Predictive tire development supports the transformation of Europe's commercial vehicle fleets

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BY CONTINENTAL AG

Fuel- and energy-efficient tires from Continental: for a better CO2 balance and lower TCO

- Analysis confirms the significant impact of fuel consumption on the CO2 balance

- Lower rolling resistance directly increases the range of electric commercial vehicles

Hanover, Germany, May 28, 2025. With its two tire lines, Conti Eco and Conti Efficient Pro, Continental has demonstrated the crucial role tires play in electrification of commercial vehicle fleets in Europe. Today, commercial vehicles account for around one-third of greenhouse gas emissions in the transportation sector. According to the EU Emissions Regulation, CO2 emissions from heavy-duty vehicles must be reduced by 45 per cent from 2019 levels in a first step starting in 2030. Vehicle manufacturers and fleet operators are therefore focusing on reducing greenhouse gas emissions.

> We have developed both tire lines to increase fuel and energy efficiency in regional and long-distance transport, reduce CO2 emissions, and equip fleets for electrification," says Hinnerk Kaiser, Head of Product Development EMEA at Continental. Reduced rolling resistance combined with high mileage has a positive impact on the ecological footprint. For regional transport with demanding stop-and-go traffic, Continental´s tire engineers have developed the Conti Hybrid tire that delivers high mileage. "This means that choosing the right tires when configuring new trucks is becoming even more important, especially in view of an emissions-based toll component within

the EU,

Fuel accounts for the largest share of CO2 emissions

The CO2 emissions of a fleet are directly related to energy consumption and the rolling resistance of the tires. According to an analysis by the German Federal Environment Agency, a diesel semi-trailer truck with a gross vehicle weight of 40 tons has a greenhouse gas potential of around 1,000 grams of CO2 eq/km with an average load. By far the largest share (937 g CO2eq/km) is attributable to fuel combustion and supply. This means that fuel accounts for 90 percent of the CO2 emissions of a fossil fuel-powered truck. Even with electric semi-trailers, 75 percent of CO2 emissions are still attributable to electricity supply. Energy-saving tires therefore make an effective contribution to reducing a fleet's emissions and are an important factor in terms of sustainability, efficiency and green fleet management.

Rolling resistance and range

Alternative powertrains place high demands on the wear behavior, noise characteristics, and rolling resistance of a tire. The further development of these criteria is currently the focus of tire engineers at Continental and will remain so in the future. The driving range of electric trucks and buses is the most important factor for original equipment manufacturers and in the replacement business. “That's why tires with low rolling resistance are the obvious choice, as this directly influences the vehicle's range,” explains Hinnerk Kaiser.

Transparency in TCO as a prerequisite for electrification

The central guiding principle for fleet operators is, and remains, the optimization of TCO and CO2 reduction. For this reason, tire developers are continuing to focus on optimizing rolling resistance for the time being.

> It has the greatest influence on vehicle mileage, which is particularly relevant at present in view of the current charging infrastructure,” adds Leo Kolodziej, Head of Original Equipment Business for Truck Tires EMEA at Continental. Vehicle range and energy consumption are directly factored into the total cost of ownership (TCO). “Only a few fleets currently have the necessary transparency to comprehensively calculate the TCO

> advantages between diesel and electric commercial vehicles. Solutions are needed here. We can already offer these solutions for tires.

Predictive tire development

Despite major advances in battery technology for lighter battery weights, electric commercial vehicles are currently still around a third heavier than combustion engine vehicles. The tires must, therefore, be rated to carry these higher vehicle weights. That is why the new Conti Eco HS 5 and Conti Efficient Pro HS 5 lines have a higher load index. This increases the load capacity of the tires, meaning that fleet operators hardly have to compromise in terms of payload for their electric trucks.

> Up to a battery capacity of around 500 kilowatt hours, one of our battery-electric trucks no longer has any payload disadvantage in many applications," says Markus Erdmann from Designwerk Technologies, a development partner of Continental for electric mobility. Continental and its partners, such as Designwerk, want to contribute as much as possible to driving forward the transformation to electric mobility with innovative products and solutions. "Our current product portfolio already optimally reflects the requirements of electric mobility," says Hinnerk Kaiser. "In close coordination with our customers in both the replacement and original equipment businesses, we will continue to develop customer-oriented tire products and support the transformation in mobility with all our strength.

Spokesperson commercial vehicle tires

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