THE SPIRIT OF INNOVATION

3.2 million years ago: **BIPEDALISM** → 2021: **RETROFIT**

E-MOTION ZERO EMISSION

New **technology** for efficient practice.

www.e-motion.africa

New **technology** for efficient practice.

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A new technology for a new generation

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Retrofit is the solution.

Plug your company into the next generation

The transportation industry accounts for 25% of global carbon emissions. Countries worldwide are struggling with the same problem: How to develop sustainably? By 2025, several European countries have set up goals for fossil-free transportation.

That raises the issue: **where would they dump their petrol/diesel vehicles?** The answer is Africa.

We at E-Motion are already prepared to meet the challenge. We excel at retrofitting traditional vehicles with more efficient and eco sustainable systems, thanks to our team of expert engineers. By simply replacing the regular aspirated engine with three main components: an electric motor, a speed drive, and batteries, we can recycle on a wide scale by repurposing a current vehicle's materials and resources.

There's a lot more to it than just clean air for us. It's about the need to minimize noise to provide a clean and peaceful safari experience, which opens up entirely new avenues for sustainable smart tourism growth.

We have a solution for you.
Not in the far future, but right now!

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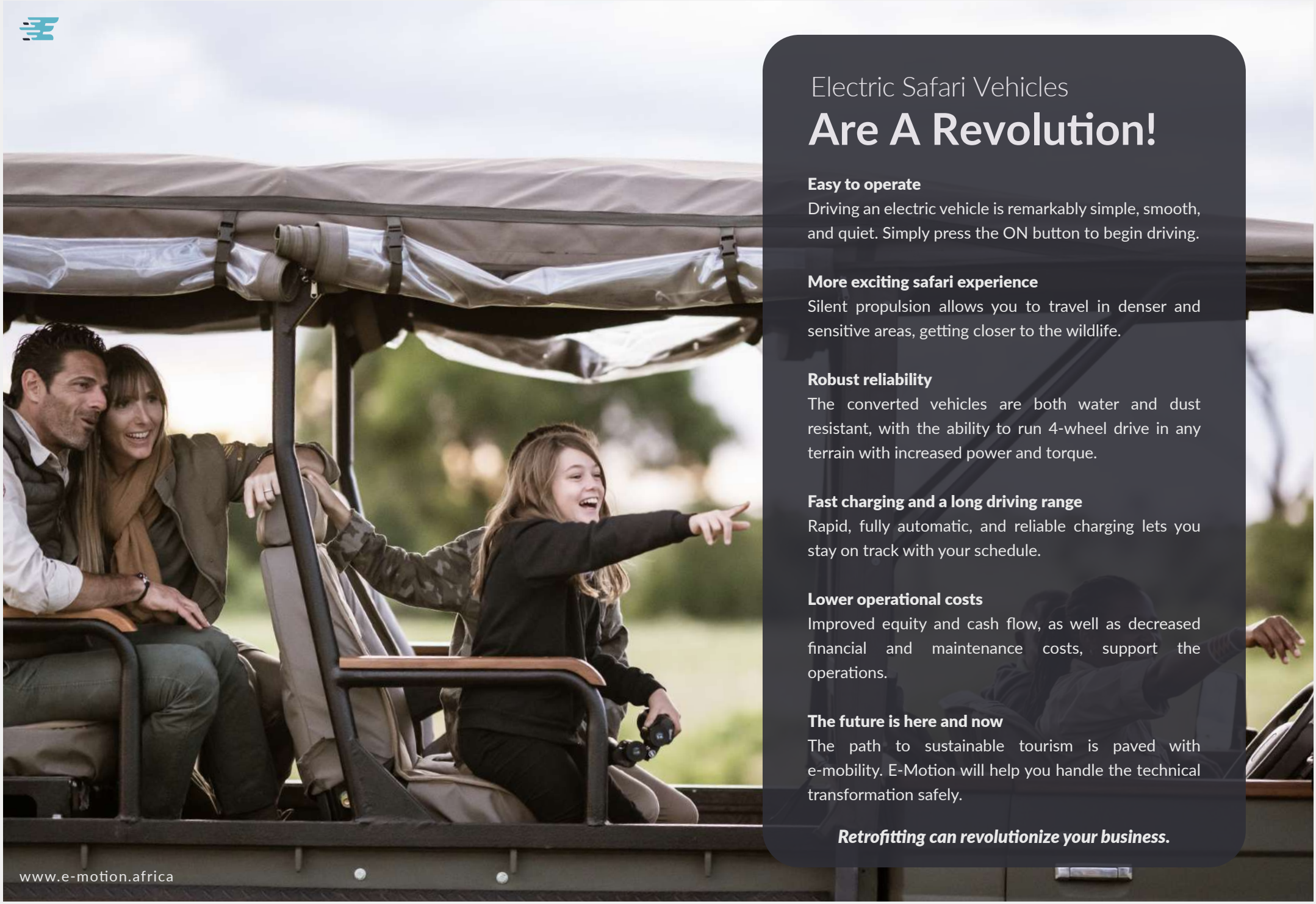
Clean, silent, economical.



