Data Center Infrastructure Management System

DCIM
Monitor & Manage

Overview

Data Center Infrastructure Management is a comprehensive management solution tailored for data centers. It integrates various aspects such as IT equipment, power systems, cooling infrastructureand environmental monitoring. By using advanced data analytics and realtime monitoring, DCIM enables seamless resource allocation, capacity planning, and performance optimization. It supports multiple data sources and protocols, allowing for efficient data collection and integration from different devices within the data center.

DCIM is designed to improve overall data center efficiency, reduce energy consumption, and enhance reliability. It provides operators with an intuitive interface to manage and control all elements of the data center infrastructure, facilitating proactive problemsolving and ensuring the stable operation of critical IT services.

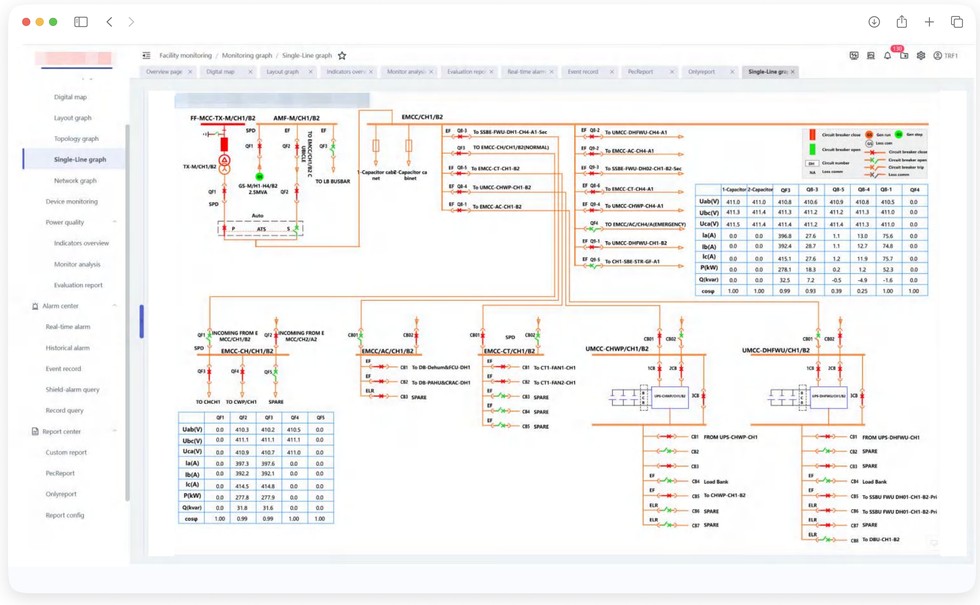
Website&Email

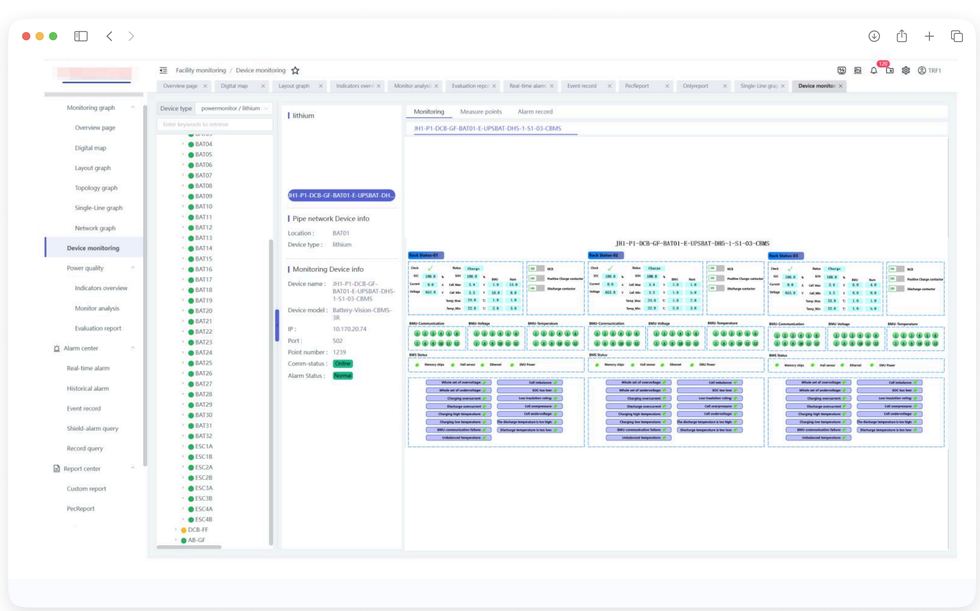
http://global.cet-electric.com/sg | sales@cet-global.com

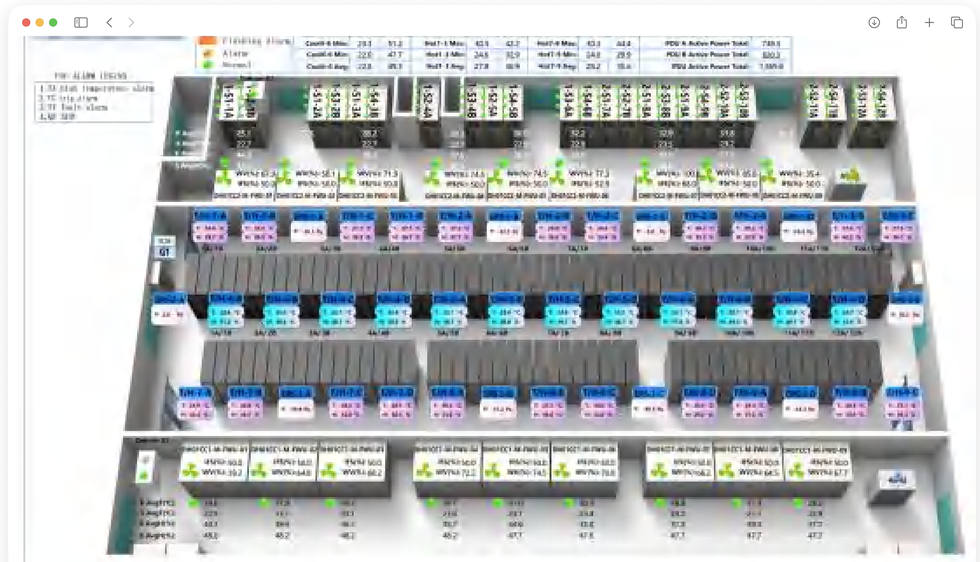
Dynamic Graphical Interface Engine

Function Description:

The system adopts a vector-based dynamic graphical interface engine, supporting infinite zooming and multi-dimensional visualization, including 2D, 3D, and topology link views within a single interface. Users can customize layers to adjust displayed content, providing both global and local perspectives for improved monitoring efficiency. The intuitive interface ensures ease of use, reducing the learning curve for operators.







Key Features:

· Supports multi-dimensional views (2D, 3D, topology links).

· Infinite zooming for clear visibility of details.

· Customizable layers for displaying key equip-ment information.

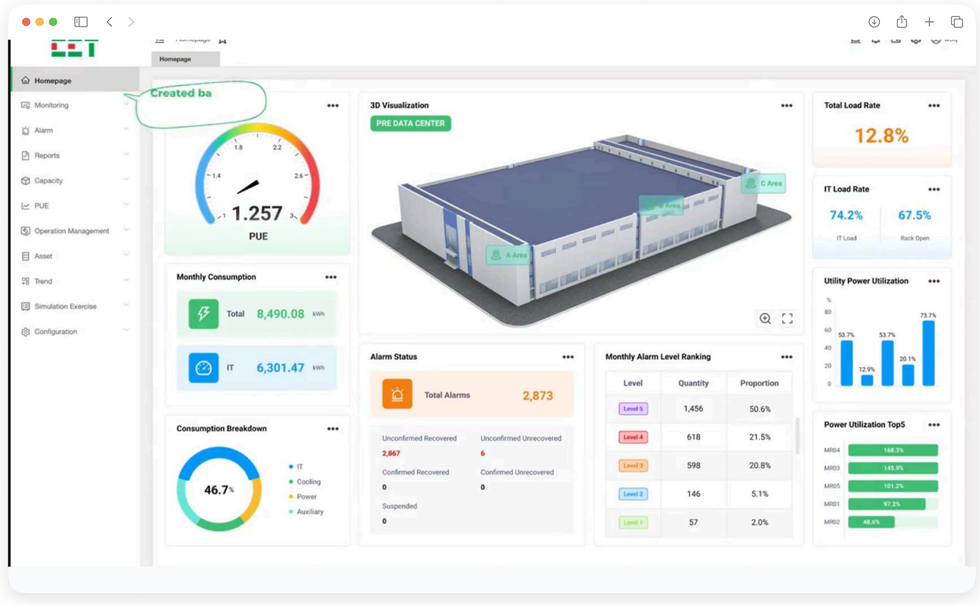
· User-friendly interface with intuitive navigation.

