

ScapePhoton Energy

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INTEGRATED ENERGY MOBILITY

Vehicle + Battery + Swappable Cabinet

Integrated energy, mobility and station operations

Integrated hardware and software | Multi-voltage compatibility | Centralized
SaaS | One-stop APP

Where Energy Flows, Innovation Follows.

ScapePhoton

www.ScapePhotonEnergy.com

Integrated solution overview

From standalone equipment to a sustainable operating system

One integrated solution addresses vehicle operations, energy supply, station management and digital business management. Core capabilities include high swap success, broad compatibility, centralized SaaS, connected data and high-performance batteries.



A complete battery-swap chain covering vehicles, riders, batteries and cabinets

99.96%

Battery swap success rate

>95%

Lithium-battery compatibility

5 cabinets

Cabinet cascade capacity

1 platform

Central SaaS platform

Source: 99.96% swap success; >95% lithium-battery compatibility; up to five cascaded cabinets. Performance varies by project.

Why integration matters

Different suppliers create complexity across vehicle, battery and platform operations.

Unified protocol, unified assets, unified data and unified service.

01 Asset fragmentation

Vehicles, batteries and cabinets are procured separately, creating complex interfaces, warranty boundaries and long fault-diagnosis paths.

02 Range and waiting

Charging queues during peak hours reduce vehicle availability, while insufficient battery turnover affects orders and service fulfillment.

03 Fragmented operations

Device status, alarms and work orders are distributed across systems, delaying response and maintenance.

04 Data silos

Order, battery, cabinet and user data cannot be turned into operating metrics, making it difficult to optimize deployment and pricing.

Integrated value: vehicle, battery and cabinet ecosystem

Not a stack of equipment, but a closed loop built around operating efficiency

Vehicle

Battery

Swap cabinet

SaaS platform

User APP

Unified asset management

Vehicles, lithium batteries and cabinets are bound, tracked, counted, monitored and maintained in one platform.

- 1 Unified user experience**

Vehicle rental, battery rental, station discovery, QR-code swapping, reservations, wallet and support are consolidated in one APP.
- 2 Unified operating data**

Orders, billing, finance, users and device status form a traceable operating view.
- 3 Unified expansion path**

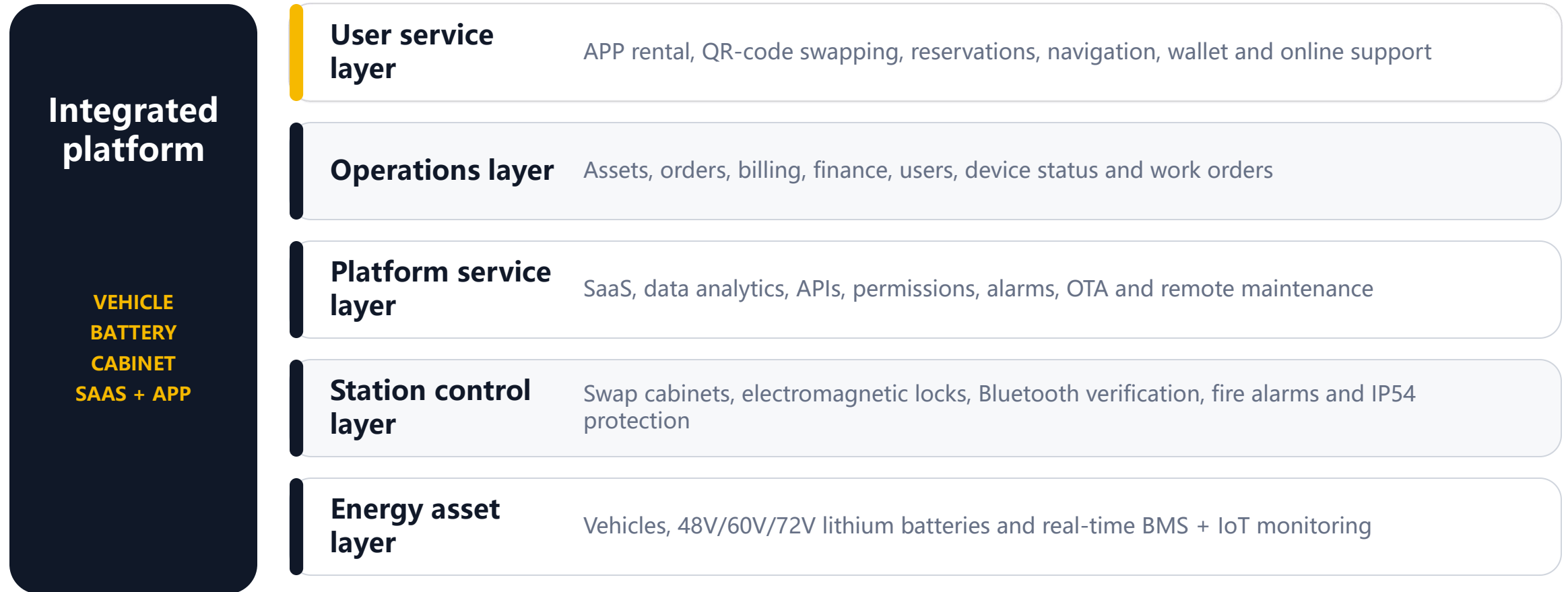
New batteries, cabinets and stations reuse the same system and operating workflow.



