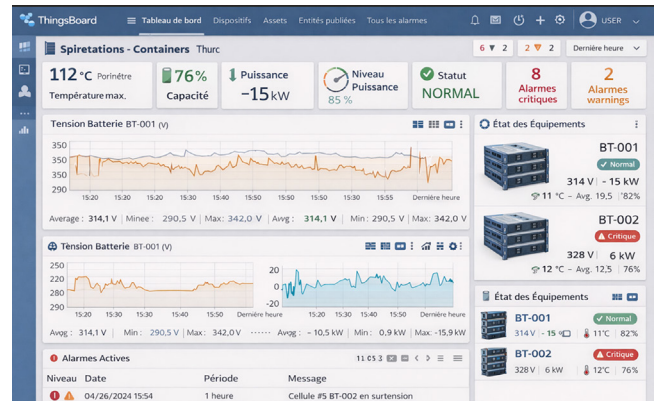


ENERGY STORAGE MONITORING PLATFORM



XAP EXPERTISE IN ENERGY STORAGE MONITORING SYSTEMS

With over 25 years of experience in embedded systems, data acquisition and critical environments, XAP develops advanced monitoring solutions for complex energy systems.

The XAP Energy Storage Monitoring Platform enables operators to monitor, analyze and control battery systems and energy assets in real time, whether deployed on a single site or across distributed infrastructures.

Designed for stationary storage, microgrids and industrial energy applications, the platform transforms raw data into actionable insights for performance, safety and operational efficiency.

Typical Use Cases:

- Battery Energy Storage Systems (BESS)
- Renewable energy storage (solar / wind)
- Microgrids & isolated sites
- Industrial energy systems
- Distributed energy asset monitoring

REAL-TIME SUPERVISION FOR BATTERY SYSTEMS & ENERGY ASSETS

REAL-TIME ENERGY MONITORING:

Access live data from battery systems, including voltage, current, temperature and state of charge.

EARLY FAULT DETECTION & SAFETY MANAGEMENT:

Identify abnormal behaviours such as thermal drift, imbalance or overcurrent before critical failures occur.

MULTI-SITE & FLEET SUPERVISION:

Monitor multiple energy storage systems across different locations through a centralized platform.

PREDICTIVE MAINTENANCE CAPABILITIES:

Anticipate failures and schedule maintenance based on data trends and system behaviour.

ACTIVE SYSTEM CONTROL:

Enable remote actions, system adjustments and automated responses through bidirectional communication.

HIGH-AVAILABILITY CLOUD INFRASTRUCTURE:

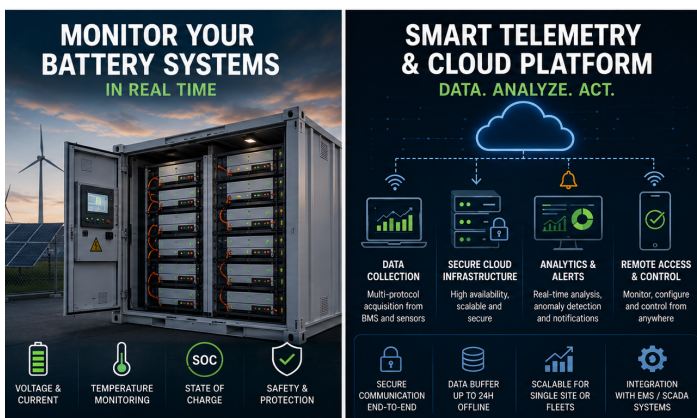
Ensure continuous operation and data reliability with a scalable and resilient platform.

FLEXIBLE INTEGRATION WITH EXISTING SYSTEMS:

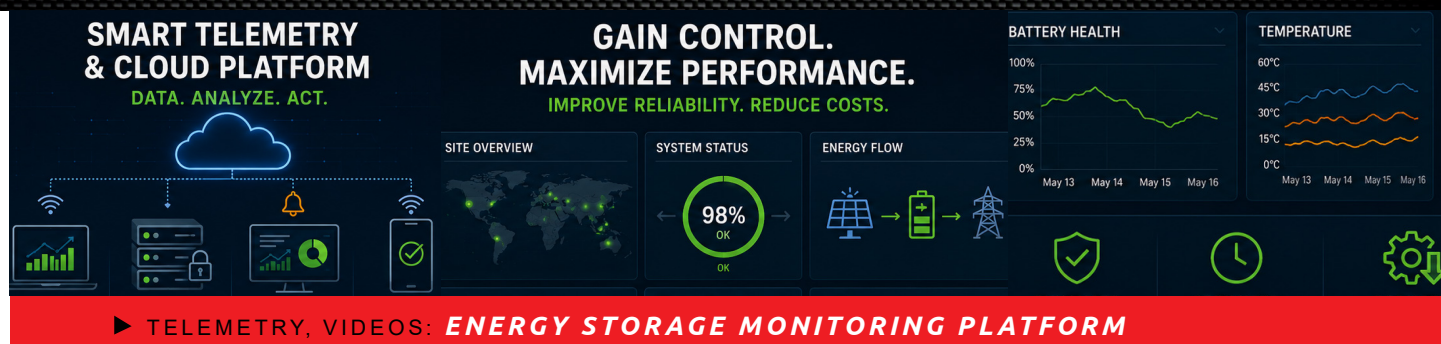
Compatible with BMS, EMS, SCADA and industrial protocols for seamless deployment.

SECURE & CONTROLLED DATA ACCESS:

Manage user permissions and ensure secure access to sensitive operational data.



MORE INFORMATION ON WWW.XAP.FR



PLATFORM SPECIFICATIONS

Access	Web-based platform
Cloud infrastructure	Kubernetes-based architecture
Users	Role-based permissions
Data access	Real-time & historical
Monitoring tools	Prometheus / Grafana compatible
Security	Token authentication
Fleet management	Multi-device supervision

INTEGRATION

Protocol	CAN / MODBUS / TCP-IP / others
Compatibility	BMS / EMS / SCADA
API	Secure data exchange
Storage	Secure cloud environment

DATA MANAGEMENT

Data sources	BMS, sensors, industrial systems
Data types	Voltage / current / temperature / SOC
Update rates	Up to 20 Hz (depending on system)

TYPICAL USE CASES

Battery Energy Storage Systems (BESS)
Renewable energy storage management (solar/wind)
Microgrids & isolated sites
Industrial energy systems
Distributed energy assets monitoring

CORE FEATURES

Live Monitoring	Real-time dashboards Key energy parameter tracking Multi-site visualization
Performance Analysis	Historical data and trends Battery behaviour analysis System efficiency monitoring
Alert & Automation	Configurable thresholds Real-time alerts and notifications Automated response scenarios
Remote Operations	Remote diagnostics System supervision from any location Support for distributed infrastructures

VISUALIZATION

Dashboards	Fully customizable
Charts	Time series / KPIs / multi-views
Layout	Multi-screen support
Interface	User-friendly UI