ZONNEGILDE
Duurzame energie op maat

Project requirements EMS vd Werff Heerenveen

1.	Uptime Assurance: Ensuring operation within warranty limits and maintaining optimal performance. Proven uptime threshold of 99%.
2.	Root Cause Analysis of critical events to prevent future occurrences. This includes incident reporting to stakeholders and the ability to allocate costs for failing to meet guarantees to the appropriate party based on the identified root cause.
3.	Redundancy and Failback Mechanisms: Implementing redundancy and failback mechanisms to maintain system functionality during failures.
4.	Configuration Management: Regular review and adjustment of EMS critical values and configurations to optimize performance.
5.	Energy Optimization Algorithms: Advanced algorithms to forecast local energy consumption and production, optimizing charge and discharge strategies. Including the interface with energy trading (Eneco), which is impacted by the charge and discharge strategy.
6.	Robust cybersecurity measures to protect against unauthorized access and data breaches. ISO 27001 and IEC 62443 compliant
7.	Availability Reporting: Regular availability reporting to ensure high uptime and reliability of the EMS.
8.	Data Analysis and Reporting: The system must support the exportfunction (.csv) of data for all connected meters.
9.	Compliance and Audit Support: Maintaining necessary administration for compliance and audit purposes, ensuring all relevant data for registering renewable energy units is logged and measured automatically.
10.	Data Analysis and Reporting: Energy Metrics, the system must provide kWh data for the following sources, with filtering options for day, month, and year: - AC/DC charging stations - Solar system(s) - Battery Energy Storage System (BESS) - Main grid connection - Other assets part of the EMS-logica
11.	Data Analysis and Reporting: Real-Time Power Availability. The system must display a real-time counter showing available power (kW) for charging, including: Connected assets such as chargers, solar, BESS, grid connection

12.	Data Analysis and Reporting: Error Notifications and Logging. The system must provide clear and actionable error notifications, including: - Instances of grid connection capacity exceedance with timestamps - Timestamps of insufficient power availability for trading - Timestamps when Eneco battery is deployed for trading
13.	Data Analysis and Reporting: The system must display in a real time interface the following information: - Instantaneous power (kW) per meter or installation. - Active meter statuses must be logged and accessible. - A graphical representation of active power Connected assets such as chargers, solar, BESS, grid connection.
14.	Data Analysis and Reporting: Battery Data and Control shown must be shown in a dashboard the following information: - The system must log power released from the battery towards the energy trader, both up and down. - The total battery cycles must be trackable, with an option to export this data. - Users must have visibility into the state of charge (SOC), power, and other key metrics for each PCS.
15.	Data Analysis and Reporting: Performance and Degradation Tracking. The system must provide an overview of degradation test results for analysis.
16.	Data Analysis and Reporting: Maintenance Scheduling. The system must include a maintenance schedule with detailed planning options.
17.	Data Analysis and Reporting: The system must provide a comprehensive status tab displaying of the device Status Overview with the following information: - Real-time meter data for each connected device - Notifications for offline meters - Notifications should be sent via SMS, email and/or dedicated app
18.	Data Analysis and Reporting: the system must have the ability to access data via an API.
19.	Dynamic Load Balancing: Dynamic calculation of maximum available power for EV chargers based on real-time solar production, grid capacity, and battery state. (Applicable only in case of Charge Points active on-site)

20.	Control logic: EMS supplier must show how the various assets are controlled. By how is meant which protocols are used. The order of priorities in control must be able to be filled in with the customer in advance. And this must also be able to be checked during the operation. Preferably supported with an infographic
21.	Control logic: a. In the EMS, scenario description of the EMS settings should be displayed. b. The customer's operator should be able to make choices themselves because of the changing rates in, for example, HBE's, network rates or energy tax.
22.	GUI: a. Supplier must be able to show a DEMO showing the GUI of the EMS SYSTEM for assessment. b. Graphical insight into the loss of curtailment of the assets c. Add weather sensors to the possibility of the EMS requirements
23.	GUI: The interface language of the EMS GUI must be in Dutch.
24.	Planning software collaboration: EMS must be linkable via input from third-party systems so that EV data is available early so that assets can be taken into account in advance;
25.	Software development. EMS supplier must describe how long the EMS software will be supported.
26.	Bankrupt EMS supplier. EMS supplier must indicate how the maintenance of the system will continue if the EMS supplier is bankrupt and ceases to exist. For example, where is the data, and who owns the data?

Optional requirements

27.	Dynamic Scheduling: Implementing dynamic scheduling for battery charging and discharging based on energy production and consumption profiles.
28.	Buffer Management for Load Peak Shaving: Maintaining a buffer to manage load peak shaving efficiently, ensuring that the system can refill as soon as possible.
29.	Curtailment Control: Active control and curtailment of PV systems to prevent grid overloading and manage negative energy prices effectively (rekening houden met energiecontract, energiebelasqting, transportkosten, verbruik, SOC batterij). (Applicable only in case of PV active on-site)
30.	V2G applications: It is an advantage if the EMS supplier takes into account the development of V2G (Vehicle to Grid) and how it will be classified.