The integrated solution covers assets, energy, stations, platforms and user services. Vehicle, rider, battery and cabinet images are retained from the source proposal.

Overall architecture: from device access to an operating loop

Decoupled device, platform and service layers with unified data standards



Architecture reorganized from the source proposal's vehicle, battery, cabinet, SaaS, connected-data and user APP capabilities for pre-sales presentation.

Vehicle solution for high-frequency electric motorcycles

Flexible deployment of light electric motorcycles and electric motorcycles

- **High-speed capability** Supports electric motorcycle applications above 80 km/h.
- **Long-range target** Designed for range capability above 100 km.
- **High adaptability** Configurable and customizable for operating scenarios.
- **Fleet operations** Vehicle assets can be tracked and managed in one platform.

Light electric
motorcycle

Electric
motorcycle

Operator
customization



Speed and range are capability targets stated in the source proposal. Actual results depend on vehicle model, battery specification, load, road conditions, temperature and riding behavior.

Battery solution: high performance, monitoring and compatibility

Grade-A high-rate battery + smart BMS + IoT



Grade-A high-rate battery

Bottom connection | Smart BMS + IoT | Real-time monitoring

Voltage platform

48V / 60V / 72V
For light electric and
electric motorcycles

Capacity range

50Ah / 60Ah / 30Ah and
other options
Configured for
operating scenarios

Smart management

Battery status, location
and fault data
Reported to the
platform through BMS +
IoT

Compatible specifications from the source proposal include 48V50Ah, 48V60Ah, 60V30Ah, 60V50Ah, 72V30Ah and 72V60Ah. Interface, BMS protocol and vehicle compatibility must be validated.

Cabinet solution: expansion, offline operation and safety

Up to five cascaded cabinets covering 48V, 60V and 72V batteries



Cabinet configuration can expand with site demand

Multi-cabinet cascade

Connect up to five swap cabinets to increase site throughput and expansion capacity.

Broad compatibility

Compatible with 48V, 60V and 72V lithium batteries for light electric motorcycles and electric motorcycles.

Reliable swapping

Supports offline Bluetooth/verification swapping. Reverse power supply enables swapping during outages; the source proposal states a 99.94% swap success rate.

Comprehensive safety

Electromagnetic locks, battery tracking, real-time location, fire alarms, IP54 protection and OTA upgrades.

Source: 99.94% swap success; offline Bluetooth/verification swapping; reverse power during outages. Availability depends on site conditions.