Electric Safari Vehicles

Are A Revolution!

Easy to operate
Driving an electric vehicle is remarkably simple, smooth, and quiet. Simply press the ON button to begin driving.

More exciting safari experience
Silent propulsion allows you to travel in denser and sensitive areas, getting closer to the wildlife.

Robust reliability
The converted vehicles are both water and dust resistant, with the ability to run 4-wheel drive in any terrain with increased power and torque.

Fast charging and a long driving range
Rapid, fully automatic, and reliable charging lets you stay on track with your schedule.

Lower operational costs
Improved equity and cash flow, as well as decreased financial and maintenance costs, support the operations.

The future is here and now
The path to sustainable tourism is paved with e-mobility. E-Motion will help you handle the technical transformation safely.

Retrofitting can revolutionize your business.

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Transform your driving experience into something peaceful, smooth, and environmentally responsible.

A whole new range of possibilities

For Your Safari

In an African safari, the main way of spotting wildlife is by driving. But trundling around the bushes in a gas-guzzling land cruiser to catch those unforgettable holiday pictures isn't exactly eco-friendly, is it?

These diesel vehicles have a history of polluting the air and creating a lot of noise. But how much more fun would it be if they purred instead of roaring? And how much safer for the world would it be if they didn't spew toxic exhaust gases and CO_2 into the atmosphere?

With the advent of EV conversions, we are redefining safari experiences. And it's more than just a quiet drive. It's a tool for developing and growing sustainable tourism. Thankfully, electric vehicles are starting to be used for safaris in Africa, but only in a few locations so far.

With zero emissions, silent electric vehicles are an important part of the green movement. People go to the bush largely for tranquillity and to connect with nature. A noisy and smelly engine is a huge nuisance, a problem E-Motion is determined to solve.

