



6 kW electric outboard engine (Epropulsion)

## Success with the benefits of leasing

10 fishermen merged to form a cooperative, and financed a Mini-Grid-Powerhouse. The powerhouse includes 10 electric outboard engines (6 kW each) and 20 Power2Go battery packs (4.8 kWh each, two packs per boat) that power the boats for over 40 km. The batteries are recharged via photovoltaics in the Mini-Grid-Powerhouse upon return. The investment covers e-engines, battery packs, Mini-Grid-Powerhouse, service, and battery charging for 60 months at a leasing fee of 250 EUR/month/boat. After the 60 months, the Mini-Grid-Powerhouse, electric boat motors, and Power2Go battery packs become the property of the cooperative.

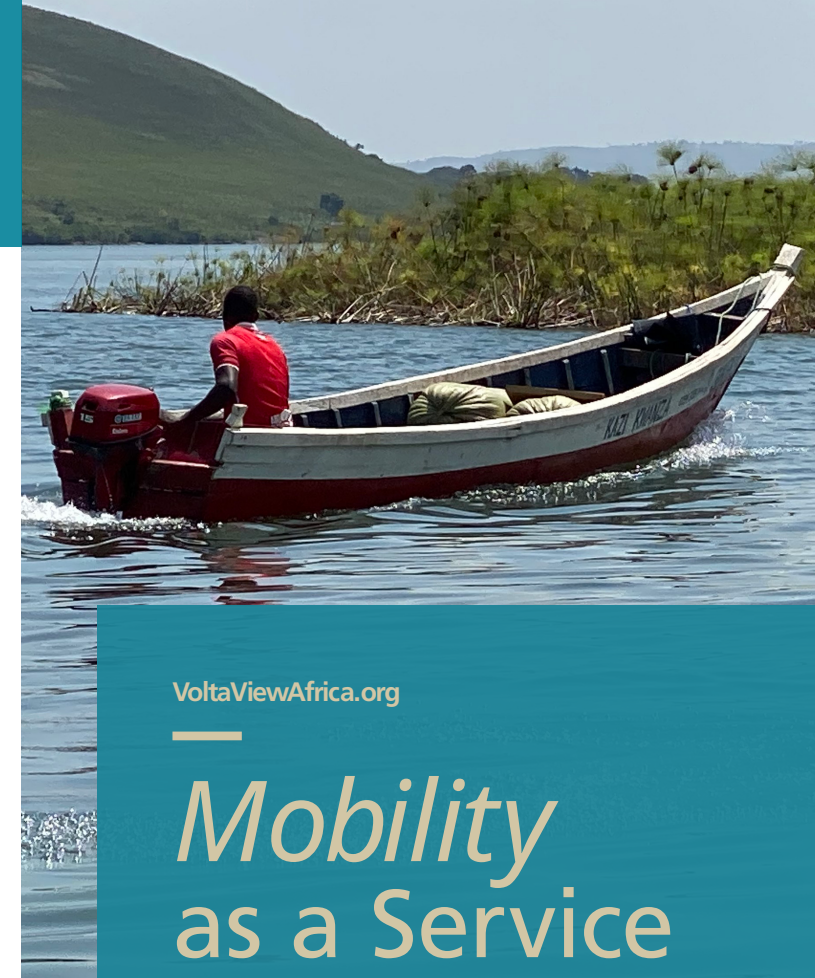


## Our Team

Since 2019, VoltaViewAfrica.org has been installing mini-grid powerhouses serving clean electricity and safe drinking water in Tanzania around Lake Victoria. In 2023, an additional activity was started in The Gambia (West Africa). Here, the VoltaViewAfrica Powerhouse concept is expanded for the areas of food safety and e-mobility. These projects are carried out in cooperation with the local partners Sub Saharan United Vehicles (SUV) Ltd., United Experts Ltd., and the University of Applied Science, Engineering and Technology (USET) in Banjul.



