



STIMA

Battery fleet and infrastructure management software

2024.05.13

Jason.gras@stimaboda.com

STIMA Rationale

Batteries are the largest investment and close monitoring is needed to mitigate the risks related to this business line and achieve scalability

- **Operational risks:** low infrastructure utilization or service time, inadequate operating procedures, staff performance issues, asset theft,
- **Battery risk:** Battery technology and lifespan issues, battery faults



We support e-mobility companies by providing **monitoring and optimization of batteries and charging infrastructure operations**





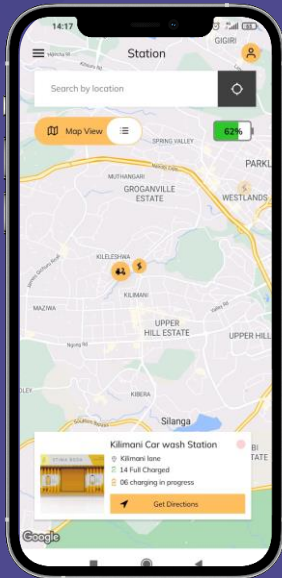
Our solution

A tailored B2B battery fleet management software, enabling fast e-mobility transition in emerging markets



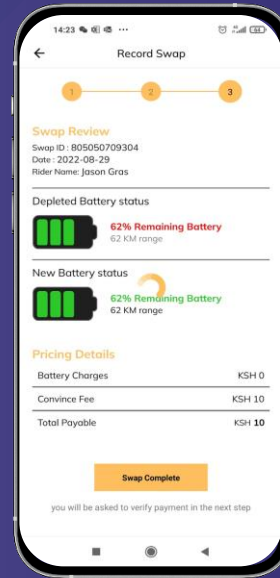
IoT-based platform compatible with any e-motorcycle

Rider App



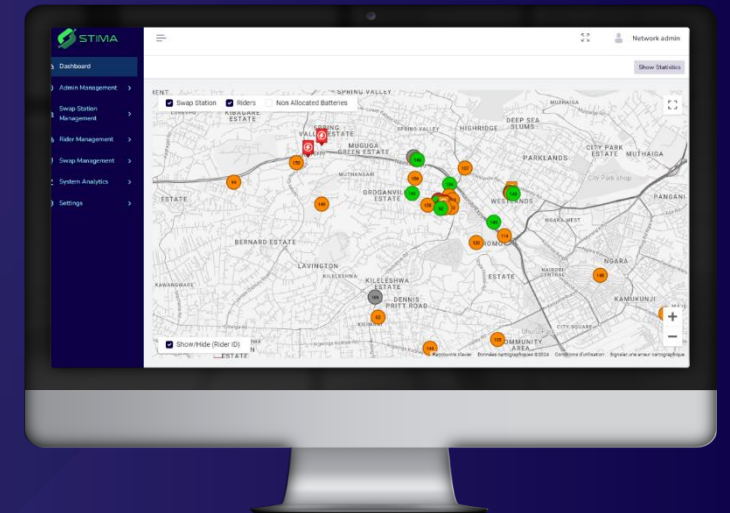
Interface with riders

Operator App



Interface with swap/charge station operators

Monitoring platform



Interface for network supervisors



USE CASE

1. Our client keeps track of all his assets and of his operation

The screenshot displays the STIMA dashboard interface, which is used for tracking assets and operations. The main view is a map of Nairobi, Kenya, showing various swap stations and riders. The interface includes a sidebar menu with the following options: Dashboard, Admin Management, Partner Management, Swap Station Management, Rider Management, Swap Management, System Analytics, and Settings.

The map area features several filters and controls: Swap Station, Riders, Non Allocated Batteries, and Show/Hide (Rider ID). The map shows various locations in Nairobi, including KISUMU, KILIMANI, PARKLANDS, and UPPER HILL. Several swap stations are marked with colored icons (green, orange, red) and labeled with IDs like GW109, GW158, GW159, GW157, GW131, GW108, GW142, GW110, GW143, GW144, GW121, GW154, and GW155.