· Real-time updates and dynamic data overlays.

Data Visualization Controls

Function Description:

The system adopts a vector-based dynamic graphical interface engine, supporting infinite zooming and multi-dimensional visualization, including 2D, 3D, and topology link views within a single interface. Users can customize layers to adjust displayed content, providing both global and local perspectives for improved monitoring efficiency. The intuitive interface ensures ease of use, reducing the learning curve for operators.



Key Features:

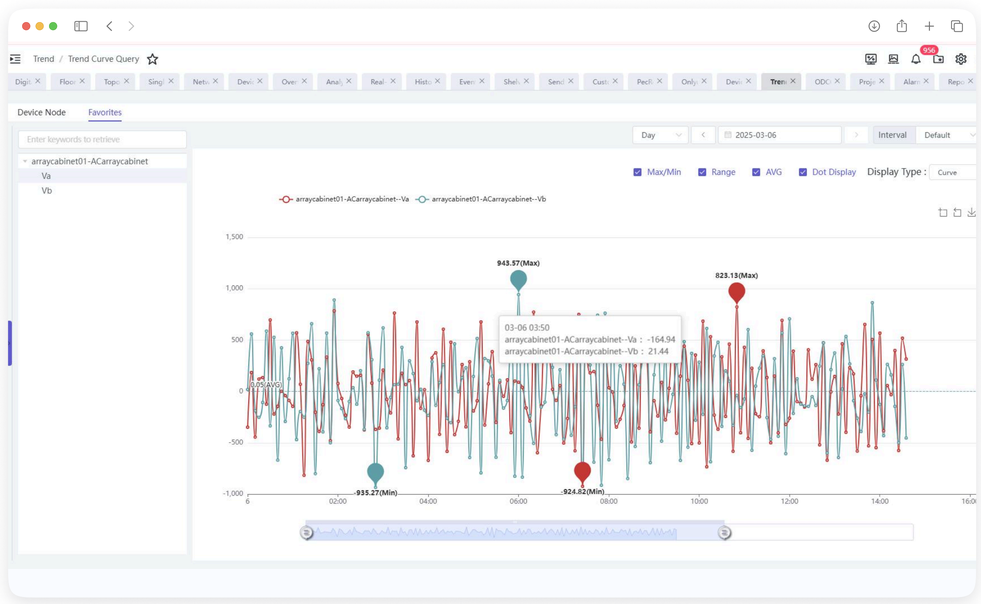
· Drag-and-drop visualization controls, no coding required.

· Supports multiple data visualization methods.

· Compatible with historical data analysis and trend forecasting.

· Customizable dashboards with automated updates.

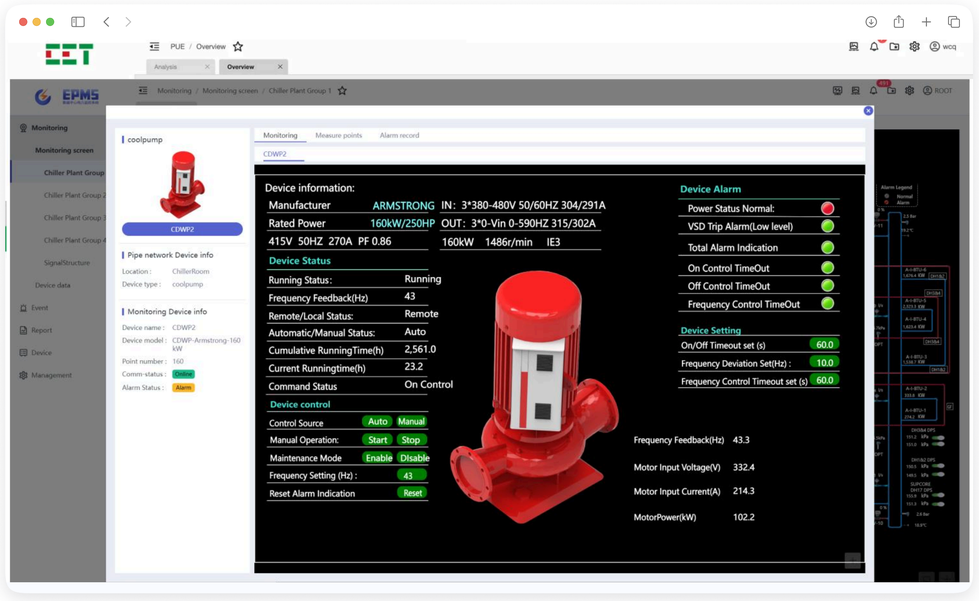
· Interactive filtering and drilldown ca-pabilitie.

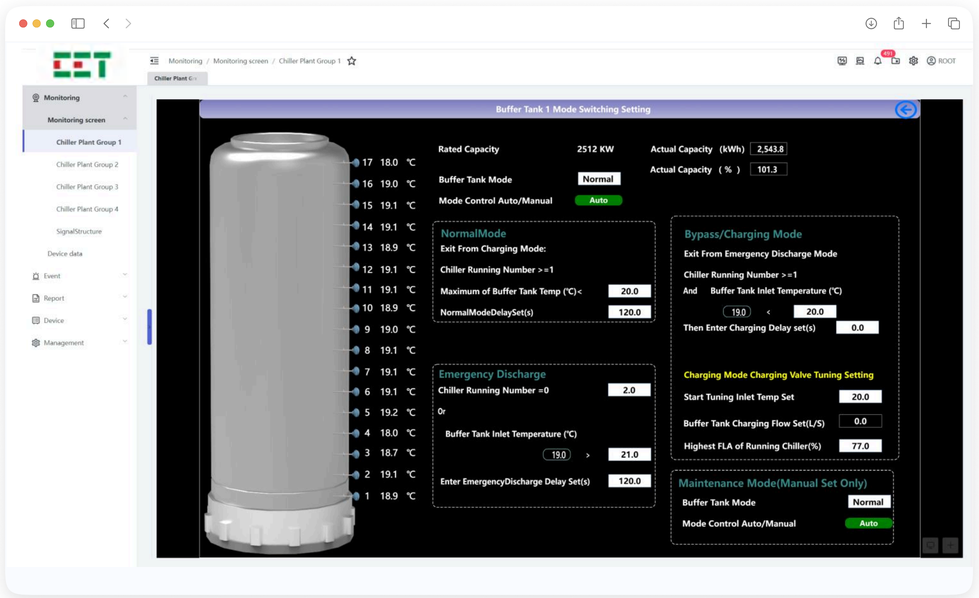


Dynamic Equipment Visualization

Function Description:

The system supports creating dynamic 3D equipment models, with options for transparent or semi-transparent display, allowing users to view the core components and operational status of devices in real time. Users can interact with the models via mouse operations to access real-time operating parameters and perform remote adjustments. Integration with augmented reality (AR) devices is also supported for enhanced visualization.





Key Features:

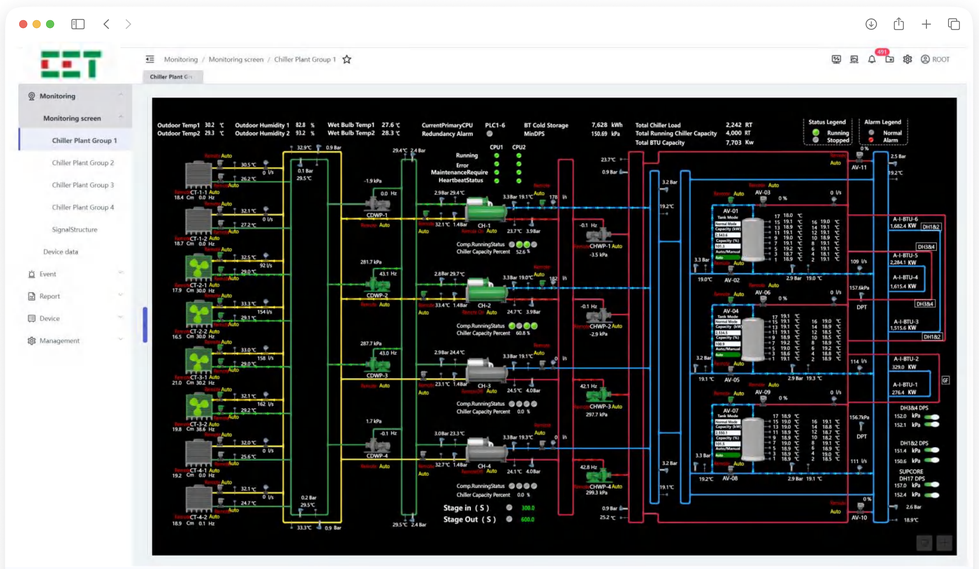
· 3D equipment modeling for real-time status monitoring.

