First electric minibus taxi coming to South Africa

In order to advance e-mobility development locally, GoMetro, a global mobility management technology company with its head office in Cape Town, has convened a project team of innovative companies and researchers to launch a demonstrator project to test the first electric minibus in South African conditions by January 2023.

Source: Supplied | GoMetro

Electric vehicles (EVs) are heralded as a silver bullet to globally decarbonise the transport sector. The development of low-carbon transport in cities is part of the global agenda to delay climate change and relates to many of the United Nations' Sustainable Development Goals. While EV sales have increased substantially in the Global North and many global vehicle manufacturers plan to stop production of combustion engines as early as 2030, in sub-Saharan Africa (SSA), the transition to EVs continues to be painstakingly slow. This research project aims to accelerate this transition to cleaner and greener mobility.

The project team, consisting of GoMetro, MiX Telematics, HSW, ACDC Dynamics, and various entities within Stellenbosch University's (SU) Faculty of Engineering, as well as SU's Centre for Renewable and Sustainable Energy Studies (CRSES), will conduct rigorous and extensive testing in and around the town of Stellenbosch, as well as putting the electrification of the minibus taxi sector firmly on the national agenda by means of an educational roadshow in all nine provinces in the course of 2023.

A number of viable electric minibus taxi models from various markets have been identified, the first of which will be on South African shores by the end of the year. The acceptance and practicality of the model will be extensively tested with taxi owners and drivers, in order to identify the use-cases and conditions where an electric taxi would make the most sense.

"Taxi drivers and owners are very interested and intrigued by the idea of an electric minibus taxi, and are constantly asking us when the first electric minibus taxi will arrive on our shores," says Justin Coetzee, GoMetro CEO. "We have built valuable relationships with a large number of taxi associations, and the ever-increasing fuel price is a massive concern among owners, drivers and riders alike, as there does not seem to be any relief in sight. The industry has long acknowledged that business as usual will not suffice - and that change is required, especially after the effects of Covid-19."

SA's public transport

The aim of testing different models over the coming months is to establish which vehicle will be best suited to the South African public transport industry, and what spectrum of operations are conducive to the range capabilities of the vehicles. In addition to testing the vehicle itself, the project team wants to engage with the automotive sector and policymakers to encourage proactive discussions with the government around the reduction of duties and the promotion of the adoption of electric vehicles in the transport sector.

"Since MiX Telematics is at the forefront of innovation and leveraging new technologies to improve fleet operations and efficiency, we are very excited to be part of this pioneering initiative. We have seen the adoption of electric and hybrid vehicles increasing exponentially in Europe, and so look forward to learning how we can support these solutions in the South African context," says Catherine Lewis, executive VP of technology at MiX Telematics.

Professor Thinus Booysen, research chair in the Internet of Things at Stellenbosch University, will lead the team of testing experts. "The informal taxi sector must transform to EVs, but little is known about their energy requirements. This unknown is overshadowed by our energy scarcity and coal dependence on the electricity supply side. This collaborative project will ensure we are prepared for and carefully manage this exciting transition," says Booysen. The electric minibus taxi will be showcased at the Stellenbosch University campus.

Future electrification of transport

According to Dr Bernard Bekker, associate director of Stellenbosch University's Centre for Renewable and Sustainable Energy Studies (CRSES), the future electrification of the transport section in South Africa raises significant technical and regulatory challenges related to integrating electric transport into our existing grid infrastructure. These challenges are in many ways unique to South Africa, where minibus taxis will potentially represent a much larger proportion of the future electrical fleet than for example Europe or the USA. "The availability of a real-life electric minibus taxi to inform our research activities will provide very valuable inputs into addressing these challenges."

"The minibus taxi is ubiquitous in the South African landscape moving millions of people over the years, contributing to getting South Africa to work - unfortunately in an environmentally unsustainable manner. ACDC Dynamics is proud to be part of the change that will be brought to this industry as it adopts electric/ battery-powered taxi's through our capabilities to supply battery charging networks across the country," says Mario Maio, founder and managing director of ACDC Dynamics.

"HSW is passionate about bringing manufacturing local. The Western Cape has all the technical skills and resources to set up manufacturing facilities in support of such an initiative. There are already existing Electronic Manufacturers who have world class capabilities in the manufacturing of electronic products such as Barracuda Holdings which is one of HSW's key customers as evidence that this type of hi-tech manufacturing technology is already available locally," says Ryan Webb, managing member HSW.

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