Two detailed views are shown on the right side of the dashboard:

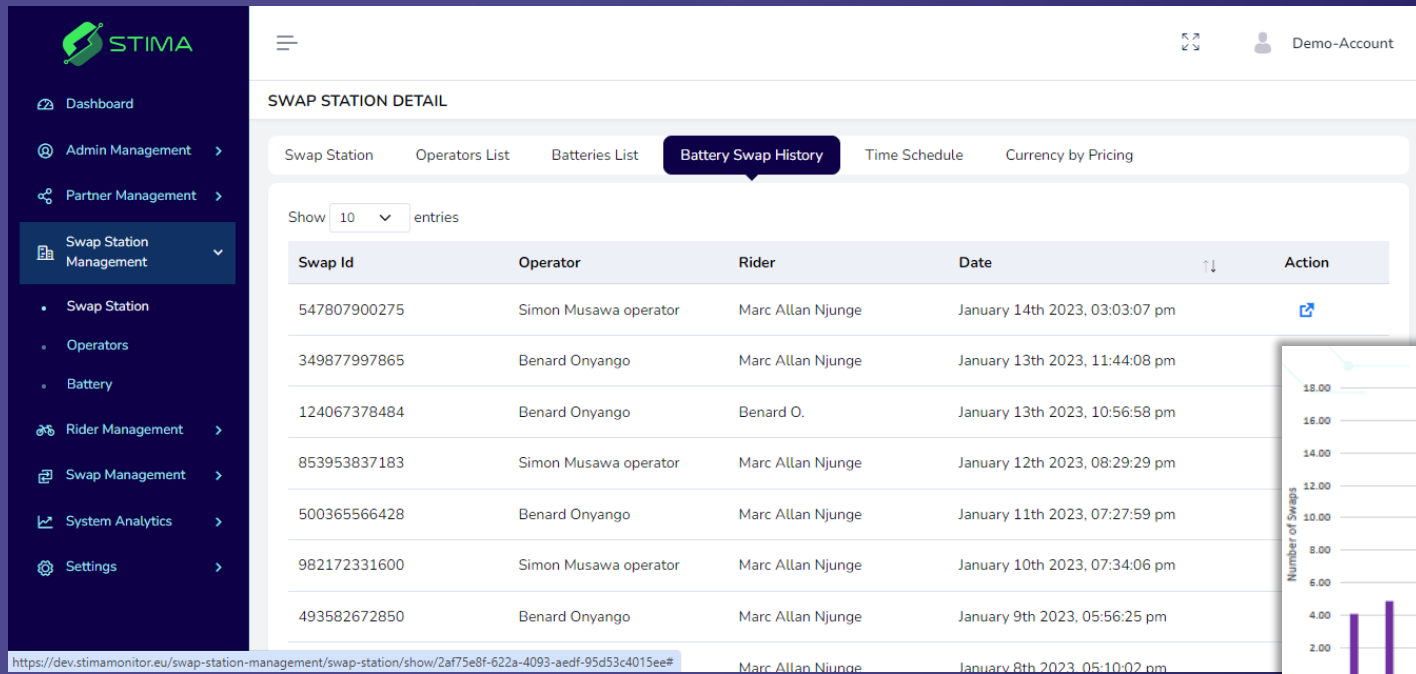
- Ojjo Road - Rubis Station:** This view shows the station name, address (Rubis Fuel Station, Ojjo Road, Nairobi), and battery status (Full Charged: 10, Charging: 3, Idle: 14). Below this, a list of batteries is shown with their status (Charged or Idle) and LFP voltage (3.575 V).

Battery ID	Status	LFP Voltage
GW4	Charged	LFP 3.575
GW6	Charged	LFP 3.575
GW30	Idle	LFP 3.575
GW34	Idle	LFP 3.575
GW38	Idle	LFP 3.575
GW46	Idle	LFP 3.575
- Rider:** This view shows the rider's name (STIMA BODA), battery ID (GW110 (KMGL 993C)), and battery type (LFP). It also displays the current battery level (17%) and various performance metrics:

Metric	Value
PackVolt	78.6 A
Current	0 A
Power	0 W
Max Cell Volt	3277 mV
Max Cell Volt	3273 mV
Max Cell Volt	3275.33 mV
Max Cell Volt	4 mV
Max Cell Volt	55.47 mV