· Transparent/semi-transparent mode for enhanced visibility.

· Interactive remote control and parameter adjustments.

· AR support for immersive monitoring experiences.

· Multi-user collaboration for shared access to real-time data.



Equipment Operational Status Monitoring

Function Description:

The system monitors real-time operational status, including power consumption, temperature and humidity, CPU/GPU load, and provides abnormal alerts. Historical data trends can be analyzed to predict potential failures, reducing downtime and improving operational efficiency.

Key Features:

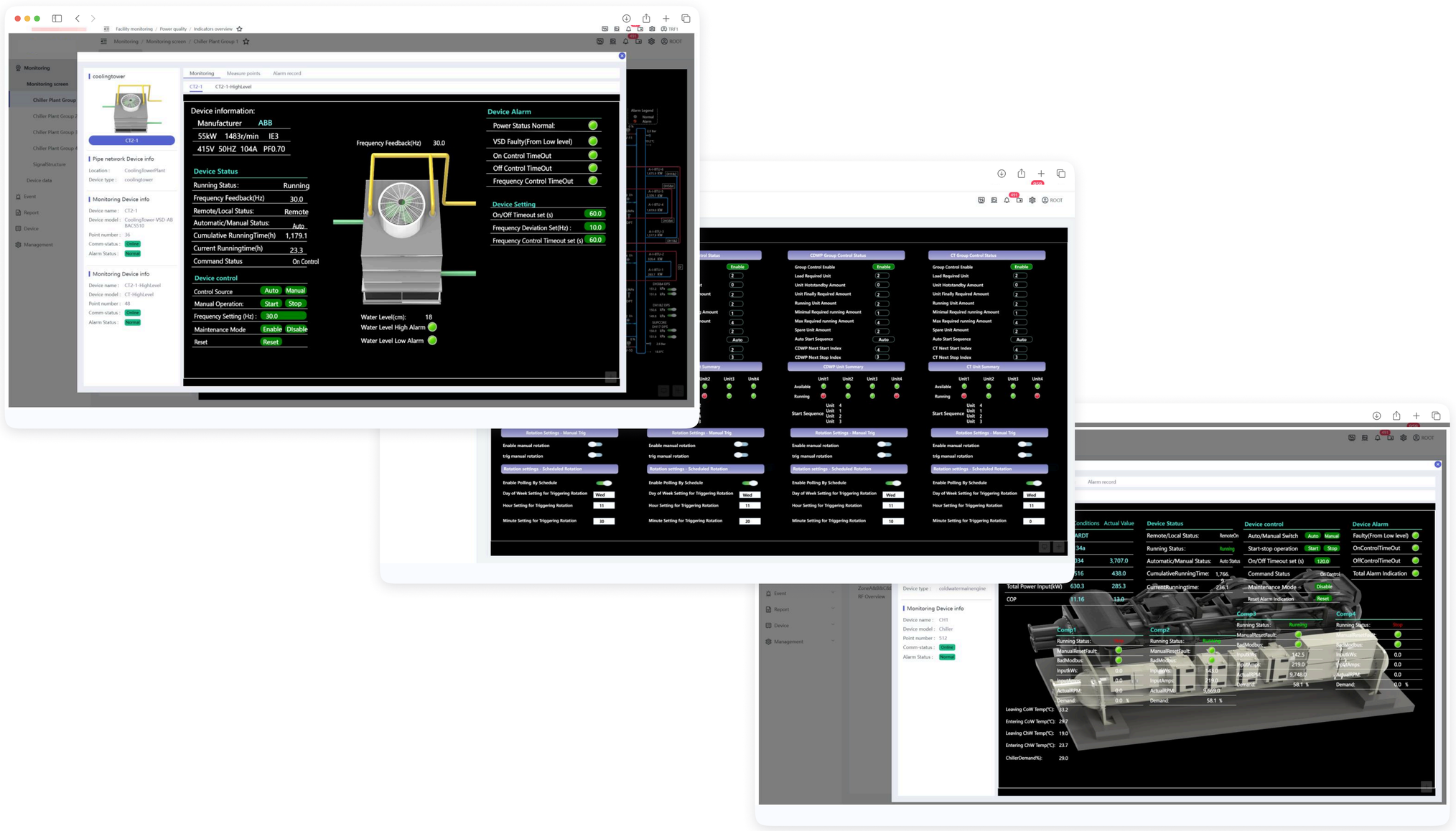
· Real-time equipment status monitoring with health assessments.

· Historical data analysis for failure prediction.

· Alarm linkage mechanism for faster fault response.

· Customizable alert thresholds for proactive monitoring.

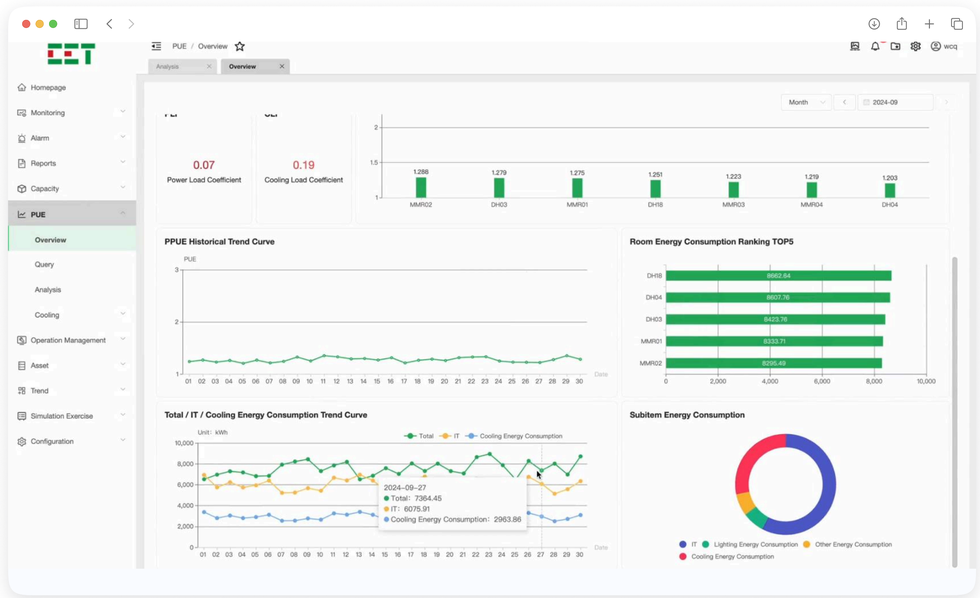
· Integration with third-party monitoring tools.



Energy Data Collection

Function Description:

The system supports real-time collection of energy consumption data, including power, cooling, and environmental metrics, providing accurate data support. It also integrates with third-party energy management systems and supports IoT-based sensor connectivity.



Key Features:

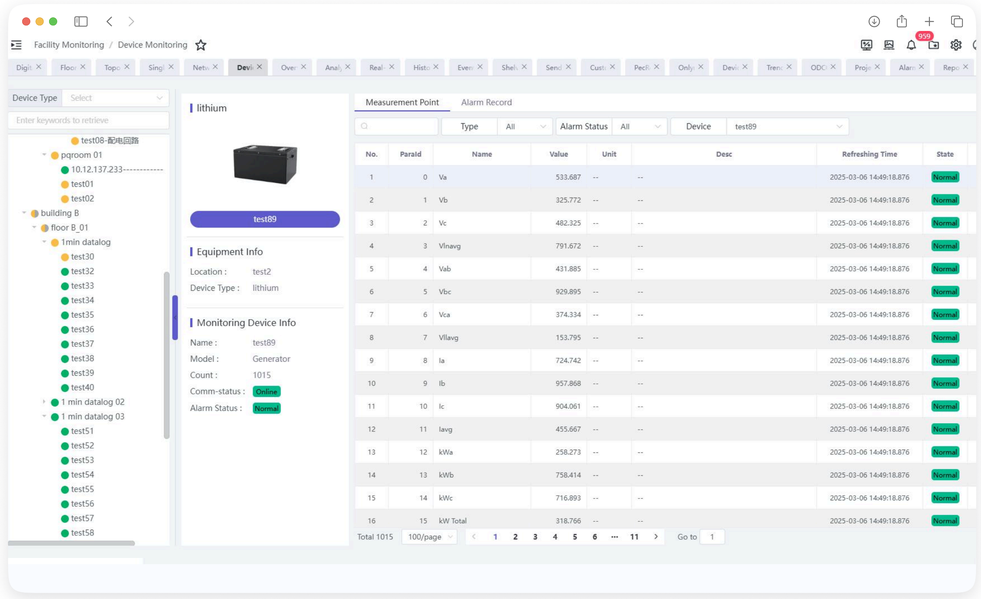
· Multi-source data integration for comprehensive energy monitoring.

