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AKWEL AND TALLANO FORM PARTNERSHIP TO SCALE UP AND COMMERCIALISE AN INNOVATIVE SOLUTION FOR CAPTURING FINE PARTICLES DURING VEHICLE BRAKING

- **With more than one billion automobiles in circulation around the world, automotive pollution is a major environmental and health issue.**
- **While current standards regulate engine emissions with particle filters, 85% of vehicle emissions are not yet regulated—despite the fact that brakes are the number-one emitter of fine particles on the road, which are particularly harmful.**
- **To address this issue, AKWEL, a components manufacturer for automobiles and heavy-goods vehicles, has formed a partnership with the French company Tallano Technologie, which has developed and patented the TAMIC® solution, a system for collecting harmful micro-particles emitted during vehicle braking. This system captures particles produced during abrasion of the brake pads, reducing particle emissions by 85 to 90%.**

Brakes: the number-one emitter of fine particles on the road

Recent scientific studies have shown that **fine particle emissions during automotive vehicle braking are six times higher than exhaust emissions** from a catalytic converter (30 mg/km vs. 5 mg/km). In Europe, these particle emissions during braking amount to almost **110,000 metric tons/year, 50,000 tons of which are distilled into the air¹.**

The TAMIC® solution: an innovative, patented technology

Tallano Technologie has developed the TAMIC® solution, which has already been tested on test rigs and vehicles, and has been shown to drastically reduce pollution from fine particles due to wear on the brake linings. This **particle capture technology**, which uses suction to trap particles at source, is capable of achieving particularly elevated reduction levels (**more than 85 to 90% of particles are captured**).

Here's how it works: during braking, a signal activates a particle absorption and filtration system. This patented system includes a circuit board used to control the technology, which is built around a filter and a high-performance turbine. The brake pads are modified to maximise microparticle capture and prevent the particles from being dispersed into the surrounding air. Capture occurs once the pad comes into contact with the brake disk. Two suction channels integrated into the calliper re-route the particles toward the filtration and storage unit.

The technology has been successfully tested by various automotive manufacturers, and may be adapted to automobiles, heavy-goods vehicles, buses and rail transport. In the railway sector, a full-scale experiment is underway with the SNCF (on line C of the RER). The Tallano - AKWEL partnership is limited to vehicles of less than 3.5 metric tons.

¹ Source: INSA Lyon 2011



From development to mass production

After several years of research and development, Tallano Technologie's innovation is set to be mass produced for the automotive sector, thanks to its new partnership with AKWEL. Tallano is offering a technological solution with its patented concept, and is likewise granting licences. AKWEL will finalise the development of this technology in collaboration with Tallano, and will handle scale-up and production.

Commercially speaking, the two French companies will work together to develop and sell licences to manufacturers, who will agree in turn to supply a portion of their output to AKWEL.

For AKWEL, this collaboration will allow it to develop a new line of pollution-control products for automotive vehicles, which the manufacturer has been working on for many years. *"This is an opportunity to lead the way in the fight against fine particle emissions, and to offer more innovative solutions to our customers"*, notes Mathieu Coutier, Chairman of AKWEL.

For Tallano Technologie, partnering with an international supplier of vehicle parts will allow it to begin a new phase with the automotive industry: *"We strongly hope that decision-makers and operators in charge of transportation recognise the importance of incorporating this type of solution, in order to capture fine particle emissions during vehicle braking and root out pollution wherever it may be"*, says Christophe Rocca-Serra, founder of Tallano Technologie.

This global (non-equity) alliance is designed to last for a minimum of 15 years (the length of the patent term). The TAMIC® solution is set to enter the market in Spring 2021, with production anticipated for 2023.

About AKWEL

An independent, family-owned group listed on the Euronext Paris Stock Exchange, AKWEL is an automotive and HGV equipment and systems manufacturer specialising in fluid management and mechanisms, offering first-rate industrial and technological expertise in applying and processing materials (plastics, rubber, metal) and mechatronic integration.

Operating in 20 countries across every continent, AKWEL employs almost 12,000 people worldwide.

About Tallano Technologie

Founded in 2012 and led by Christophe Rocca-Serra and Jean-Louis Juchault, Tallano Technologie offers an innovative solution for trapping fine particles at source during vehicle braking.

Knowing that these emissions are a public health issue, with potentially harmful effects for the human body and the environment, Tallano Technologie strives to revolutionise how automobiles and public transport operators combat fine particle emissions.

Tallano is actively supported by investors from the manufacturing and transportation industries.

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