MPL | N-GEN ESTATE

kVA

1157.62

266.38

kW

239.74

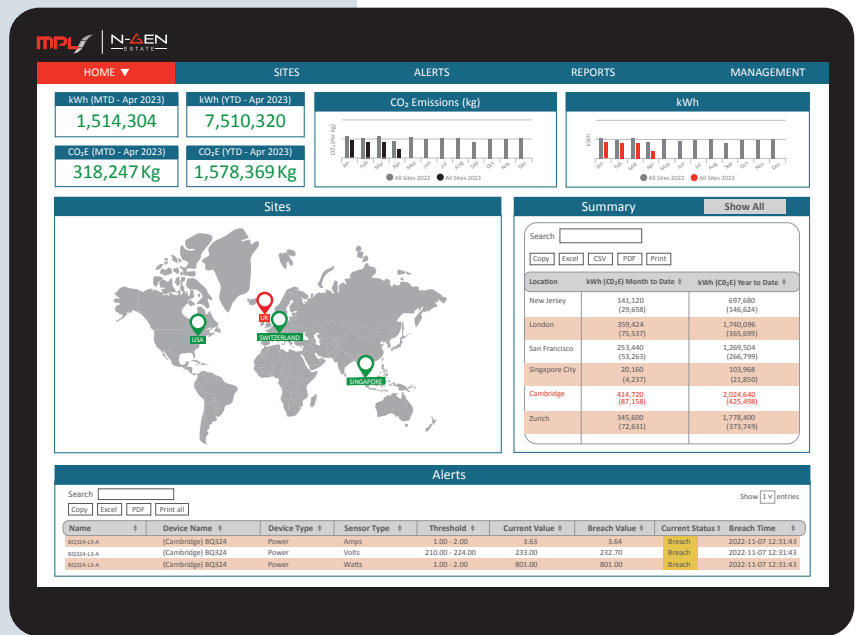London EC1 Energy Centre

AT A GLANCE

N-GEN ESTATE PLATFORM

N-GEN ESTATE OVERVIEW

The N-GEN Estate platform provides the visualisation of highly accurate real time and historical reporting information combined with advanced alerting and alarming of any measured power, energy or environmental parameter across the entire estate.

N-GEN Estate centralises information across the EPMS infrastructure offering site wide views of utilities, total consumptions and the granular monitoring of plant equipment, sub distribution and individual payloads. Power Quality reporting is an integral part of the reporting capabilities of N-GEN Estate.
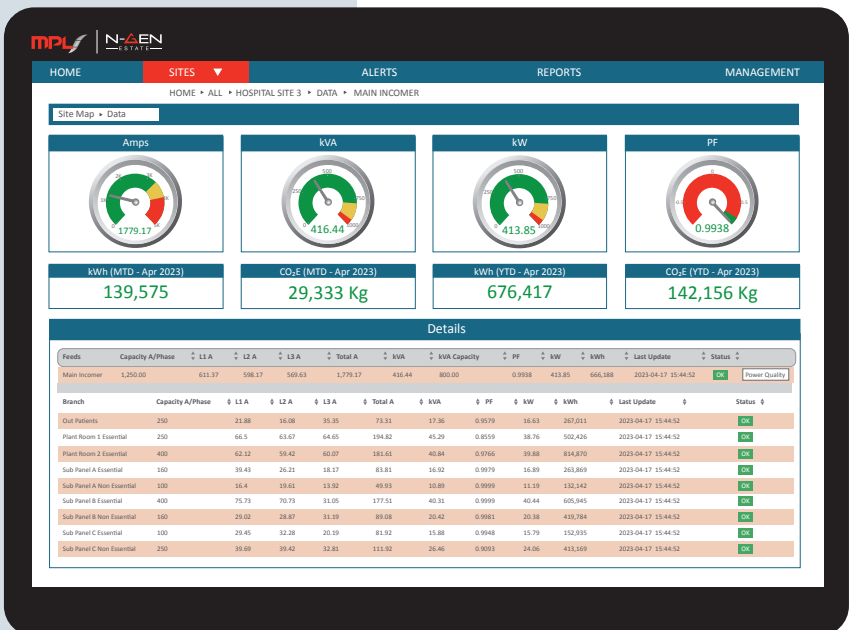
N-GEN Estate adopts a multi-tiered approach to the visualisation and reporting of an estate to facilitate and meet the needs of multiple roles within an organisation from Board Level reporting requirements through to more granular operational day-to-day management information. N-GEN Estate provides the single pane view for clients which can be deployed as an on-premise or Cloud based solution.

