



## SMART TRUCKS: COST REDUCTION ALL-ROUND WHILE MAINTAINING COMPETITIVE ADVANTAGE

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The Council for Scientific and Industrial Research (CSIR) has commissioned five more Performance-Based Standards (PBS) trucks (Smart Trucks) to AB InBev, as part of the national Smart Trucks pilot programme, bringing the total number of operational smart trucks in South Africa to more than 270.

The introduction of smart trucks has significantly contributed to the drop in number of truck accidents on South African roads. Operators such as SG Coal, Unitrans, Barloworld, Buhle Betfu and AB InBev have reported a 39 percent reduction in crashes, and an average of 12 percent reduction in fuel consumption; and as a result of increased payload efficiency, a reduction of over 84 000 trips per year.

The PBS pilot programme was established by the CSIR, with support from the Department of Transport. Its work entails conducting comprehensive PBS vehicle safety simulations and road infrastructure impact assessments, to ensure that the vehicles are designed to meet the prescribed minimum performance requirements stipulated by the agreed performance standards.

The primary objectives of the PBS programme is to improve logistics efficiency by reducing the costs associated with transporting raw materials and minimising the cost of delivery to customers. A significant spin-off lies in the enhanced safety features inherent in the design of these vehicles, due to the strict rules governing participation in the programme.

CSIR researcher Anton Steenkamp, says, “Commissioning, which follows design implementation, involves inspecting the vehicle to ensure that it has been manufactured according to the approved design specification. This specification is the result of an extensive computer simulation process to ensure the vehicle’s safe performance on our roads.”

The CSIR’s transport experts have shown to date that the introduction of a voluntary PBS regulatory framework into the freight and logistics sector in South Africa could make a major contribution to reducing road transport costs, carbon emissions and road crashes.

“As such, road freight transport should be made as safe and efficient as possible, and PBS presents a valuable and proven mechanism to contribute to these efforts.”

PBS vehicle assessments are highly specialised. Presently, the CSIR has two locally accredited PBS safety assessors, researchers Robert Berman and Dr Christopher de Kock, as well as two road infrastructure impact assessors, Anton Steenkamp and Lana Kemp. Both Steenkamp and Kemp are transport researchers at the CSIR.

The CSIR has also developed a number of simulation and assessment tools including: Road Wear Impact Analysis, and GeoTrack for simulating vehicle manoeuvrability at low speeds. The CSIR experts play an active role in the Smart Truck Review Panel, assisting in approving new truck and trailer combinations, and advancing the development of the Smart Truck pilot programme into the future.

“Ultimately, the CSIR envisages a future in which PBS trucks play a specific role in the freight transport network, operating in an integrated manner with conventional trucks and rail freight, especially because South Africa has more than 300 000 registered heavy vehicles, and of these only 270 are Smart Trucks. Nonetheless, learnings from the Smart Truck pilot programme on best practice in heavy vehicle design and operation, have already started to influence conventional heavy vehicle operations, especially from a safety perspective”, says Steenkamp.

### **Ends**

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### **Note to editors**

Performance-Based Standards (PBS) vehicles are designed to perform their tasks as productively, safely and sustainably as possible. The PBS pilot programme was launched in 2007 based on the successful Australian PBS programme, as well as learnings from New Zealand and Canada. The successful programme is indicative of the capacity of the transport sector to pioneer advanced technologies, further indicating appetite for other future technologies.