Swap experience: from reservation to completion on one platform

Simplified user actions with automatic operating-data capture

QR-code swap

Offline Bluetooth / verification
swap

Reservation
system

01

Find a station

APP shows nearby
swap stations and
availability

02

Reserve and navigate

Reserve a time slot
and navigate to the
station

03

Scan and verify

Scan a QR code or
use Bluetooth for
identity verification

04

Return and receive

Return the low-
charge battery and
take a fully charged
one

05

Automatic billing

Generate the order,
fee and wallet record
automatically

06

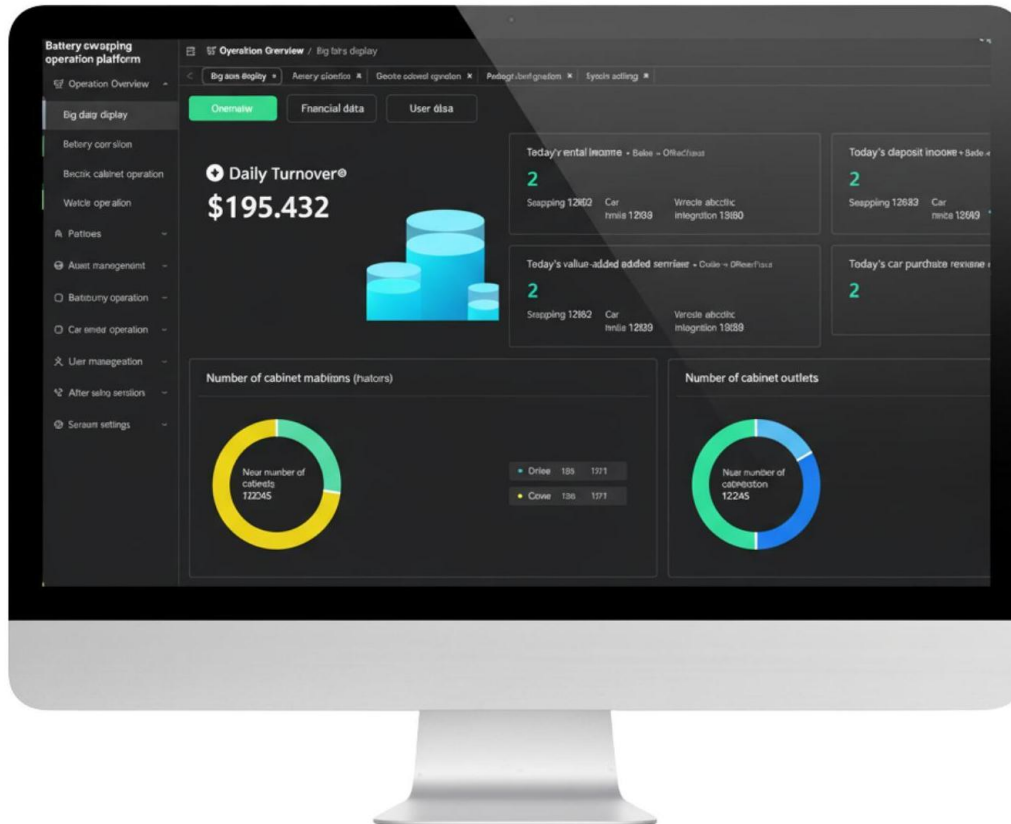
Data return

Battery, cabinet and
order status return to
the platform

The source proposal supports QR-code swapping, reservations, navigation, offline Bluetooth/verification swapping and a mobile wallet. Operators can adjust the flow to site conditions.

SaaS operations platform: assets, orders and finance

Unified management of vehicles, batteries and swap cabinets



Asset map

Track the location, inventory and online status of vehicles, batteries and cabinets.

Operations management

Centralize billing, orders, users, device status and work orders.

Data analysis

Analyze operating revenue, financial statistics and device usage.

