

ELECTRIC MOTORCYCLE

developed in Africa
successfully completes
6,000 km journey from
Nairobi to Stellenbosch
using only solar power



In a revolutionary showcase of African ingenuity, an electric motorcycle, designed and built in Africa and powered only by the sun, completed the groundbreaking journey from Nairobi, Kenya to Stellenbosch, South Africa. Researchers from the Faculty of Engineering at Stellenbosch University (SU) recently joined forces with Roam, a technology-driven electric mobility company in Nairobi, Kenya, to test the Roam Air, a tailored electric motorcycle designed in Kenya for Africa. The motorcycle team arrived in Stellenbosch on the morning of 16 October 2024.

The journey spanned approximately 6,000 kilometres through Kenya, Tanzania, Malawi, Zambia, Botswana, and South Africa. On the second-last day, the team covered 1,000 kilometres (video at the link) in one day to reach the southern tip of Africa.

The Roam Air, donated to Stellenbosch University for research and testing, was powered solely by solar energy on this journey.

"This ambitious expedition marked a major step forward in showcasing the potential of sustainable electric mobility across sub-Saharan Africa," says Thinus Booysen, Professor of Engineering and founder of the Electric Mobility Lab at Stellenbosch University.

The journey began on 17 September 2024, when the support team and a vehicle-based solar power station departed from Stellenbosch. Upon reaching Nairobi on 27 September, they collected the electric motorcycle

that had been developed in the Kenyan capital by Roam, a developer of electric buses and motorcycles.

The team, led by PhD candidate Stephan Lacock, embarked on their return leg on 29 September, travelling back through a diverse range of African landscapes, finally arriving in Stellenbosch. Throughout the trip, the motorcycle's swappable batteries were charged exclusively through solar power, highlighting the viability of renewable energy in real-world applications.

"Completing this 6,000-kilometre journey marks a historic milestone for Roam Air as the first African-made electric motorcycle to achieve such a feat. It's a testament to our commitment to pushing the boundaries of electric mobility. From the challenging terrains to the warm welcomes from local communities, we saw the spark of excitement in people's eyes when they realised this motorcycle was built in Africa. Our collaboration with Stellenbosch University highlighted the resilience of both our teams and technology, proving that clean energy can power not just vehicles, but a brighter, more sustainable future for the continent, says Masa Kituyi, Roam Air product owner.

"Despite the successful completion of the journey, the team faced numerous challenges along the way. Rainy weather in beautiful Malawi created difficult travel conditions, poor roads tested the vehicle's durability, and lengthy stops at border crossings added costly delays during precious daylight hours," comments Booysen. "Some issues with solar connectors that were



not made for daily disconnecting and reconnecting further complicated the journey. However, the team's resilience and commitment to their mission allowed them to overcome these obstacles."

He adds that along the route, the team experienced the breathtaking natural beauty of Africa, encountering a variety of wildlife, including elephants, rhinos, giraffes, hippos, buffaloes, lions, sables, baboons, monkeys and crocodiles. "The journey through Africa's diverse landscapes reinforced the importance of preserving

these environments for future generations, and demonstrated how clean energy can play a role in their protection."

The Electric Mobility Lab at SU – made possible by the Western Cape Government – was officially opened on 18 October at the Asara Wine Estate in Stellenbosch. The motorcycle that made the trip from Kenya was officially handed over to the Electric Mobility Lab at the opening ceremony. – **Stellenbosch University media release**