and will gradually be extended to **50 retrofit vehicles** on the existing fleet, before being integrated into **all new buses between 2025 and 2030**.

#### **Pioneering technology under real-life conditions**

**Developed by Tallano Technologies, TAMIC® technology captures at source over 70% of the fine particles emitted by braking.** This technology is fully in line with current trends: fine particles linked to vehicle braking will be regulated by **2030**, with the entry into force of European **Euro 7** regulations for heavy-duty vehicles.

By 2050, non-exhaust emissions are expected to account for up to 90% of all particulates emitted by road transport, as exhaust particulates will decrease due to the electrification of vehicles, according to the impact study that accompanied the European Commission's proposal for a European regulation.

The braking of vehicles, including heavy goods vehicles, coupled with the friction of tires on asphalt, is the main source of air pollution in cities via fine particles. ADEME has estimated that by 2022, more than half the particulates emitted by recent road vehicles will come from these sources.

#### **A concrete response to environmental and public health challenges**

Each internal combustion engine bus emits an average of **4 kg of braking particles per year**, which, if not captured, are dispersed into the air and soil. According to the French Environment and Energy Management Agency (ADEME), fine particle emissions from brakes, tires and road surfaces now exceed those from exhaust.



The **TAMIC®** system, protected by over **50 international patents**, works in two stages:

- The particles are captured by a groove created in the brake pad, and are then transported to the brake.
- Retention of over 70% of fine and ultrafine particles in a filter.

This innovation, **awarded a prize by Propulse<sup>1</sup> as part of the new agreement** between m2A and Soléa, is fully in line with the conurbation's climate strategy, which aims to anticipate future standards and **sustainably improve air quality for its residents.**

*"Mulhouse Alsace Agglomération, a European laboratory for mobility and a true territory of innovation, is pursuing an ambitious mobility policy, while at the same time taking care to improve air quality, a major public health issue included in our New Deal Climate Plan. We are therefore proud to be associated with this project, in conjunction with Transdev, Tallano technologies and IVECO BUS, and to be able to test it on our fleet for the urban mobility network managed by Soléa in our conurbation",* said Fabian Jordan, President of Mulhouse Alsace Agglomération (m2A).

*"We're delighted to be making a world-first contribution to this experiment in Mulhouse, a pioneering area in terms of ecological transition. This French technology embodies our ambition: to offer clean, innovative and responsible mobility, serving local communities and their inhabitants. Every day, we work to promote shared mobility that is more respectful of the environment and air quality. This innovation is a perfect illustration,"* stated Thierry Mallet, Chairman and CEO of the Transdev group.

*"After 10 years of research, this operation, carried out in partnership with Transdev and IVECO Group, with the decisive support of m2A and its Soléa network, marks the start of industrial deployment of the TAMIC® system in the world of heavy goods vehicles. This is a key step towards making the system available in pre-production to all manufacturers and operators from 2026 onwards",* underlined Jean-Louis Juchault, Chairman and CEO of Tallano Technologies.

#### **About Transdev :**

Operator and leading independent private mobility group, Transdev empowers freedom to move every day thanks to safe, reliable and innovative solutions that serve the common good. Present in 19 countries, Transdev transports an average of 12.8 million passengers daily, operating all transportation modes and resolutely committed to the ecological transition. The Group employs more than 105,000 women and men serving its passengers, consolidating its position as the world leader in public transportation. Transdev advises and supports local authorities and companies in a long-term partnership. Transdev is jointly owned by Caisse des Dépôts (66%) and the Rethmann Group (34%). In 2024, Transdev reported sales of €10.05 billion. For more information: [www.transdev.com](http://www.transdev.com)

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<sup>1</sup> Award-winning innovation in 2024. In 2024, the Agence de l'Innovation pour les Transports launched the 4<sup>th</sup> edition of Propulse, a program to support and accelerate innovative projects. Three calls for projects were launched: Sustainable transport; Multimodality and intermodality; Data sharing.



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#### About Tallano Technologies :

Since its creation in 2012, Tallano Technologies has been pursuing a major ambition: to reduce air pollution linked to the emission of fine particles from braking systems. Tallano Technologies is a **pioneering company in the field of fine particle emission reduction systems for road** (cars, buses and trucks) and **rail** (trains, metros, streetcars, etc.) **vehicle braking**. The company, which has been awarded the France Tech 2030 label, counts Mirova, Bpifrance, Veolia and the Paris Région Venture Fund among its shareholders. The system's intelligence is protected by over 48 patents in 12 countries, making Tallano Technologies **one of the key players in this sector**, with one of the world's largest patent portfolios in this field. For further information: [www.tallano-technologies.com](http://www.tallano-technologies.com)

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#### About Mulhouse Alsace Agglomération (m2A) :

The first in the Grand Est region, with 39 cities and 280,000 inhabitants, m2A's first ambition in its "Vision 2030" Territorial Project is to be a territory of new environmental conditions. As a multimodal mobility hub and a European mobility laboratory, m2A is committed to developing and improving mobility to better meet the challenges of tomorrow, in its role as a mobility organizing authority. An attractive region for many industrial sites, m2A is committed to offering innovative solutions that respect air quality, to provide a service tailored to the needs of its residents and economic players, both present and future. For further information: [www.m2A.fr](http://www.m2A.fr)

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#### About Soléa :

Mulhouse Alsace Agglomération (m2A) has entrusted the operation of its urban transport network to Soléa, a semi-public company and partner of the Transdev Group. Three tramway lines, one tram-train line, 23 bus and coach lines, transport-on-demand services and shuttles run daily to over 900 stops in the 39 cities of the Mulhouse conurbation, carrying an average of 115,000 passengers every day. More information at [www.solea.info](http://www.solea.info)

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