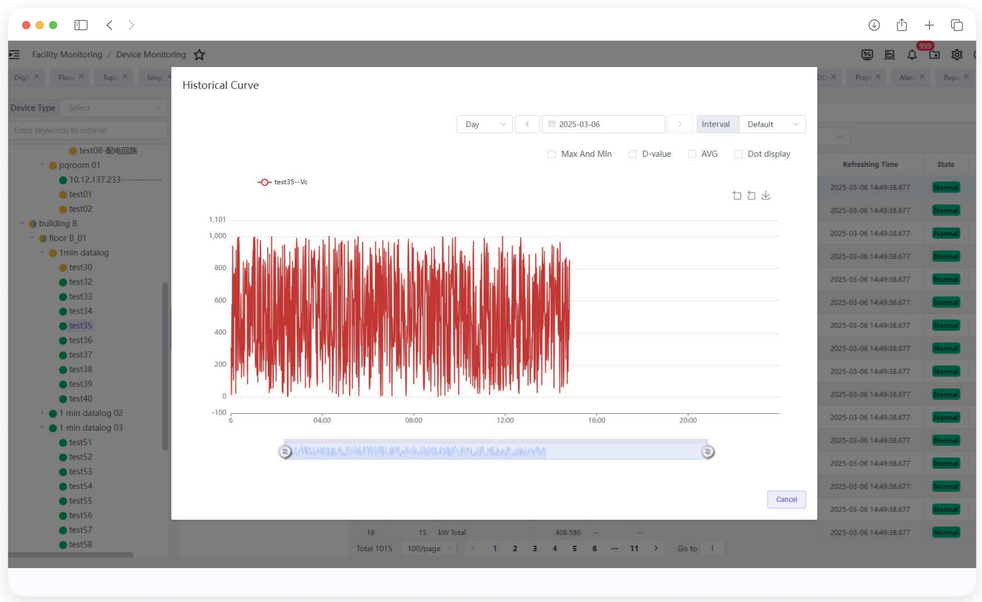
· Compatible with third-party energy management platforms.

· Real-time data acquisition with second-level updates.

· IoT sensor connectivity for granular data insights.

· AI-powered anomaly detection in energy usage.





Energy Analysis And Optimization

Function Description:

The system provides energy trend analysis, Power Usage Effectiveness (PUE) calculations, and optimization recommendations to help data centers improve energy efficiency and reduce operational costs. Advanced analytics offer machine-learning-based optimization strategies.

Key Features:

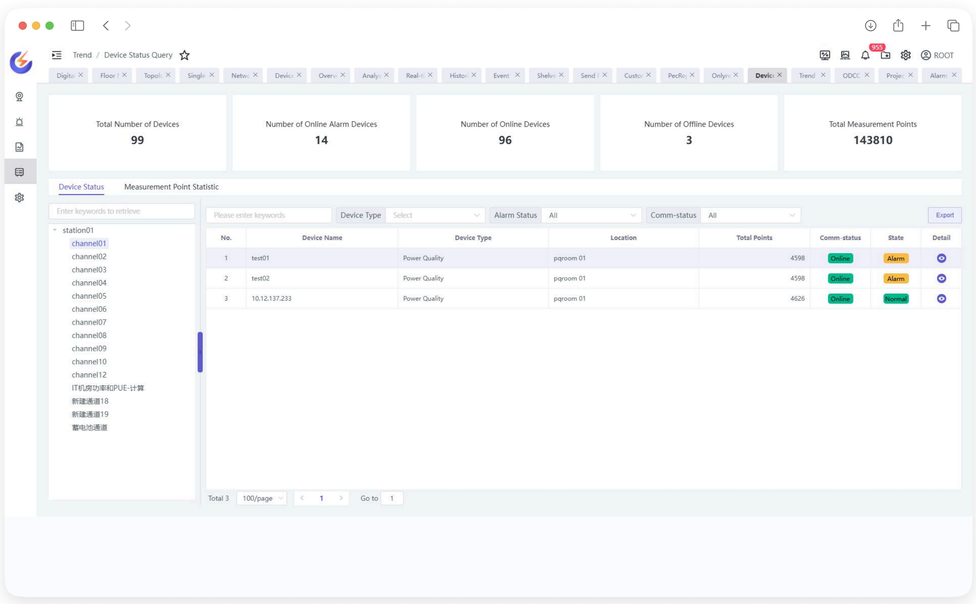
· PUE calculations for data center efficiency evaluation.

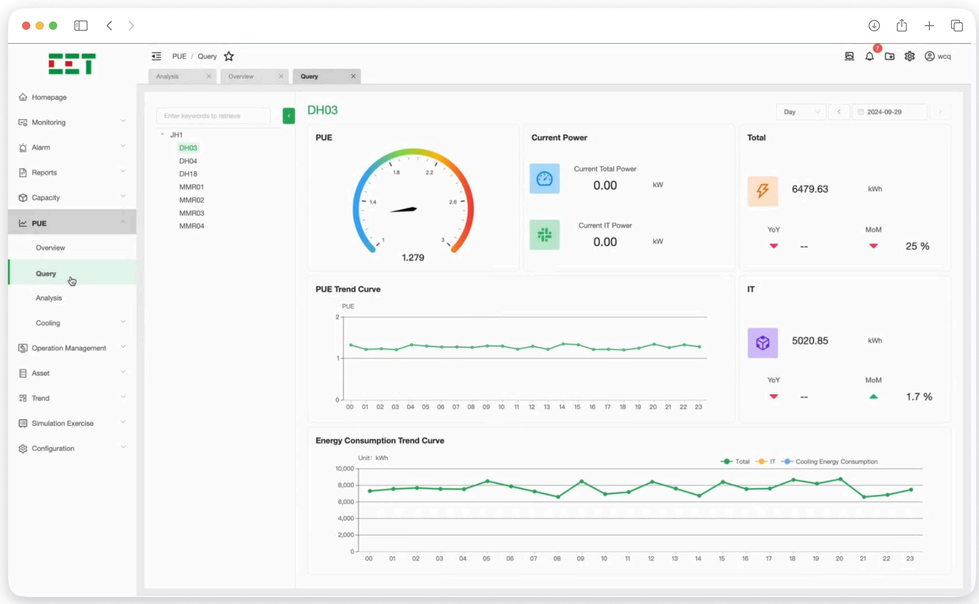
· Energy optimization suggestions to enhance efficiency.

· Historical data comparison for energy trend analysis.

· Machine-learning-based energy-saving recommendations.

· Integration with renewable energy sources.





Real-Time Alarms

Function Description:

The system provides real-time equipment status monitoring and multi-level alarm strategies, including notifications via email, SMS, and phone calls. Users can customize alarm levels and notification methods, ensuring rapid response to potential issues.