Tier 1 Global View

TYPICAL APPLICATIONS

- Estate wide monitoring and reporting across a collection of geographical sites owned by an organisation
- End-2-End EPMS from building point of entry through to an individual payload including detailed Power Quality reporting
- Granular monitoring and reporting of Data Centre and Edge applications
- Real time mission critical alerting and alarming management against user defined thresholds
- Campus sites (universities, hospitals, and retail)
- Property owner/multi-tenanted billing for Commercial buildings
- Telecoms monitoring and reporting including 48VDC remote base station applications
- Utilities/Renewables monitoring
- Granular monitoring and reporting of Solar PV deployments (both AC and DC)
- Operational efficiency in industrial/manufacturing applications
- Carbon Reporting to support sustainability programmes

Typical N-GEN Estate Dashboard

N-GEN ESTATE FEATURES

CATEGORY	FEATURE	N-GEN ESTATE STANDARD	N-GEN ESTATE PREMIUM	N-GEN ESTATE PREMIUM PLUS
Layout	Single or Tiered Navigation	●	●	●
	Single Sign On	●	●	●
	Extended Role Based Security Levels	●	●	●
	Standard Dashboards	●	●	●
	Google Maps	●	●	●
	Comparative Tables	●	●	●
	Customised Floor Plans	●	●	●
	Mobile App	●	●	●
	Heat Maps		●	●
Power and Energy	kWh Half Hourly Data	●	●	●
	kVA	●	●	●
	MID	●	●	●
	Granular Power Monitoring		●	●
	Residual Current Monitoring (RCM)		●	●
	PQ		●	●
	PQ to BS EN 50160 inc. Events			●
	Plant Equipment (UPS, Generator)		●	●
Environmental	Granular Monitoring		●	●
	Air Quality (Indoor/Outdoor)			●
	Cooling Management		●	●
Alerting and Alarming	Set via User Defined Thresholds	●	●	●
	SNMP/Email	●	●	●
	SMS		●	●
	3rd Party Integration (Consolidated Traps) Using Multiple Protocols		●	●
	Physical Security		●	●
Visualisation	CO_2E Reporting	●	●	●
	Downloadable Graphs (Date Driven)	●	●	●
	Detailed Reporting		●	●
	Scheduled Reports	●	●	●
	Custom Scheduled Reports		●	●
Options	Utilities (Gas, Water, Steam, Heat)	●	●	●
	Renewables (Solar, Wind, Hydrogen)		●	●
	What3Words Navigation		●	●
	Asset Management		●	●
	Ticketing			●
	Integration to 3rd Party Power Quality Analysers			●
	Multi Tariff	●	●	●
	Voice Alerts		●	●
	Corporate Branding	●	●	●

VISUALISATION

N-GEN Estate is intuitive and simple to navigate between its tiered views. Designed to move between each view via a 'SINGLE CLICK'; a user can navigate from global estate overviews through to more granular data relating to individual sites, buildings, circuits or payloads within a matter of seconds. N-GEN Estate uses both Google Maps and What3Words as part of its navigation flow.

Furthermore, N-GEN Estate is fully scalable and can therefore be deployed to support single room applications where there are only a handful of devices to be monitored, through to larger scale multiple site estates, where the number of devices being visualised runs into the thousands.