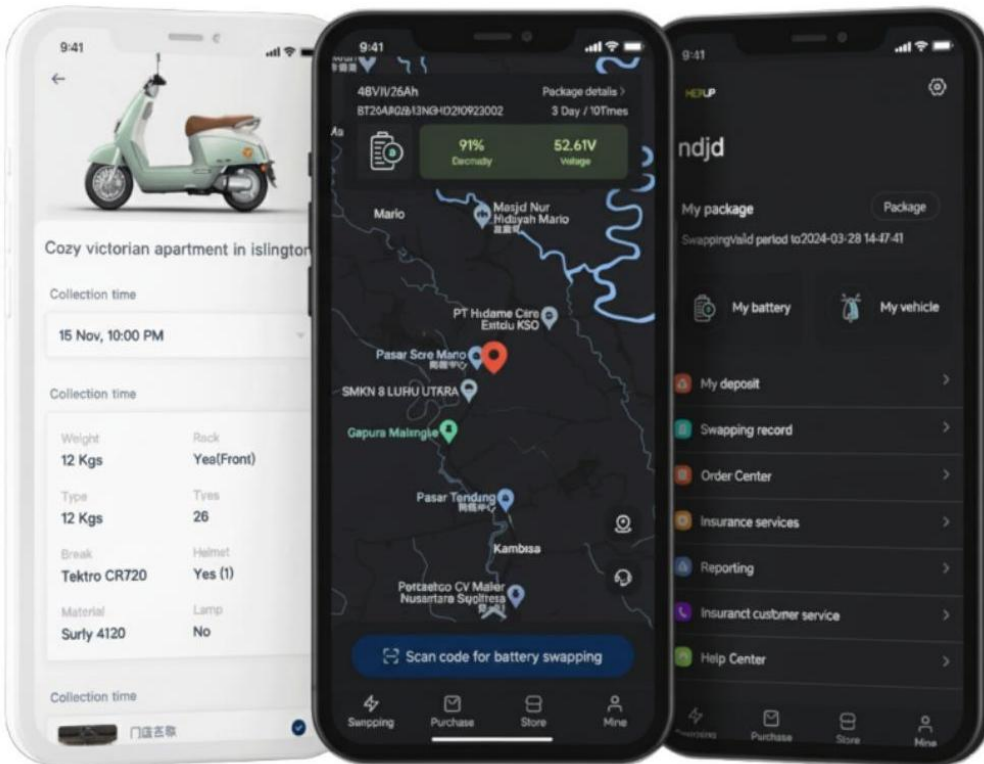
Alarms and OTA

Receive abnormal alarms and support remote upgrades and maintenance.

Source: centralized SaaS, asset management, data analysis, operations management and connected device updates. Dashboard image from source.