USE CASE

2. Our client understands the battery swapping/charging network performance (service, economics)

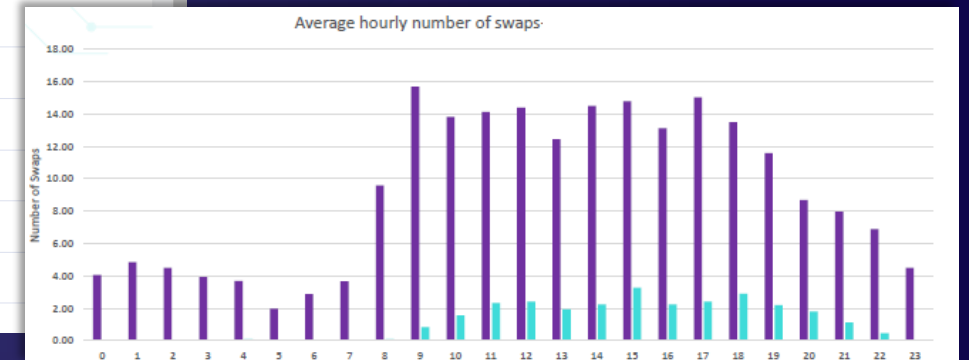
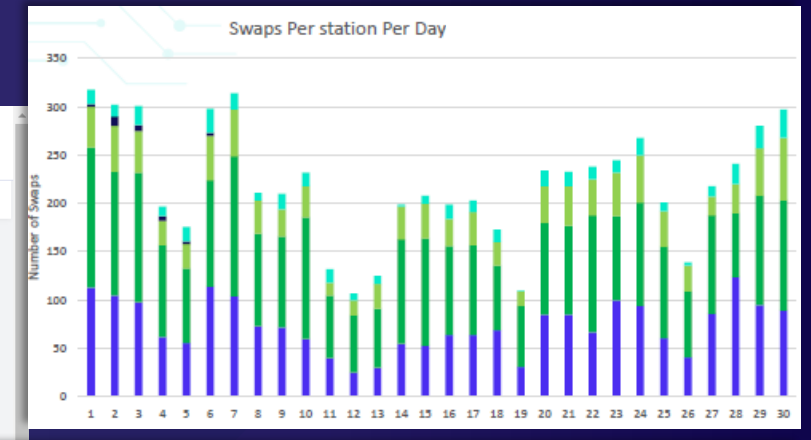


SWAP STATION DETAIL

Swap Station Operators List Batteries List **Battery Swap History** Time Schedule Currency by Pricing

Show 10 entries

Swap Id	Operator	Rider	Date	Action
547807900275	Simon Musawa operator	Marc Allan Njunge	January 14th 2023, 03:03:07 pm	↗
349877997865	Benard Onyango	Marc Allan Njunge	January 13th 2023, 11:44:08 pm	
124067378484	Benard Onyango	Benard O.	January 13th 2023, 10:56:58 pm	
853953837183	Simon Musawa operator	Marc Allan Njunge	January 12th 2023, 08:29:29 pm	
500365566428	Benard Onyango	Marc Allan Njunge	January 11th 2023, 07:27:59 pm	
982172331600	Simon Musawa operator	Marc Allan Njunge	January 10th 2023, 07:34:06 pm	
493582672850	Benard Onyango	Marc Allan Njunge	January 9th 2023, 05:56:25 pm	
https://dev.stimamonitor.eu/swap-station-management/swap-station/show/2af75e8f-622a-4093-aedf-95d53c4015ee#		Marc Allan Njunge	January 8th 2023, 05:10:02 pm	