This project is supported by the German Federal Ministry for Economic Affairs and Climate Action as part of the Renewable Energy Solutions Programme of the German Energy Solutions Initiative.



VoltaViewAfrica.org

# Mobility as a Service





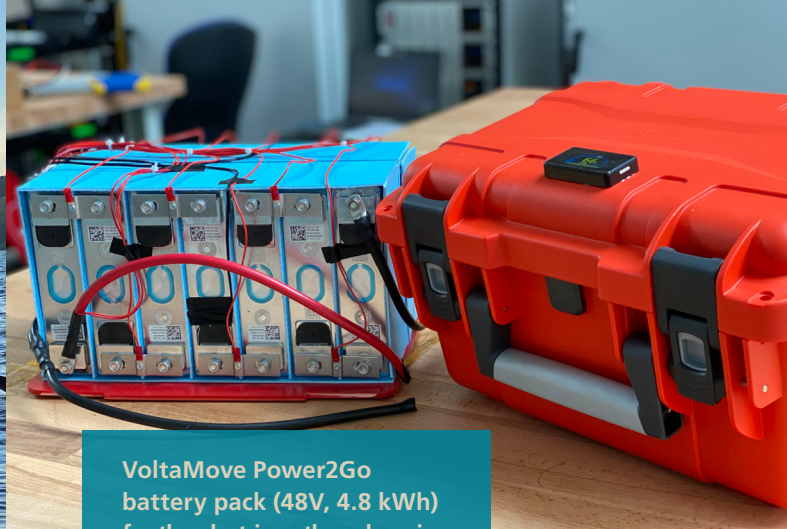


Traditional eco-friendly fishing persists at Lake Victoria today

## Silent glide with Sun-e-boats

Fishing is a primary income source for many families across sub-Saharan Africa's coastal and central regions, including lakes Victoria, Tanganyika, and Malawi. Most boats use petrol outboard engines, but rising fuel costs have made the industry less profitable, with monthly petrol expenses reaching 400-500 EUR. Around Lake Victoria alone, there are approximately 100,000 fishing boats, producing up to 1 million tons of CO<sub>2</sub> annually, exacerbating global warming and polluting the water that sustains these fishermen.

**Mobility as a Service:** The Mini-Grid-Powerhouse concept, combined with portable Power2Go battery packs, offers *Sun-e-boat* – eco-friendly water transportation tailored to the needs and economic circumstances of rural sub-Saharan African fishermen. Equipped with 6 kW electric outboard engines and 48 V, 4.8 kWh Power2Go batteries, these boats have a range up to up to 40 km per charge – entirely emission-free and solely powered by the sun.



VoltaMove Power2Go battery pack (48V, 4.8 kWh) for the electric outboard engine

## Clustered expertise behind

VoltaMove GmbH, a Fraunhofer HHI start-up in Germany, aims to develop and produce low voltage direct current (LVDC) battery packs for versatile use in small delivery vans, motorcycles, boats, and construction sites, encompassing both hardware and software.



## Technology with contemporary spirit

### E-outboard engine

- **6 kW power** (10 hp equivalent)
- **36 kg weight**
- Tiller control with display for SOC, range, and power consumption
- **Maximum thrust propeller**
- Suitable for boats up to 2.5 t
- Typical range up to 40 km with **4.8 kWh lithium battery storage**

### Power2Go battery packs

- **14 NMC lithium-ion cells** in series
- Active BMS, programmable via app, with CAN and RS 484
- **4.8 kWh storage capacity**  
**4,000 charge/discharge cycles** with < 80% capacity drop
- Voltage range: 39-59 V
- Permanent discharge current 100 A (1C)
- Short-term peak discharge current 200 A (2C)
- **Charging time** of approx. 5 hours at 20A
- **19 kg weight**
- Specially developed passive safety concept

*On-site service in The Gambia and Tanzania with local partners*