User APP: vehicle and battery rental, navigation and wallet

A one-stop service entry for end users

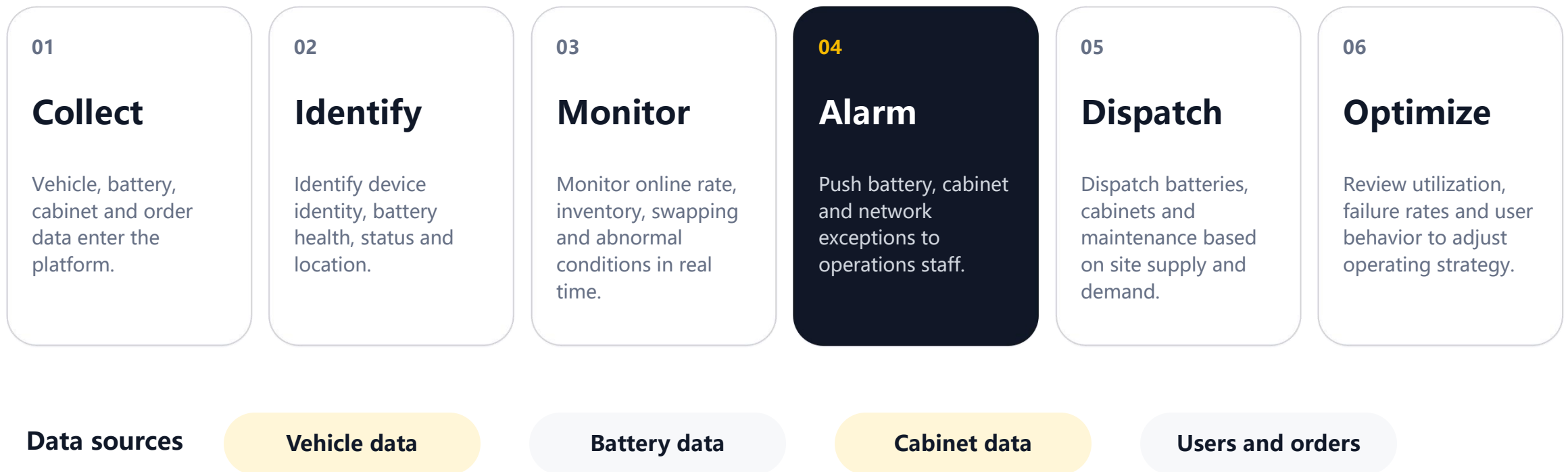


- 1 **One-stop rental**
Rent vehicles and batteries and access swapping in one platform.
- 2 **Real-time battery monitoring**
View battery status to support usage decisions.
- 3 **Smart navigation**
Track routes and navigate to nearby swap stations with one click.
- 4 **QR-code swapping**
Simplify the process and complete a battery swap quickly.
- 5 **Reservation system**
Reserve a swapping time slot to reduce waiting.
- 6 **Mobile wallet**
Support deposits, withdrawals and other fund management operations.
- 7 **Online support**
Access customer service quickly for usage and after-sales support.

APP functions from the source proposal include one-stop rental, real-time battery monitoring, smart navigation, QR-code swapping, reservations, wallet and online support.

Data loop: device status drives operating decisions

A six-step loop from data collection to dispatch optimization



The data loop is based on the source proposal's connected data, centralized SaaS, asset tracking, operations management and device-status updates. The six-step framework organizes these capabilities.

Safety and reliability across devices and operations

Key metrics and maintenance mechanisms support swapping service

Battery safety

- Real-time BMS + IoT monitoring
- Battery tracking and location reporting
- Abnormal states trigger platform alarms

99.96% success rate

Cabinet safety

- Electromagnetic lock control
- Fire alarm linkage
- IP54 protection

99.94% swap success rate

Reliable swapping

- 99.96% swap success rate
- 99.94% swap success rate
- Offline Bluetooth/verification swapping and reverse power supply

IP54 protection

Operating continuity

- OTA upgrades
- Mobile monitoring
- Maintenance access and visual meters

Offline swapping

The source proposal presents both 99.96% and 99.94% success-rate figures in different sections. Both are retained without merging or rewriting.

Compatibility matrix for major voltage platforms

Match vehicles, interfaces and operating scenarios from the battery platform

Battery platform	Typical capacity	Applicable vehicle	Operating scenario
48V	50Ah / 60Ah	Light electric motorcycle	Urban short distance, shared mobility
60V	30Ah / 50Ah	Electric motorcycle	Instant delivery, urban commuting
72V	30Ah / 60Ah	High-performance electric motorcycle	Long distance, heavy-load operations

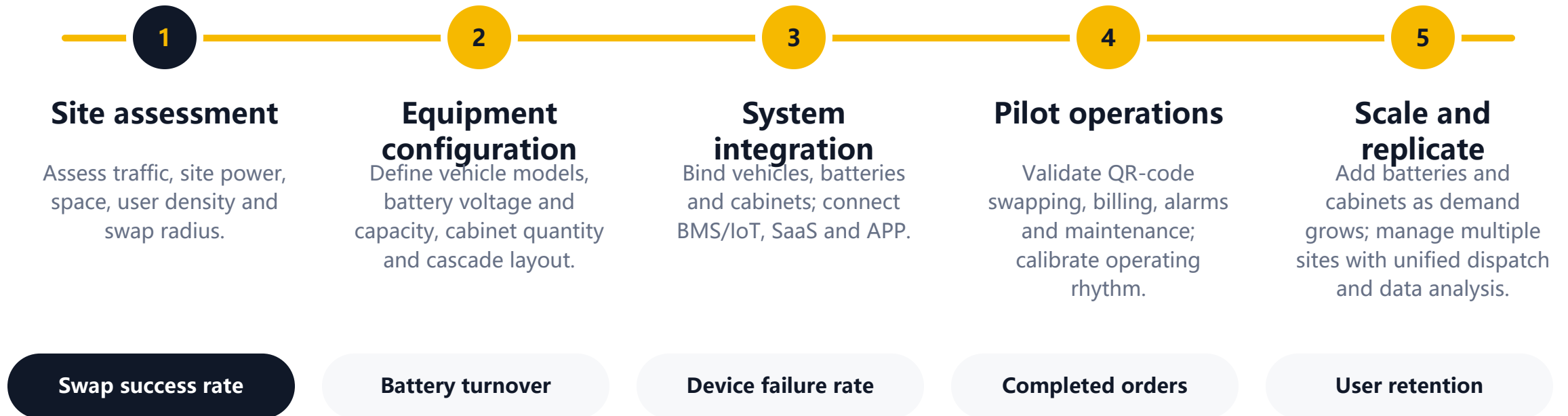
More than 95% lithium-battery compatibility

