



# SAFT

## I-Sight®

# Saft Digital Platform for monitoring your Energy Storage System

I-Sight® is Saft cloud-based data management platform which embeds all information services needed for your battery storage assets operation and maintenance. I-Sight retrieves data from the CUBE, Saft inhouse Battery Management System (qualified hardware and software controller) for Saft Intensium battery containers.

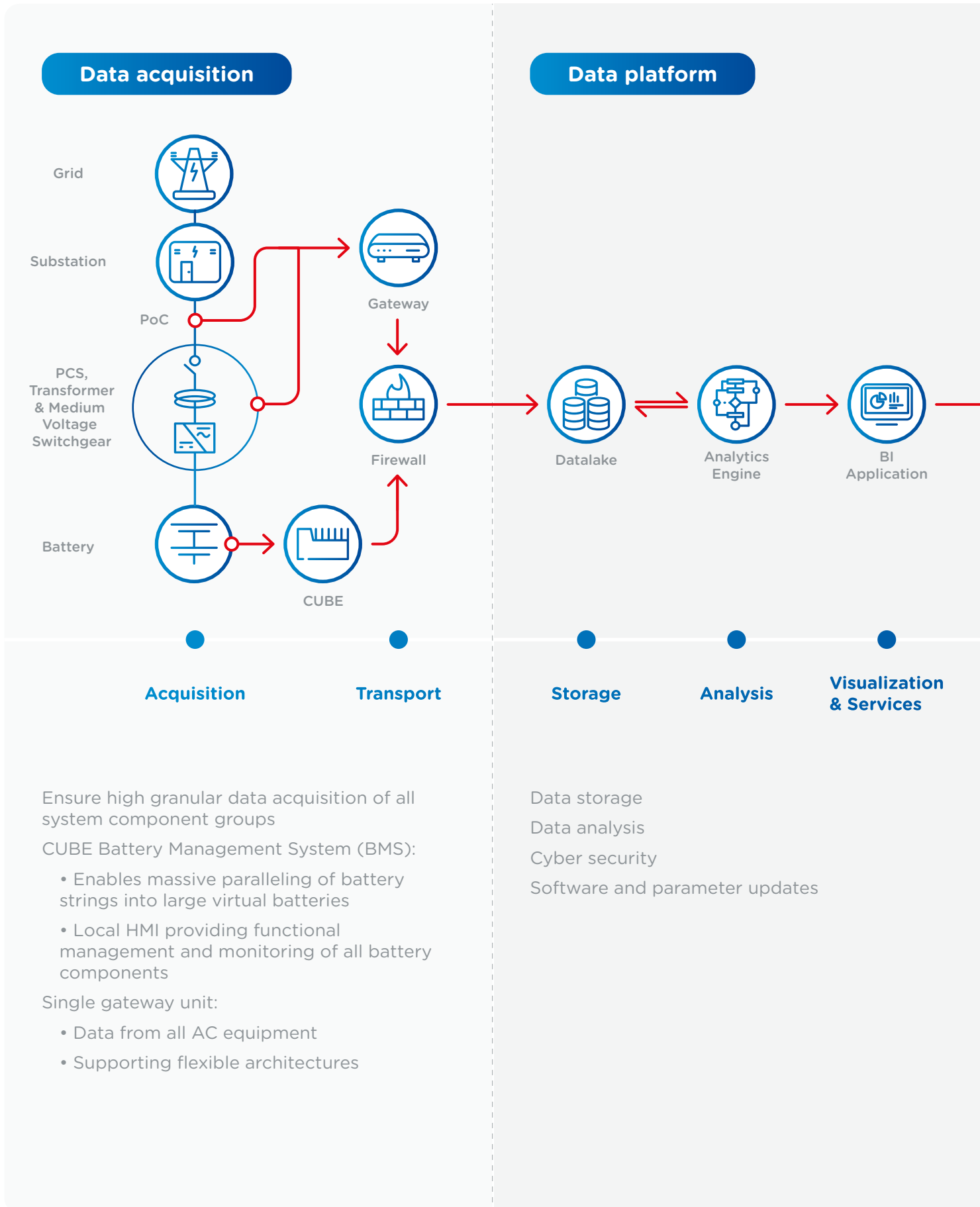
## Benefits

- 1. Fast response time and increased system availability**
  - 24/7 remote monitoring and alarming
  - Optimized system operation
- 2. Safeguard system performances ensuring storage asset economics**
  - Automated and remote performance guarantee management
  - Access to highly granular system data in real time at all system levels
  - Ageing prediction and flexibility for changing operation patterns
- 3. Easy system integration and optimized architectures for large-scale ESS**
  - Straightforward integration with Saft Intensium® Max battery containers and most PCS brands through a single gateway
  - Native interoperability in energy markets
- 4. Cybersecurity driven design**
  - Ensures data confidentiality, product integrity, availability and safety
  - Protects data, assets, people and revenue
- 5. Future proof technological platform**
  - Enables digital twin for prediction and optimization of performances, operation and maintenance of a single system or across a complete fleet



# TotalEnergies

# Components & architecture of the supervision platform



# Functional modules of the user interfaces

## User interfaces



## Utilization

Viewer, Tracker, Fixer

Enabling status monitoring, diagnostic, State of Charge balancing

Future proof functions including updates, upgrades and new services

# 1

## Viewer



- **Live data:** metrics of Energy Storage System assets to monitor the system and the operations
- **Historical data:** specific data collected during battery operation
- **Historical faults:** historic of enabled and disabled battery fault codes
- **Live auxiliary status:** status of auxiliary equipment such as fire safety system, HVAC, etc

# 2

## Tracker



### Automated performance guarantee management:

- Digital data crunching
- Remote and automatized diagnosis
- Daily monitoring of performances guarantees
