

PRESS RELEASE

Clermont-Ferrand – 14 December 2022

BlackCycle workshop: The consortium announced the production of several tons of the first sustainable Carbon Black from end-of-life tyres and its successful introduction in a Bus Tyre

- **Thanks to the BlackCycle project, the first sustainable Carbon Black issued from end-of-life tyre pyrolytic oil was made at the scale of several tons.**
- **Sustainable S-Carbon Black technology has been successfully introduced in a Michelin bus tyre along with others to get a sustainable rate of 58%. A major technological breakthrough was made possible by the BlackCycle value chain driven by the stakeholders of the project.**

Last year, the BlackCycle project announced the creation of the first **sustainable Carbon Black (s-CB) obtained from end-of-life tyre pyrolytic oil** in a lab with the same rubber properties as the conventional version. During the 2nd workshop on 22 November 2022 in Zaragoza, Spain, the BlackCycle consortium announced the world's first production of several tons of a s-CB by Orion. The s-CB comes from an optimized pyrolytic oil of End-of-life tyres, thanks to the work of the BlackCycle partners.

The s-CB was introduced in the treads of a Michelin bus Tyre and **replaced 100% of the conventional Carbon Black**, the tread being the part of the tyre that is in contact with the road and is key for wear, safety, rolling resistance of the tyre.

The technology was introduced in a bus tyre Walong with others to get a sustainable rate of 58% and was homologated for a road usage based on a series of tyre performance tests. This major technological breakthrough was made possible by the BlackCycle value chain driven by the stakeholders of the project.

More details about the tyre:

Michelin owes the progress in sustainable materials of this tyre to a greater use of natural rubber, together with the inclusion of recycled carbon black, silica from rice husks and even recycled steel. Approved for road use, the tyres have performance levels strictly identical to traditional tyres. That tyre is a demonstrator of technologies that will be in Michelin tyres on a large scale from 2025. They prove our concrete progress toward the ambition of using 100% sustainable materials in all our tyres by 2050.

More details about s-CB:

A tyre contains 20 to 30wt% of different carbon black types, which act as functional fillers in the rubber compound. Carbon black is produced by partial decomposition of aromatic oils. Thus, an important step in the circular process is to derive a recycled oil from a pyrolysis process, which can be used to

create sustainable carbon blacks with the same properties as conventional carbon blacks. Orion Engineered Carbons, one of the largest carbon black producers worldwide, was now able to produce two different grades in a large-scale pilot plant by using 100% pyrolytic oil: a N234 and a N347 carbon black type. The analytical and in-rubber properties show that the new grades are likely to substitute conventional grades.

About the BlackCycle project:

BlackCycle (Grant agreement No 869625) is one of the R&D research and innovation projects funded by the European Commission under the EU's Horizon 2020 research program to implement the concept of circular economy to the end-of-life tyres at the European level. The BlackCycle project has an upcycling ambition, targeting to create a circular economy of the end-of-life tyre (ELT) into technical applications like tyre industry by producing high technical second raw materials (SRMs) from ELTs. These SRMs will be used to develop new ranges of passenger car and truck tyres, which will be sold commercially in European and global markets. The BlackCycle project consortium is formed by 12 partners from 5 different countries (Orion, Ineris, Quantis, Icamcyl, Aliapur, CSIC, CPERI/CERTH, Sisener, Pyrum, Estado, Hera, and Axelera) and led by the French world leader in tire manufacturing Michelin, <https://blackcycle-project.eu/>

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