Compatibility still requires validation. Vehicle models, BMS protocols, connectors and cabinet types must be tested individually.

Compatible batteries listed in the source proposal include 48V50Ah, 48V60Ah, 60V30Ah, 60V50Ah, 72V30Ah and 72V60Ah, with compatibility stated for more than 95% of lithium batteries.

Deployment method: from site planning to scaled operations

— Prove a single-site model, then replicate it as a regional network



Deployment timing depends on land, power, permits, vehicle mix and user density. The proposal does not assume a fixed schedule or financial commitment.

Application scenarios for high-frequency operations

Replace long charging downtime with swapping to improve vehicle and battery utilization

Instant delivery

Riders are sensitive to range and refueling time. Cabinets can be placed at delivery hubs, commercial areas and communities to reduce charging queues.

Shared mobility

Standardized vehicles and batteries allow one asset pool for deployment, swapping, maintenance and recovery.

Campus and industrial parks

Closed or semi-closed areas are suitable for fixed swap points with unified management of vehicles, users and station service.

Scenic areas and municipalities

Distributed stations combine APP navigation and SaaS dispatch to support patrol, inspection and short-distance shuttle operations.

The source proposal applies to light electric motorcycles and electric motorcycles. These scenarios are operational examples of those capabilities.

Commercial value across operators, users and cities

Equipment configuration and digital operations jointly create value

Operators

- Improve vehicle and battery utilization
- Unify asset and station operations
- Create rental, swapping and service revenue

End users

- Reduce charging waiting time
- Access reliable range support
- Complete rental, navigation and payment in the APP

Cities and parks

- Build standardized swapping infrastructure
- Centrally manage devices and safety alarms
- Support green mobility and electrification

Ecosystem partners

- Coordinate vehicles, batteries, cabinets and platform
- Unify data interfaces and operating workflow
- Replicate the model in more regions

Vehicle rental

Battery rental

Swapping service

SaaS / maintenance

The revenue structure is a set of possible commercial options. It is not a quotation, revenue forecast or project-specific commitment.

Implementation roadmap: four phases

From requirement definition to regional network operations

Phase 1

Define

- Confirm operating region and user profile
- Lock vehicle, battery and cabinet configuration
- Complete interface and system requirement review

Phase 2

Pilot

- Deploy one site or a small site cluster
- Integrate swapping, billing and alarms
- Establish field operations and customer-service workflows

Phase 3

Replicate

- Increase cabinet and battery inventory
- Replicate the standard site configuration
- Build regional asset and work-order management

Phase 4

Scale

- Unified multi-site dispatch
- Use data to guide expansion and pricing
- Platform-based management and continuous optimization

The roadmap is a general implementation framework. Timing and scope should be confirmed by both parties during project initiation.

Why ScapePhoton Energy

Integration, compatibility, reliability and digital capabilities form the solution foundation

Integrated solution

One combination of vehicles, batteries, swap cabinets, software and hardware.

High success rate

The source proposal states a 99.96% battery swap success rate.

Broad compatibility

Compatibility with more than 95% of lithium batteries across 48V, 60V and 72V.

Centralized SaaS

Unified management of vehicles, lithium batteries, cabinets and operating data.