Listen to the nature and go electric

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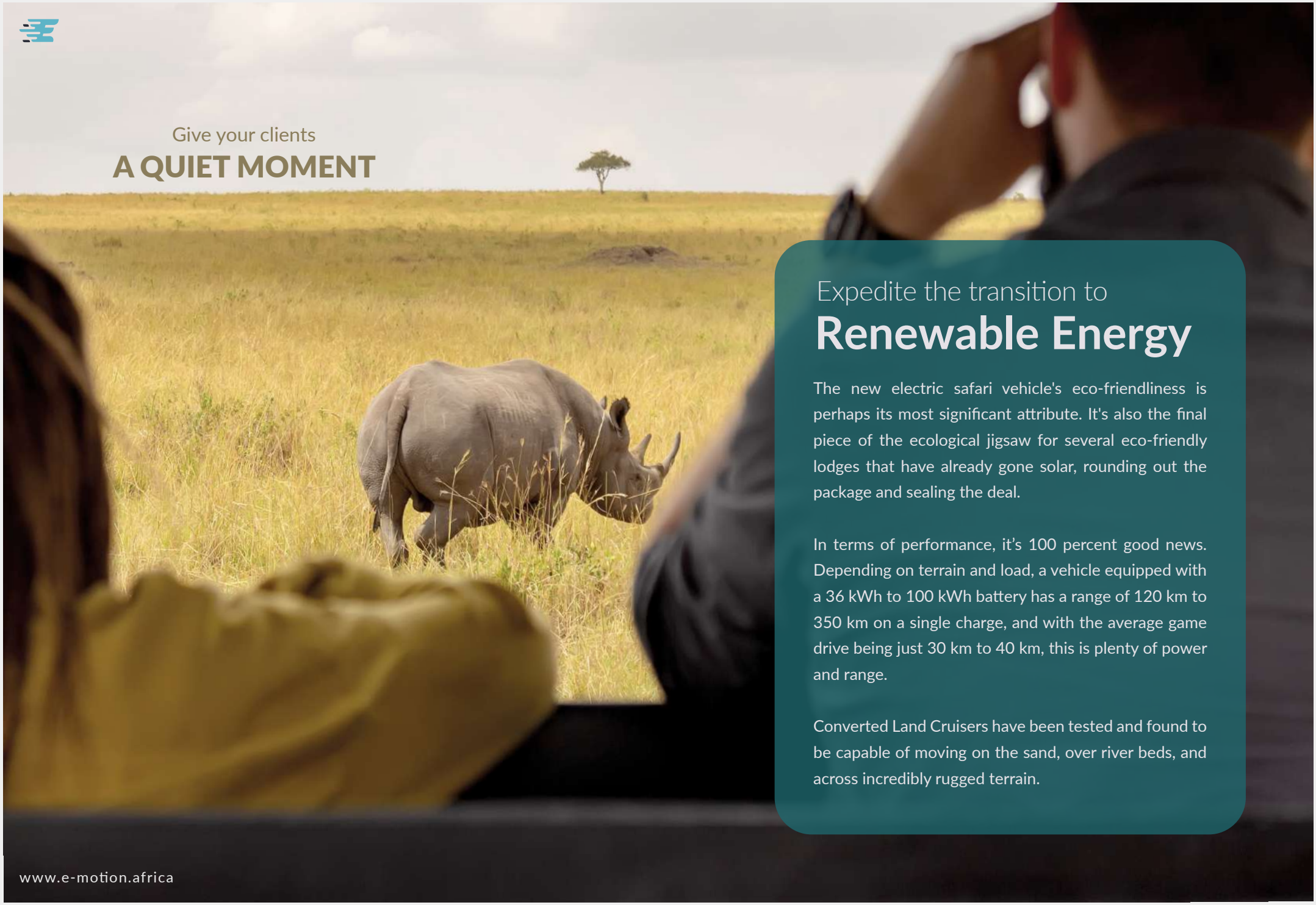


Give your clients

A QUIET MOMENT

Expedite the transition to

Renewable Energy

The new electric safari vehicle's eco-friendliness is perhaps its most significant attribute. It's also the final piece of the ecological jigsaw for several eco-friendly lodges that have already gone solar, rounding out the package and sealing the deal.

In terms of performance, it’s 100 percent good news. Depending on terrain and load, a vehicle equipped with a 36 kWh to 100 kWh battery has a range of 120 km to 350 km on a single charge, and with the average game drive being just 30 km to 40 km, this is plenty of power and range.

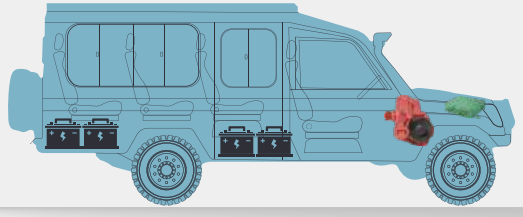
Converted Land Cruisers have been tested and found to be capable of moving on the sand, over river beds, and across incredibly rugged terrain.

Our Focus

Bring the latest Technology to Africa

Look ahead to the future of mobility through our 100% electric converted vehicles.

Save the environment by converting to pollution-free vehicles and impact the Tanzanian/African Economy.



Meet The Team

Together with our partners, we are championing retrofitting.

Hanspaul Group

Hanspaul Group has vast expertise stretching back to over 40 years in various manufacturing industries. In their automobile division, they have specialized in the fabrication of customized safari vehicle bodies for the tourism industry.

Carwatt

Carwatt is a leading French tech company dedicated to decarbonizing mobility through the circular economy conversion of industrial and transport vehicles from combustion to electric engineering.

Gadgetronix

Gadgetronix (GX) is an award-winning, reliable and by far the most reputable company for green energy solutions in Tanzania. They have installed solar farms of up to 1MW nationwide and taken hundreds of companies off-grid.

Arusha Technical College

As a member of E-Motion's board of directors, ATC is assisting the project by providing experience, research, and practical work to prepare students for a sustainable future. New technology for a new generation.