USE CASE

3. Management of battery performances

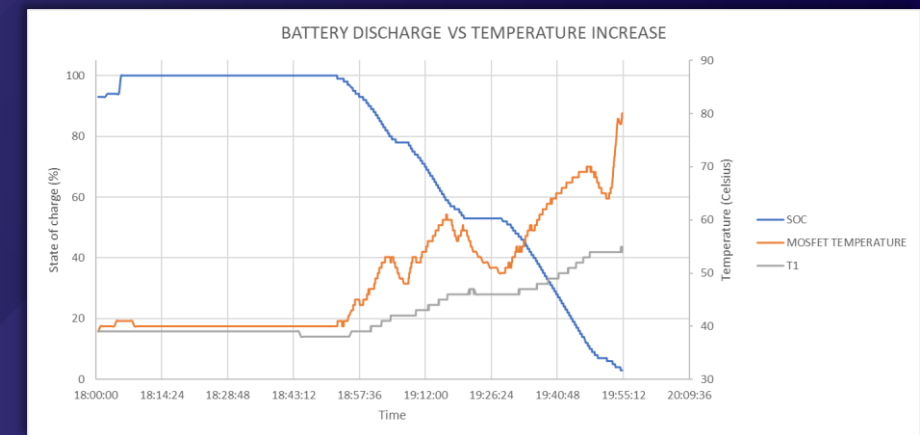
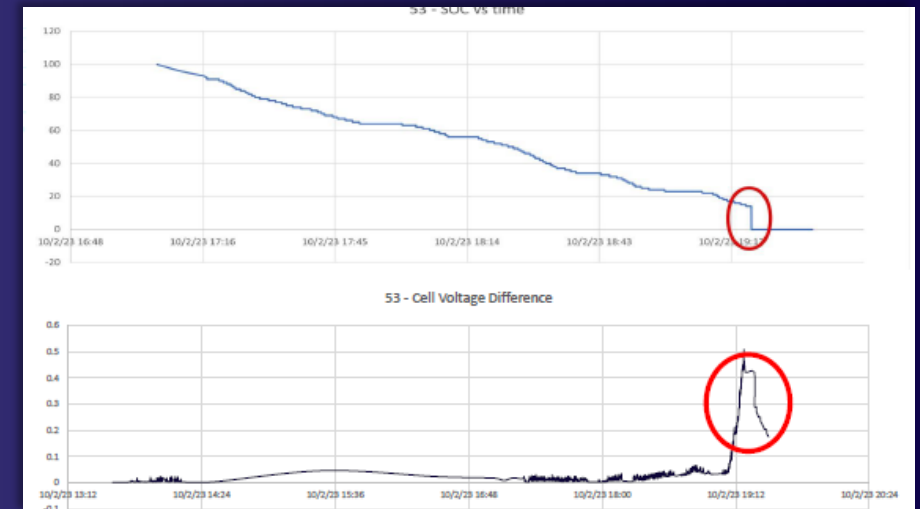
Battery Status: Charging

Last Update Time: 1 second ago

SOC 89%	Pack Volt 81.3 V	MOS 38 °C	Balance 38 °C
Current -9.8 A	Power -796.74 W	T1 38 °C	T2 36 °C
Max Cell Volt 3392 mV	Min Cell Volt 3385 mV	T3 39 °C	T4 37 °C
Avg Cell Volt 3389 mV	Cell Volt Diff 7 mV		
Total Cycle 55.39 cycles			

Number of swaps and number of full cycles for each battery

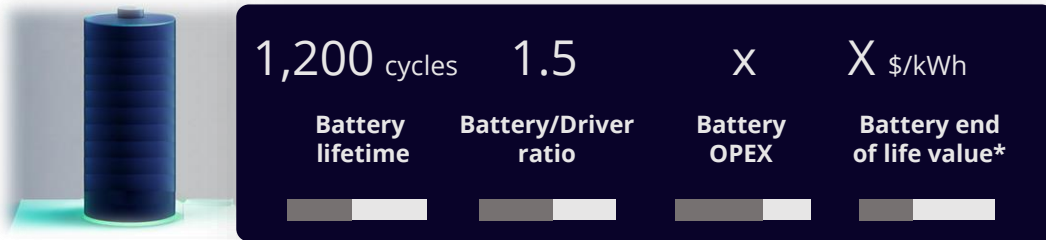
01	3385 mV	02	3385 mV
05	3390 mV	06	3385 mV
09	3387 mV	10	3385 mV
13	3388 mV	14	3385 mV
17	3391 mV	18	3385 mV
21	3389 mV	22	3385 mV