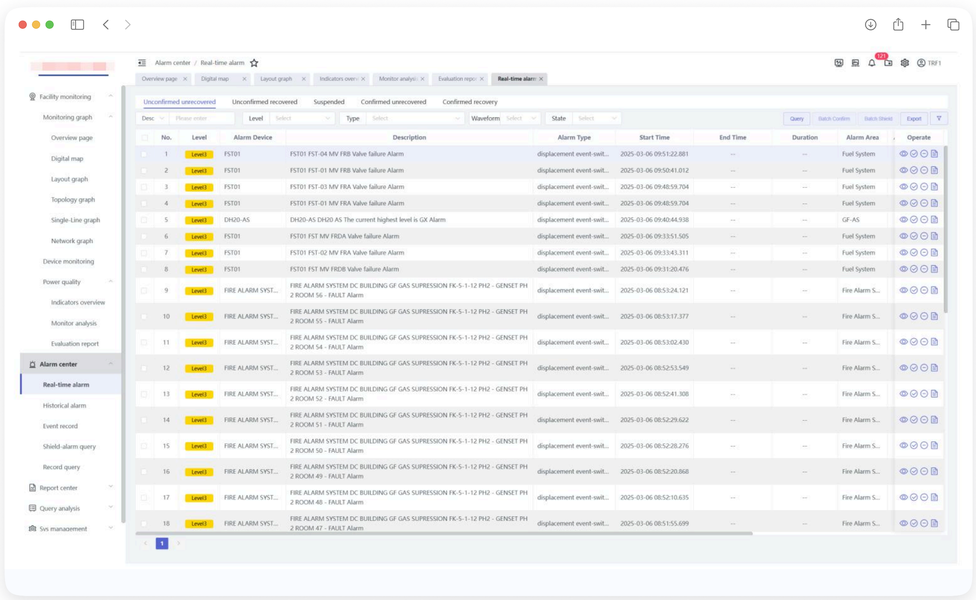
Key Features:

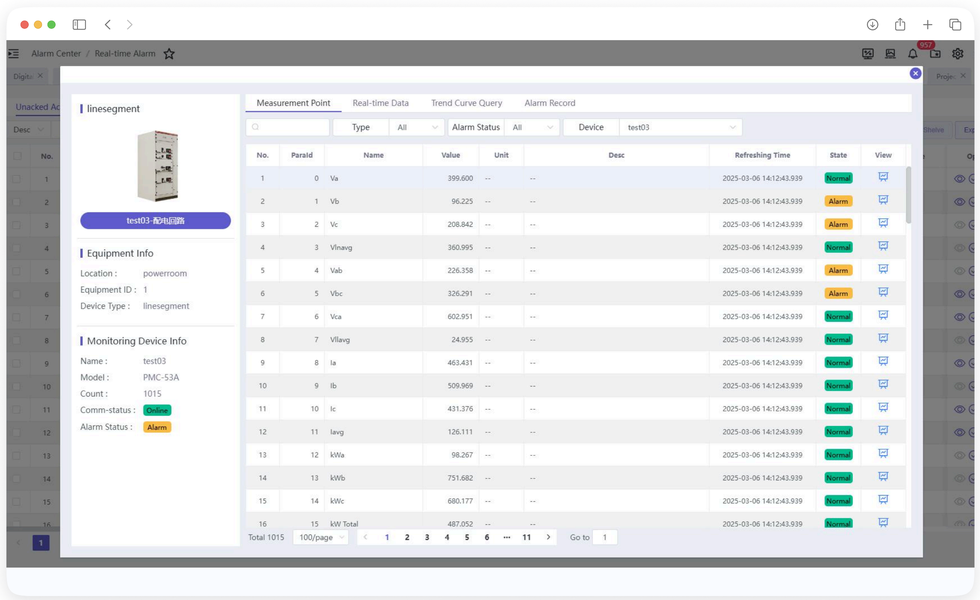
· Multi-level alarm mechanism for faster response.

· Various notification methods to ensure timely alerts.

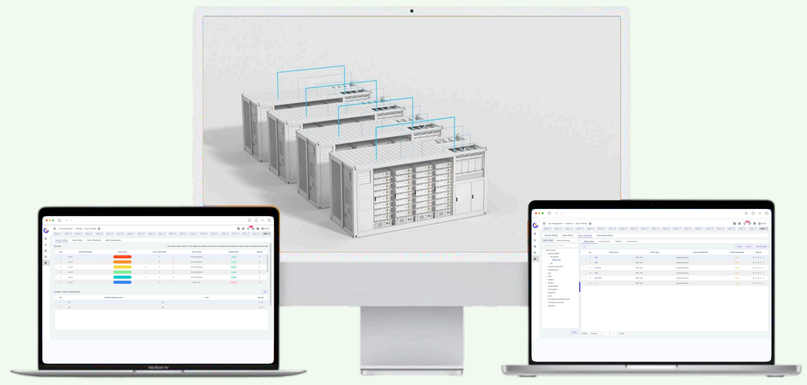
· Customizable alarm strategies for different scenarios.

· Integration with incident management systems.





Alarm Log Management



Function Description:

The system automatically records historical alarm data, supporting log retrieval, classified queries, and exportable alarm log reports. Users can perform trend analysis on historical alarms to identify recurring issues.

Key Features:

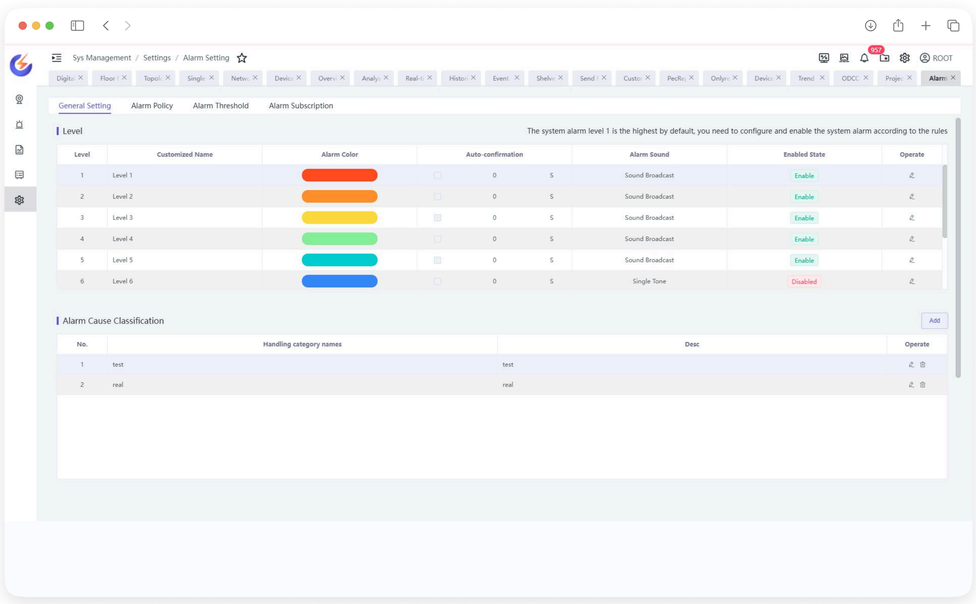
· Long-term alarm log storage with quick retrieval.

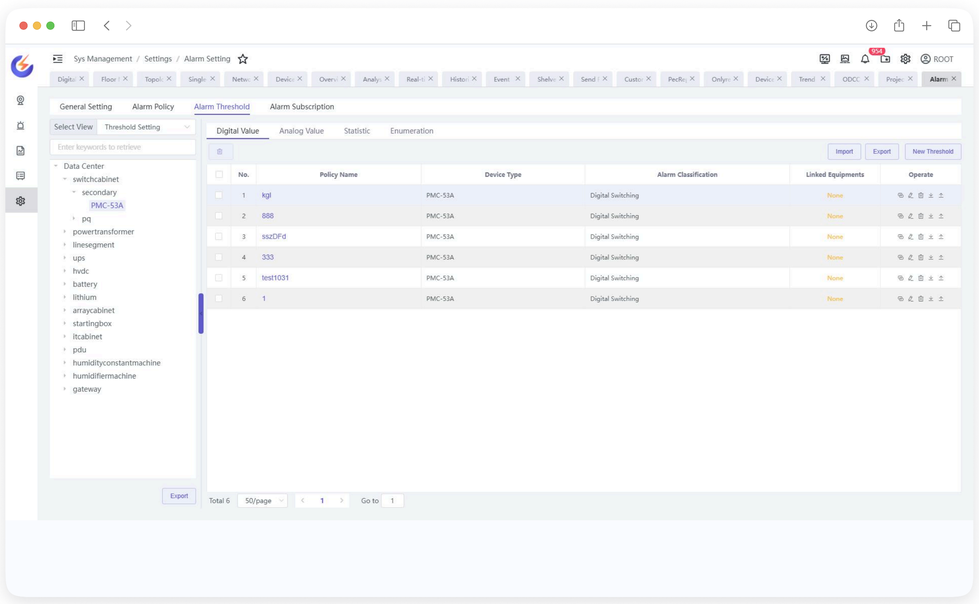
· Categorized management for fault analysis.

· Exportable reports for auditing and documentation.

· Trend analysis for identifying recurring issues.

· Automated incident reporting and follow-up tracking.