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Taking you to the era of full electric

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Entering the era of Zero-Emissions

Applications Of E-Motion Retrofit

Public Transport Buses with uniform routes

Ferry Ships : Znz - Dar/Mafia Islands, Bukoba

Airport Services - Baggage, Fuel, Passengers, Crew

Public Service Vehicles

Safari Vehicles

Anti Poaching Units and Rangers Patrol vehicle

New avenues for sustainable smart tourism growth

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Cost Reduction

Economical Savings

1) No Fuel Costs

This is easy to comprehend. If a car travels 30,000 kilometers per year and consumes 6 kilometers per liter (typically for Toyota Land Cruisers over 10 years old), it consumes 5,000 liters of diesel every year.

Annual Savings: $5,000

2) No Maintenance Costs

For an electric motor, repairs and spare parts replacement, such as brake pads and oil filters, are almost non-existent.

Annual Savings: $4,000

3) No trips to the fuel station

The electric cars can be recharged at your site, removing the need to send them in for refilling or servicing, hence saving time and money on unnecessary trips that potentially damage the vehicle.

Based on the chosen model and usage (number of kilometers driven per year), you can estimate how long it will take to get your money back. It can be less than 24 months if used intensively.

EVs can run everywhere,
silent and clean, with no climate emissions.

Calculation of CO_2

Ecological Savings

The transportation industry is the world's leading source of CO_2 emissions. A car releases a significant amount of CO_2 during its life (50% while manufacturing the car and 50% in operating the car for 15 to 20 years).

With retrofit, we save the first 50%
With retrofit, we also save the second 50%

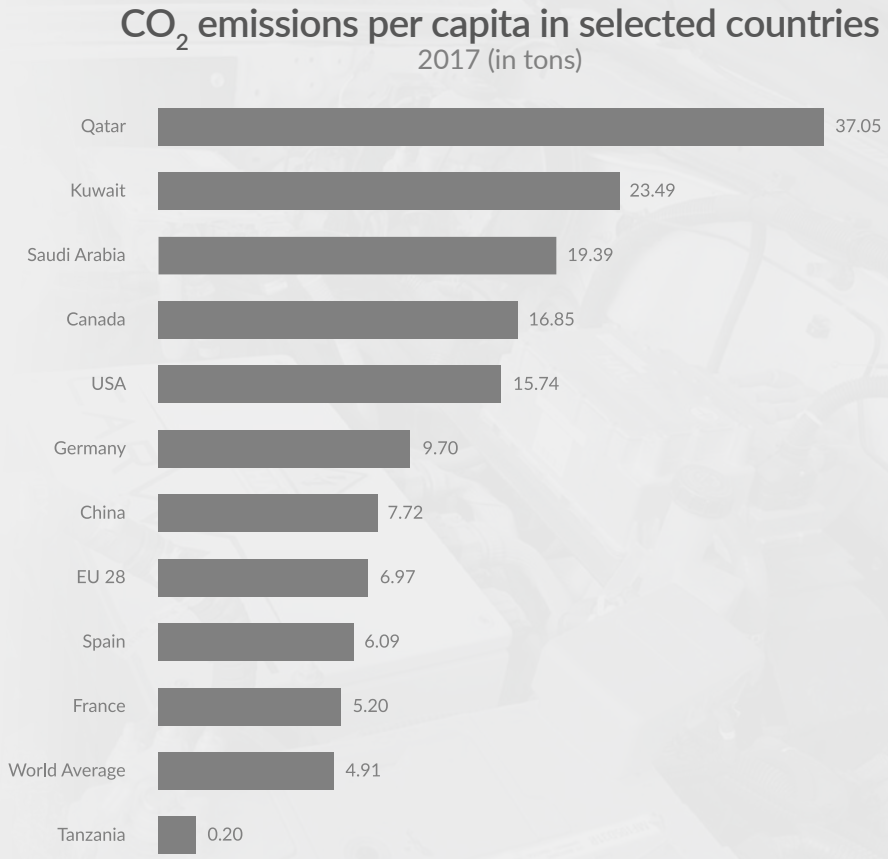
How do we calculate the ecological savings?
1 liter of diesel combustion produces 3.5 kg of CO_2.
We need to transport the diesel from Dar Es Salaam to Serengeti (and Arusha) to access it.

As a result, the effect of this transportation must be factored into the CO_2 estimate. When an operator burns 1 liter of diesel, he emits about 4 kilograms of CO_2.