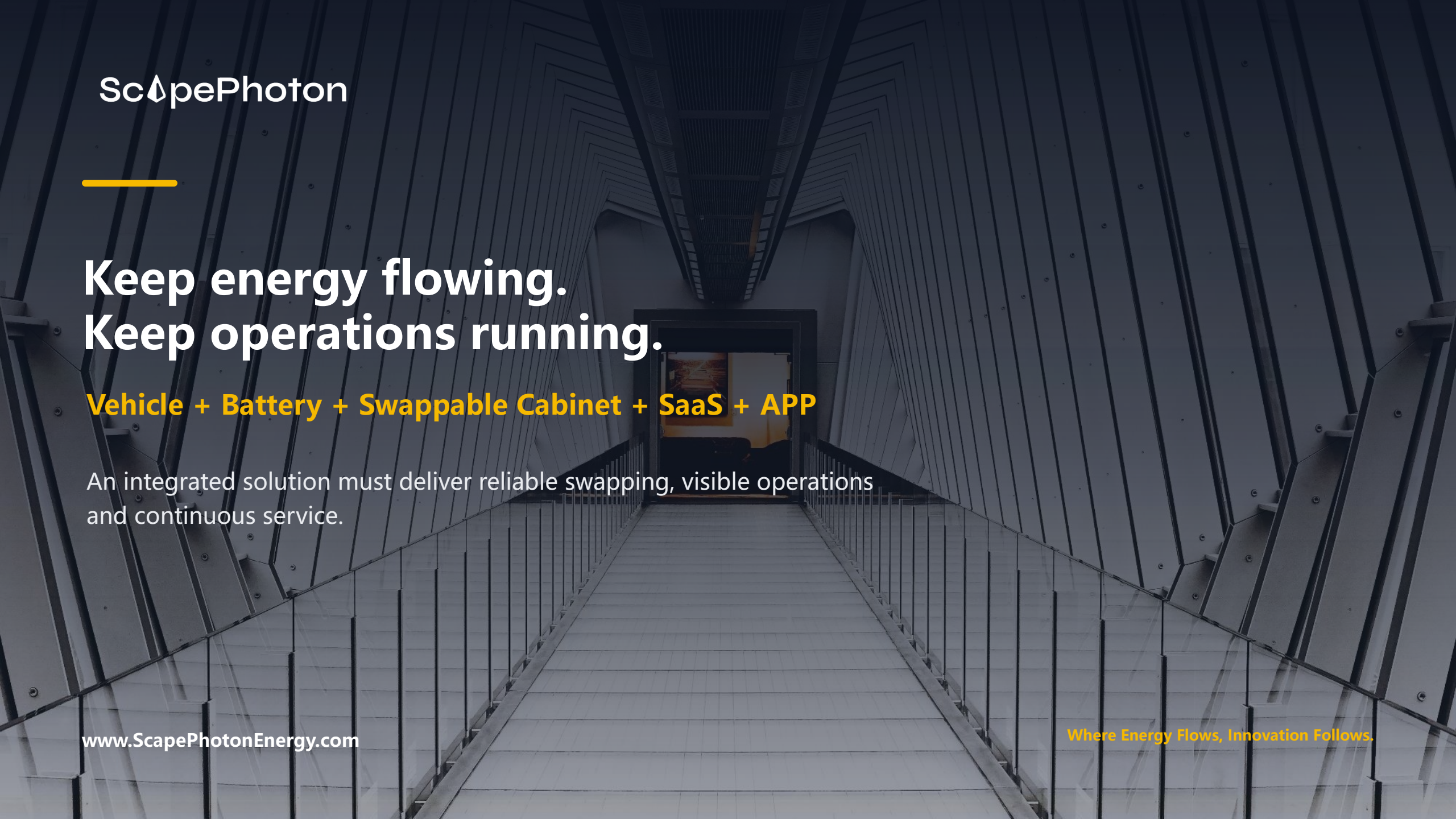
Connected data

Connected data management supports stable operations.

High-performance battery

Grade-A high-rate battery, bottom connection and BMS + IoT.

Capability statements come from the source proposal. This page summarizes selling points and does not replace a technical specification, commercial quotation or project commitment.



ScapePhoton

**Keep energy flowing.
Keep operations running.**

Vehicle + Battery + Swappable Cabinet + SaaS + APP

An integrated solution must deliver reliable swapping, visible operations and continuous service.

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