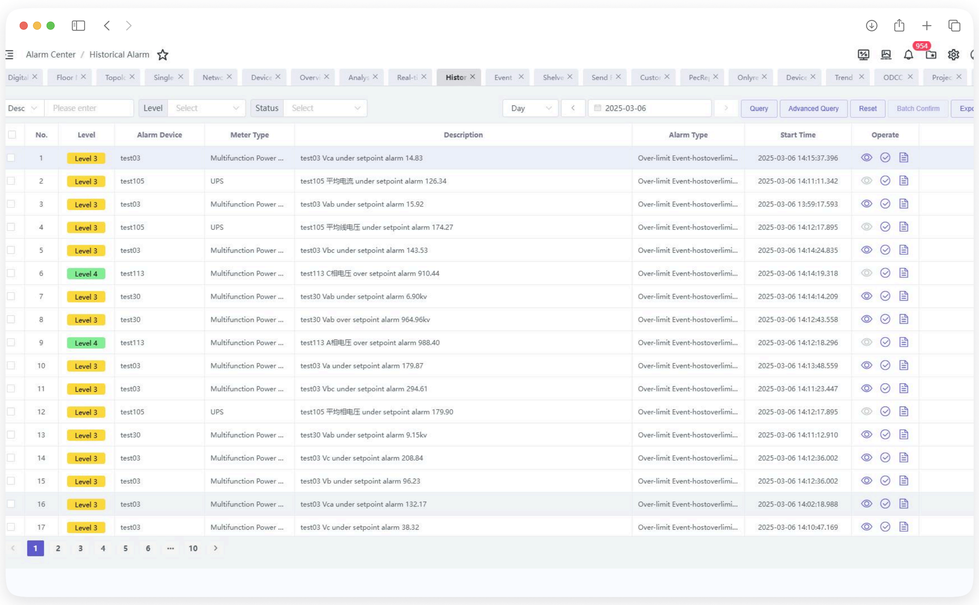
Alarm Strategy

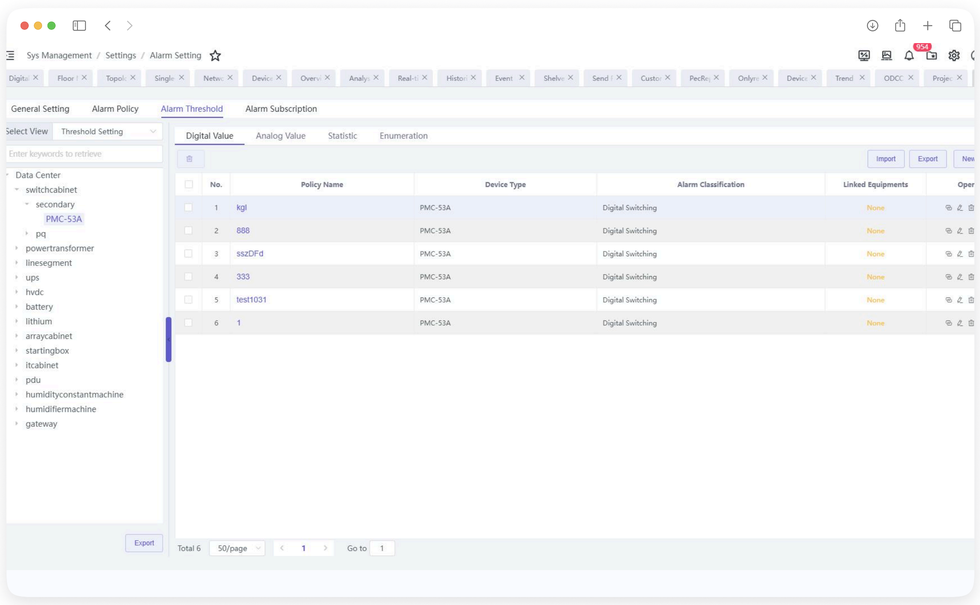
Function Description:

Supports customizable alarm linkage strategies, such as automatically adjusting cooling equipment operation in response to high-temperature alerts, ensuring system stability.

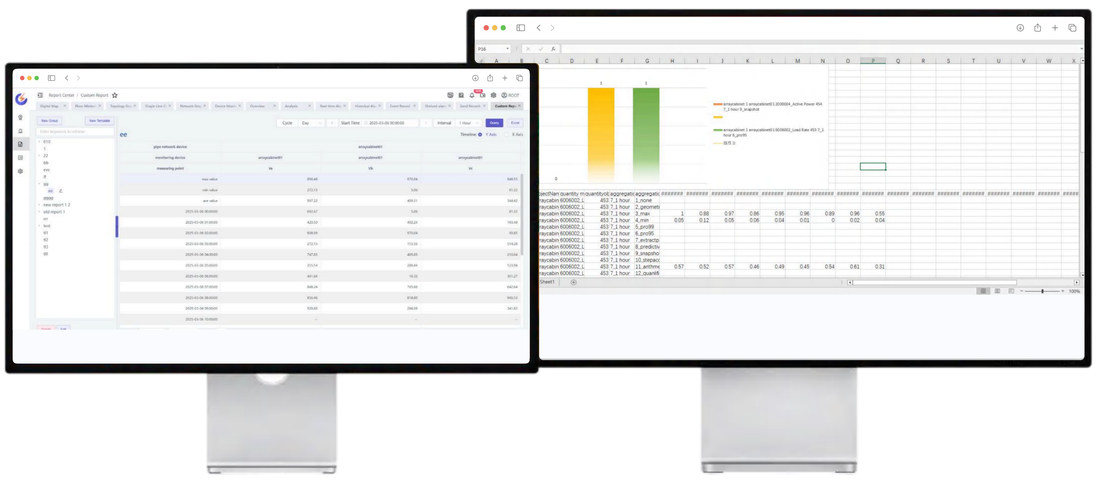
Key Features:

- Automatic alarm linkage to enhance system security.
- Customizable strategies to meet different needs.
- Reduced manual intervention for faster response.
- Integration with automation and control systems.
- AI-driven automated response adjustments.





Data Analysis And Reporting

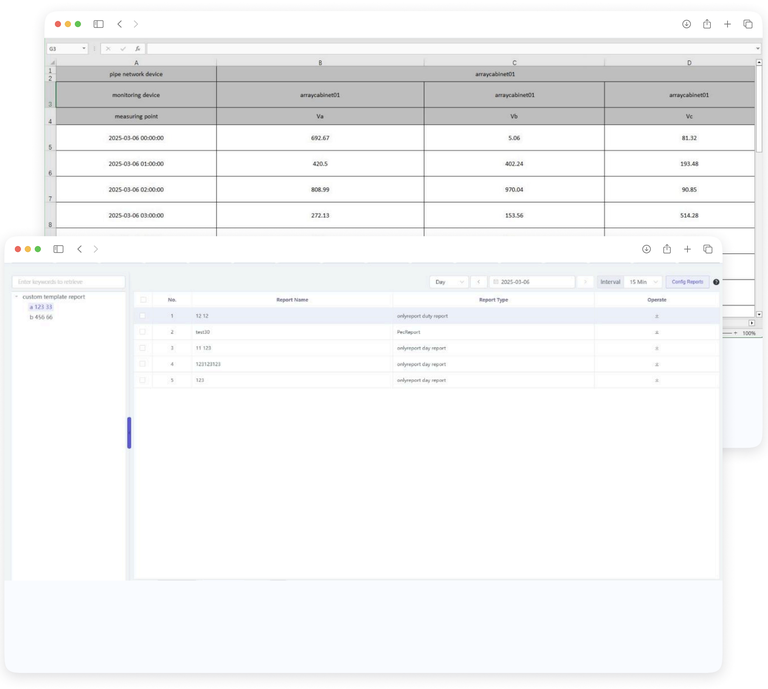


Capacity Planning Analytics

DCIM provides in depth capacity planning analytics. It analyzes realtime and historical data on resource utilization, such as server compute power, storage space, and network bandwidth. This analysis helps predict future capacity needs accurately, enabling data center managers to plan for expansions or upgrades proactively.

Energy Efficiency Reporting

Generates detailed energy efficiency reports. It monitors power consumption across the data center, from individual devices to overall infrastructure. By identifying energy-intensive areas and inefficiencies, it offers actionable insights to optimize energy usage, reduce costs, and meet sustainability goals.



Performance Trend Analysis

Supports performance trend analysis by reviewing historical performance data of IT equipment and infrastructure components. It can detect patterns in factors like server response times, cooling system effectiveness, and network latency. This analysis aids in preemptively addressing potential performance degradation issues and optimizing the overall performance of the data center.