USE CASE

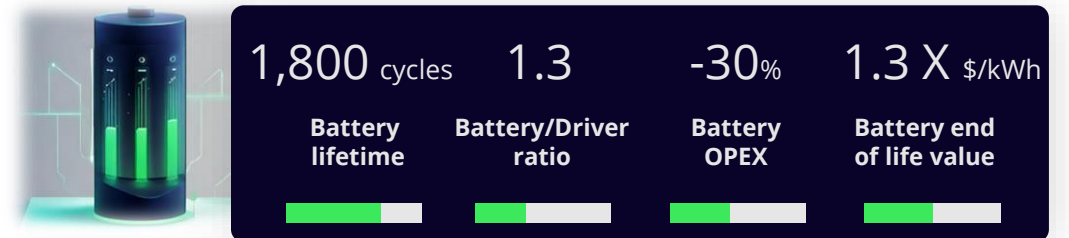
4. Optimization of operations economics

KPI without STIMA



Battery fleet investment: 10% IRR

KPI with STIMA

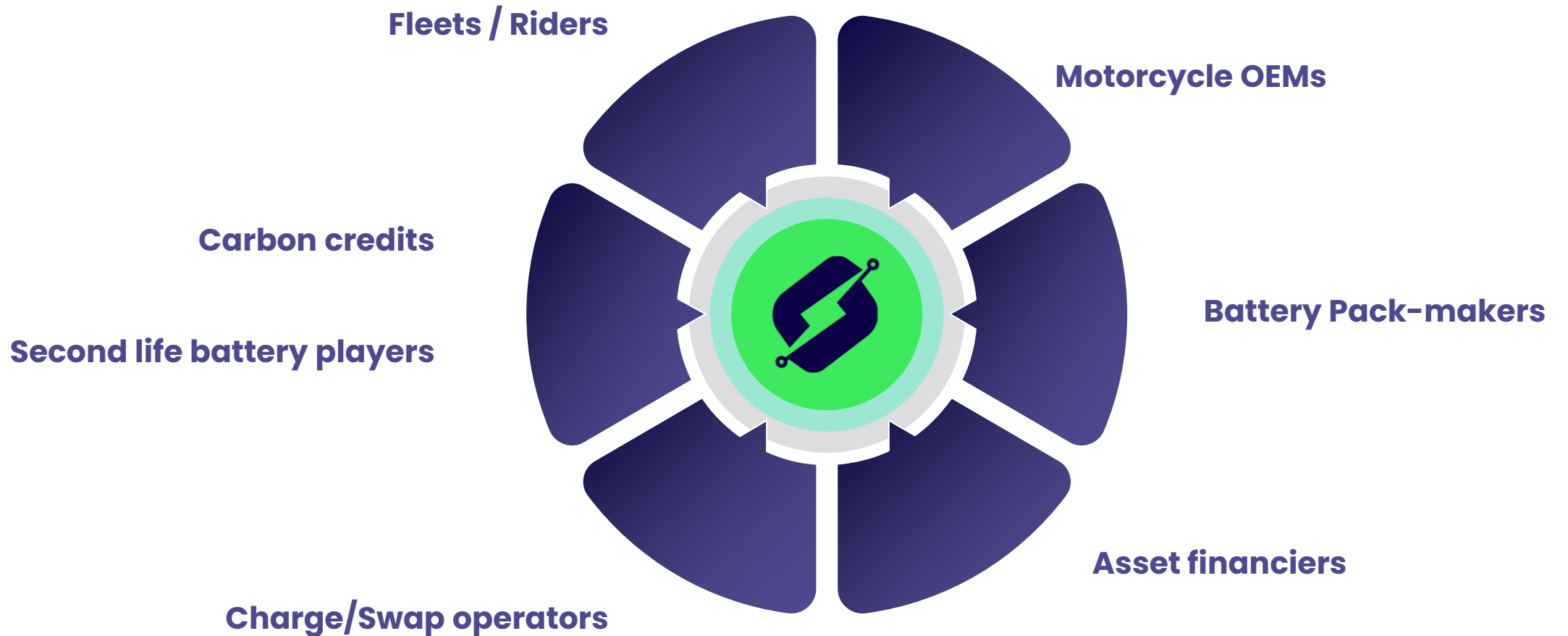


Battery fleet investment: 30% IRR

including STIMA SaaS cost

A global data-based standard Platform

Central for all mobility actors on the value chain



Gender-inclusivity: Women empowerment program

Objective

Achieve higher level of women integration in the moto-taxi sector in Kenya

190 women reached

70 enrolled

40 trained (driver licenses)

And joining delivery and ride-hailing fleets

Program main partners





Thank You

Jason.gras@stimaboda.com

WWW.STIMABODA.COM