- Remote battery storage performance testing:
  - Energy capacity (State of Health)
  - System efficiency (Round-Trip Efficiency)

# 3

## Fixer



- Alerts & alarms
- Trouble shooting
- Optimized maintenance planning and field service travel
- Software and parameters updates
- Optimized field service travel to customer site

## Key technical specifications

System data	<p><b>Structured and granular data acquisition</b></p> <ul style="list-style-type: none"><li>▶ High data granularity down to module level</li><li>▶ More than 10 millions data points sent to the Cloud per battery container and per day</li><li>▶ Data model structured along MESA standard</li></ul> <p><b>Flexible and secured data storage</b></p> <ul style="list-style-type: none"><li>▶ Data storage duration in line with project lifetime up to 20 years</li><li>▶ Local data storage possible</li><li>▶ Redundant data storage possible</li><li>▶ Data sharable with customer/asset owner</li></ul>
Architecture	<p><b>Architecture compatible with multiple project configurations</b></p> <ul style="list-style-type: none"><li>▶ Size from 1 MW up to several hundreds of MW</li><li>▶ Discharge duration from 1 to 8 hours</li><li>▶ Unlimited number of lineups</li></ul> <p><b>Simple integration adapted to project scope of supply</b></p> <ul style="list-style-type: none"><li>▶ Compatible with most Power Conversion Systems and Power Management Systems</li><li>▶ Ability to integrate data from battery containers to grid connection point</li></ul>
Users	<p><b>Dedicated interfaces for defined user groups</b></p> <ul style="list-style-type: none"><li>▶ Contract administrator</li><li>▶ Site operator</li><li>▶ Services team</li></ul>
Key metrics	<p><b>Customizable metrics based on project contract</b></p> <ul style="list-style-type: none"><li>▶ System availability</li><li>▶ Energy throughput</li><li>▶ Round trip efficiency</li><li>▶ Ageing</li><li>▶ Auxiliary consumptions</li><li>▶ State of Charge</li></ul>
Notifications	<p>Real-time alerts and faults Daily usage and performance metrics Notifications via email</p>
Reporting	<p>Yearly (monthly optional) reports Customizable structure and content</p>
Fleet	<p>Aggregation of multiple sites in different locations</p>



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