Integrated Resource Framework

DCIM's architecture integrates IT and facility resources, like servers, power systems, and cooling units, brea king down data silos. This unified framework enables seamless data flow and coordinated management across different components.

Scalable Design

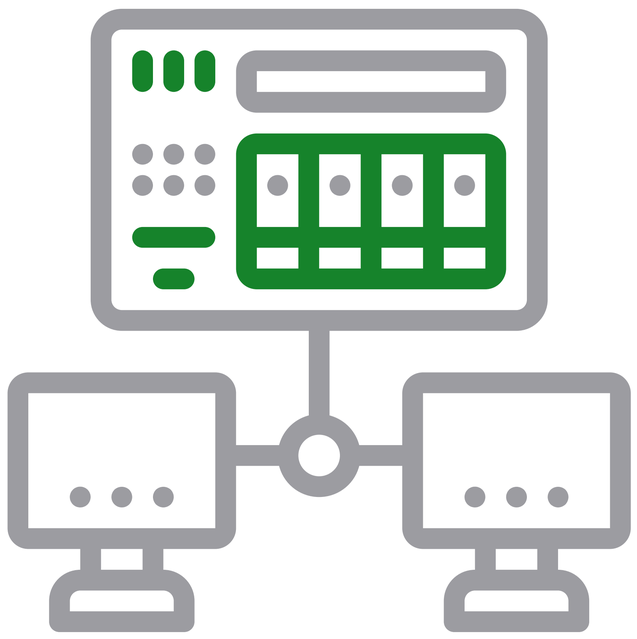
Built with scalability in mind, it can effortlessly adapt to data center growth. Whether adding new equip ment or expanding capacity, the architecture requires minimal re-engineering, ensuring long term usability.

Open-Protocol Compatibility

Supports multiple communication protocols, allowing easy integration of diverse legacy and mod- ern devices. This flexibility in architecture simplifies device connectivity and enhances overall sys- tem interoperability.

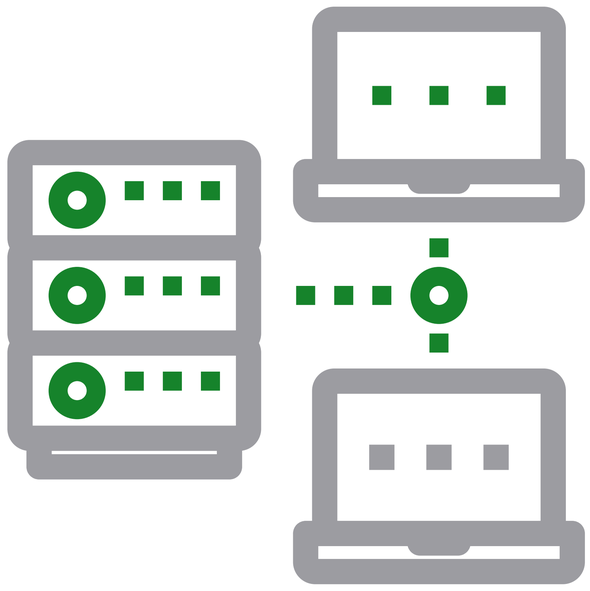
Real-Time Monitoring Structure

The architecture enables realtime monitoring of all infrastructure elements. It provides instant acc- ess to key metrics, facilitating quick decision-making and proactive issueresolution for optimal data center operation.



Unified Infrastructure View

DCIM offers a unified view of the entire data center infrastructure. It integrates information from diverse components like servers, storage arrays, networking gear, PDUs, and environmental sensors. This holistic perspective enables administrators to have a comprehensive understanding of the data center's overall health and performance.

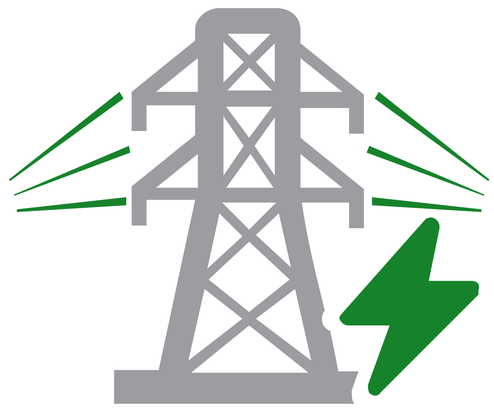


Dynamic Capacity Planning

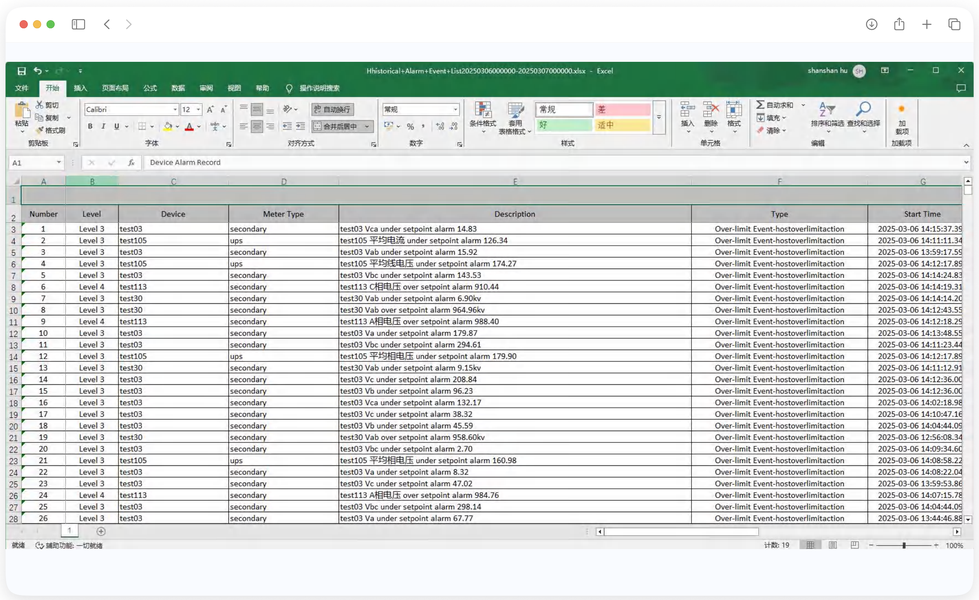
With real-time monitoring and predictive analytics, DCIM can accurately track resource utilization trends. It helps in predicting future capacity needs for power, cooling, and computing resources, allowing data center managers to plan expansions or upgrades proactively and avoid costly over-provisioning or under-provisioning.

Energy Optimization

DCIM systems can analyze the power consumption of individual devices and the overall data center. By identifying power-hungry equipment and inefficiencies, it enables optimization of power usage. Additionally, it can coordinate with cooling systems to ensure that energy is used more efficiently, reducing both costs and environmental impact.