If a car travels 30,000 kilometers per year and consumes 6 kilometers per liter (as is typical of Toyota Land Cruisers over 10 years old), it emits 20 tons of CO_2.

Tanzania's gross annual emission per capita is 0.2T.

To put it another way, each retrofitted car would reduce carbon emissions of a village of 100 people to ZERO. If we consider the 50/50 split, it's TWO villages of 100 inhabitants.



We're here to make the transition to electric as smooth as possible.

Got questions and concerns?

We'll be glad to assist you in making this move.

How will converting save me money?
Retrofitting will eliminate the maintenance and fuel costs completely stabilizing your fixed monthly cost.

What happens if my car breaks down in the middle of nowhere?
E-Motion fits in high-tech monitoring equipment that allows the driver to see the current state of charge and remaining range so that he can schedule his trip comfortably. You may also opt for an onboard battery pack for emergencies.

How well can the vehicles manoeuvre in muddy situations & what impact will it have on the vehicle?
The vehicles are powered by a high-capacity motor, and the 4WD system performs similarly to a diesel engine. However, if you are trapped for an extended period, your range will be limited, same way you would consume more fuel.

Will the conversion be weatherproof?
Yes, all of the electrical components are protected by IP67 waterproof enclosures. In addition, the electric motor is dust and water-resistant.

What other vehicle brands can be converted?
E-motion has successfully engineered Landcruiser 70 Series. R&D for Landrovers is currently underway, and we should be ready for Landrover fans shortly. We are hard at work transforming the bulk of 4x4 and utility vehicles. Our website will be updated with new items and enhancements.

How long would it take for the car to charge?
The car takes approximately 4-8 hours to completely charge.

How far does the EV go in km/miles?
A vehicle equipped with a 36 kWh to 100 kWh battery has a range of 120 km to 350 km on a single full charge. While on safari, one must also consider the landscape as well as the obstacles they might encounter.

How do I maintain the EV?
The only maintenance needed is to check the cooling system every six months and the torque setting on the motor, all of which can be completed in under an hour.

Is there a warranty on the systems?
All components are protected by a two-year limited warranty from E-Motion.

Zero Emission Is Not A Dream.
It Is A Choice.

It handles rocks and river sand just the same,
if not better, than fuel-powered engines.

Retrofit Specs

Battery

Type	Lithium NMC battery pack
	Automotive Design*
Nominal Voltage	360 VDC
Electric Capacity	36 kWh - 100 kWh
Operating Temp	-25°C / 45°C
Weight	393 kg (Standard Vehicle)
	590 kg (Long Range Vehicle)
Safety Devices	Included in casing

*Lifetime over 3000 cycles of full charge-discharge

Drive Motor

Type	3-Phase Synchronous PM Motor
Continuous Power	60 kW
Continuous Torque	130 Nm
Peak Power	110 kW
Peak Torque	240 Nm
Operating Temp	-40°C / 70 °C
Weight	56 kg
IP Protection Class	IP67
Water Cooled Motor and Inverter	

On-Board Charger

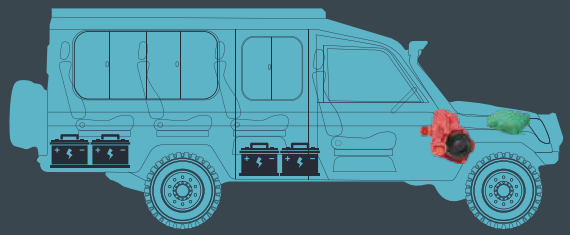
Charge Power	3.5kW @ 16A (Standard)
	7kW @ 32A (Accelerated)
Efficiency	≥94%
Operating Temp	-40°C / 85°C ≤
IP Protection Class	IP67 (Waterproof & Dust proof)
Integrated Liquid Cooling	

Charging Time

Battery Capacity	3.5 kW	7 kW	22 kW	50 kW
36 kWh	8h	NA	NA	NA
50 kWh	NA	6h	2h	1h
100 kWh	NA	12h	4h	2h

Driving Range

120 km to 350 km +



Discover more on www.e-motion.africa

Switching to electric has never been so easy

New **technology** for efficient practice.

Make your organization part of an electrified world.

Retrofit is the way forward.

2 Years WARRANTY

E-MOTION

www.e-motion.africa

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