Precise Monitoring Intelligent Analysis



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Device Alarm Record

Number	Level	Device	Meter Type	Description	Type	Start Time
1	Level 3	test03	secondary	test03 Vca under setpoint alarm 14.83	Over-limit Event-hostoverlimitaction	2025-03-06 14:15:37.35
2	Level 3	test105	ups	test105 平均电流 under setpoint alarm 126.34	Over-limit Event-hostoverlimitaction	2025-03-06 14:11:11.34
3	Level 3	test03	secondary	test03 Vab under setpoint alarm 15.92	Over-limit Event-hostoverlimitaction	2025-03-06 13:59:17.55
4	Level 3	test105	ups	test105 平均线电压 under setpoint alarm 174.27	Over-limit Event-hostoverlimitaction	2025-03-06 14:12:17.85
5	Level 3	test03	secondary	test03 Vbc under setpoint alarm 143.53	Over-limit Event-hostoverlimitaction	2025-03-06 14:14:24.83
6	Level 4	test113	secondary	test113 C相电压 over setpoint alarm 910.44	Over-limit Event-hostoverlimitaction	2025-03-06 14:14:19.31
7	Level 3	test30	secondary	test30 Vab under setpoint alarm 6.90kv	Over-limit Event-hostoverlimitaction	2025-03-06 14:14:14.20
8	Level 3	test30	secondary	test30 Vab over setpoint alarm 964.96kv	Over-limit Event-hostoverlimitaction	2025-03-06 14:12:43.55
9	Level 4	test113	secondary	test113 A相电压 over setpoint alarm 988.40	Over-limit Event-hostoverlimitaction	2025-03-06 14:12:18.25
10	Level 3	test03	secondary	test03 Va under setpoint alarm 179.87	Over-limit Event-hostoverlimitaction	2025-03-06 14:13:48.55
11	Level 3	test03	secondary	test03 Vbc under setpoint alarm 294.61	Over-limit Event-hostoverlimitaction	2025-03-06 14:11:23.44
12	Level 3	test105	ups	test105 平均相电压 under setpoint alarm 179.90	Over-limit Event-hostoverlimitaction	2025-03-06 14:12:17.85
13	Level 3	test30	secondary	test30 Vab under setpoint alarm 9.15kv	Over-limit Event-hostoverlimitaction	2025-03-06 14:11:12.91
14	Level 3	test03	secondary	test03 Vc under setpoint alarm 208.84	Over-limit Event-hostoverlimitaction	2025-03-06 14:12:36.00
15	Level 3	test03	secondary	test03 Vb under setpoint alarm 96.23	Over-limit Event-hostoverlimitaction	2025-03-06 14:12:36.00
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17	Level 3	test03	secondary	test03 Vc under setpoint alarm 38.32	Over-limit Event-hostoverlimitaction	2025-03-06 14:10:47.16
18	Level 3	test03	secondary	test03 Vb under setpoint alarm 45.59	Over-limit Event-hostoverlimitaction	2025-03-06 14:04:44.09
19	Level 3	test30	secondary	test30 Vab over setpoint alarm 958.60kv	Over-limit Event-hostoverlimitaction	2025-03-06 12:56:08.34
20	Level 3	test03	secondary	test03 Vbc under setpoint alarm 2.70	Over-limit Event-hostoverlimitaction	2025-03-06 14:09:34.60
21	Level 3	test105	ups	test105 平均相电压 under setpoint alarm 160.98	Over-limit Event-hostoverlimitaction	2025-03-06 14:08:58.22
22	Level 3	test03	secondary	test03 Va under setpoint alarm 8.32	Over-limit Event-hostoverlimitaction	2025-03-06 14:08:22.04
23	Level 3	test03	secondary	test03 Vc under setpoint alarm 47.02	Over-limit Event-hostoverlimitaction	2025-03-06 13:59:53.86
24	Level 4	test113	secondary	test113 A相电压 over setpoint alarm 984.76	Over-limit Event-hostoverlimitaction	2025-03-06 14:07:15.78
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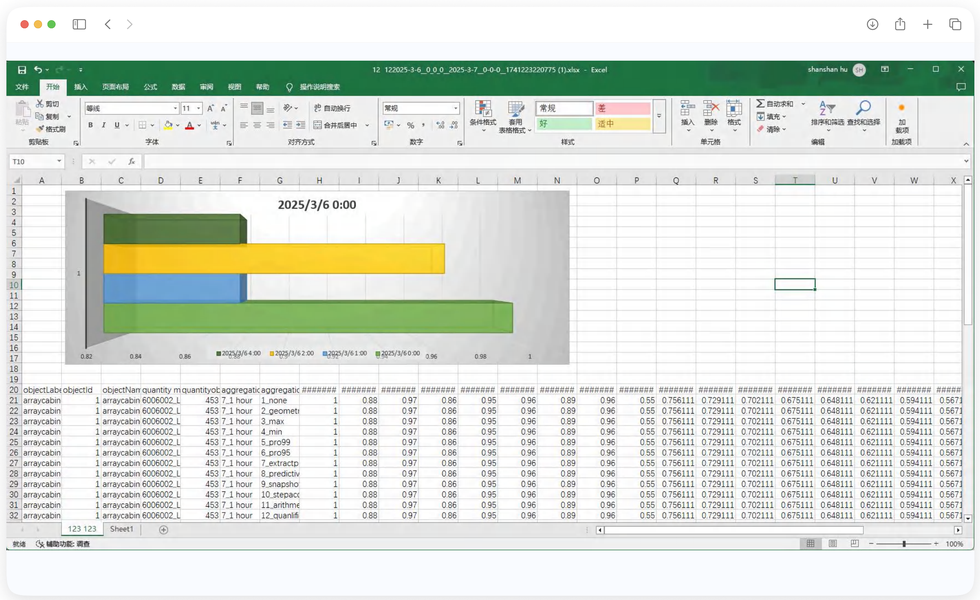

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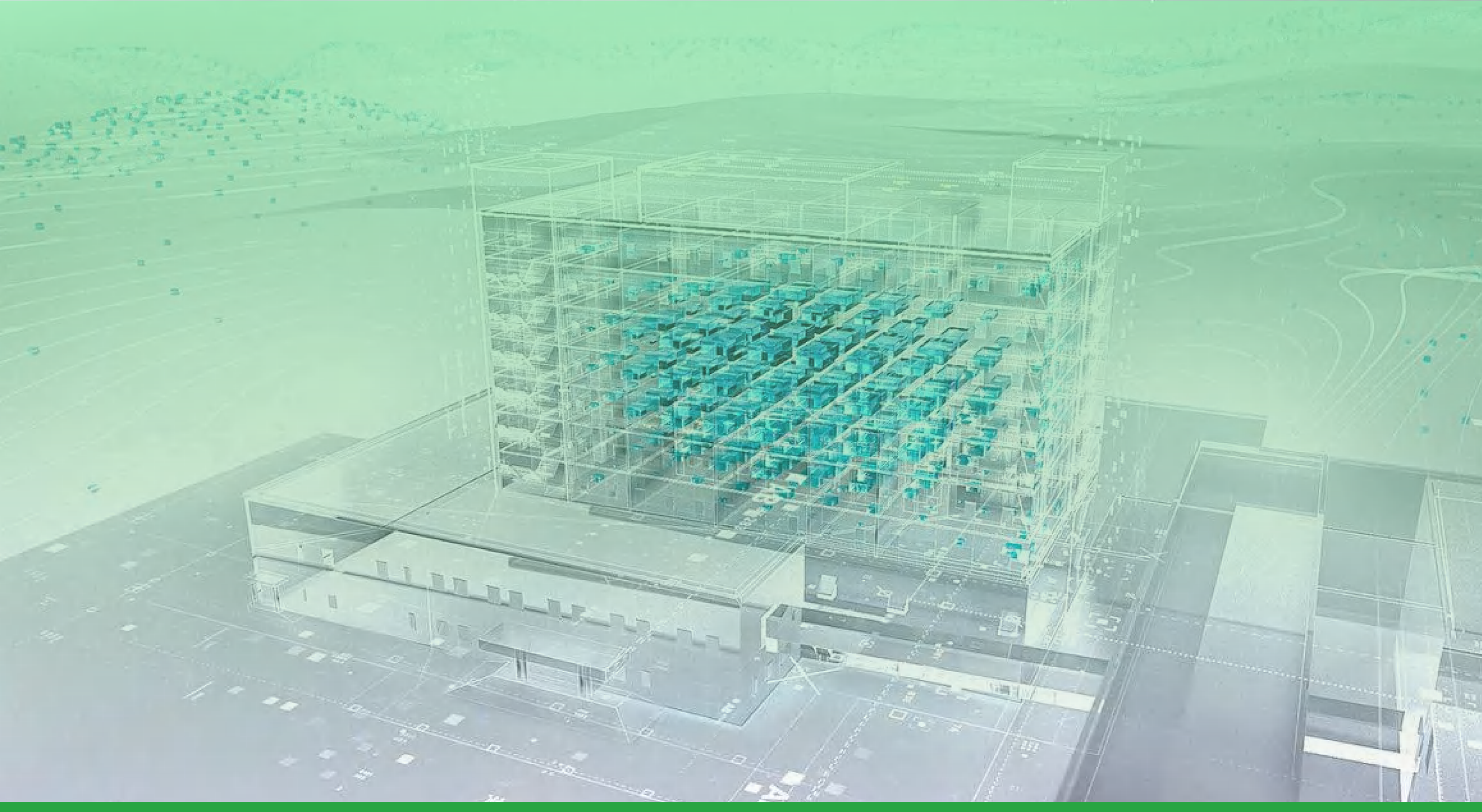
24	Level 4	test113	secondary	test113 A相电压 over setpoint alarm 984.76	Over-limit Event-hostoverlimitaction	2025-03-06 14:07:15.78
25	Level 3	test03	secondary	test03 Vbc under setpoint alarm 298.14	Over-limit Event-hostoverlimitaction	2025-03-06 14:04:44.09
26	Level 3	test03	secondary	test03 Va under setpoint alarm 67.77	Over-limit Event-hostoverlimitaction	2025-03-06 13:44:46.88

12_122025-3-6_0.0.0_2025-3-7_0-0-0_1741223220775 (1).xlsx - Excel



FOR MORE INFO, PLEASE CONTACT

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