At each tier, users can specify site specific maps which may include site wide views, building floor plans, data centre floor plans/heat maps and EPMS estate layouts.

Elementary dashboards provide clear and concise snapshots of the key user defined parameters including 'traffic light' status reporting. The dashboard navigation has been designed to simplify the view of granular data.

Scheduled reporting, instantaneous alerting and alarming and real time data analysis provides users with up-to-date visualisation of the Estate.
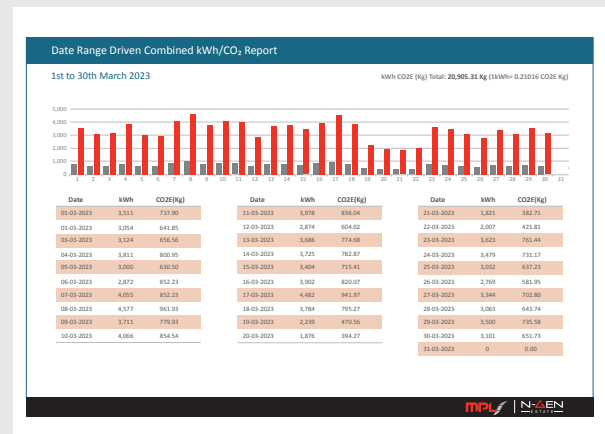
A mobile companion app is available to support N-GEN Estate deployments, offering simplified views and alerting via any mobile device such as a tablet or smartphone.

REPORTING

Utilising time series database monitoring, key parameters are tracked, monitored, down sampled and aggregated. This allows the same N-GEN Estate platform to collect half hourly data from utility meters whilst also polling and recording mission critical data such as residual current monitoring, every couple of seconds.

N-GEN Estate enables the user to quickly access date range driven, downloadable graphs of measured parameters, whether that be for the entire estate or an individual device.

Detailed and scheduled reporting is available to provide simplified business intelligence for key parameters such as Carbon reports. This comparative data view can be customised to meet specific client needs.

Date Range Driven Combined kWh/CO₂ Report

1st to 30th March 2023 kWh CO2E (Kg) Total: **20,905.31 Kg** (1kWh= 0.21016 CO2E Kg)

Date	kWh	CO2E(Kg)	Date	kWh	CO2E(Kg)	Date	kWh	CO2E(Kg)
01-03-2023	3,511	737.90	11-03-2023	3,978	836.04	21-03-2023	1,821	382.71
01-03-2023	3,054	641.85	12-03-2023	2,874	604.02	22-03-2023	2,007	421.81
03-03-2023	3,124	656.56	13-03-2023	3,686	774.68	23-03-2023	3,623	761.44
04-03-2023	3,811	800.95	14-03-2023	3,725	782.87	24-03-2023	3,479	731.17
05-03-2023	3,000	630.50	15-03-2023	3,404	715.41	25-03-2023	3,032	637.23
06-03-2023	2,872	852.23	16-03-2023	3,902	820.07	26-03-2023	2,769	581.95
07-03-2023	4,055	852.23	17-03-2023	4,482	941.97	27-03-2023	3,344	702.80
08-03-2023	4,577	961.93	18-03-2023	3,784	795.27	28-03-2023	3,063	643.74
09-03-2023	3,711	779.93	19-03-2023	2,239	470.56	29-03-2023	3,500	735.58
10-03-2023	4,066	854.54	20-03-2023	1,876	394.27	30-03-2023	3,101	651.73
						31-03-2023	0	0.00

ALERTING AND ALARMING

N-GEN Estate allows alerts to be set for any monitored parameter via user defined thresholds. These parameters include but are not limited to power and energy parameters, environmental conditions, physical security breaches and critical condition warnings.

Alarms can be sent via SNMP, email, SMS or the option of voice alerts.

N-GEN Estate can consolidate alerts (for example SNMP Traps) from third party solutions using multiple protocols with the status and administrative management of the alert, being overseen by N-GEN Estate.
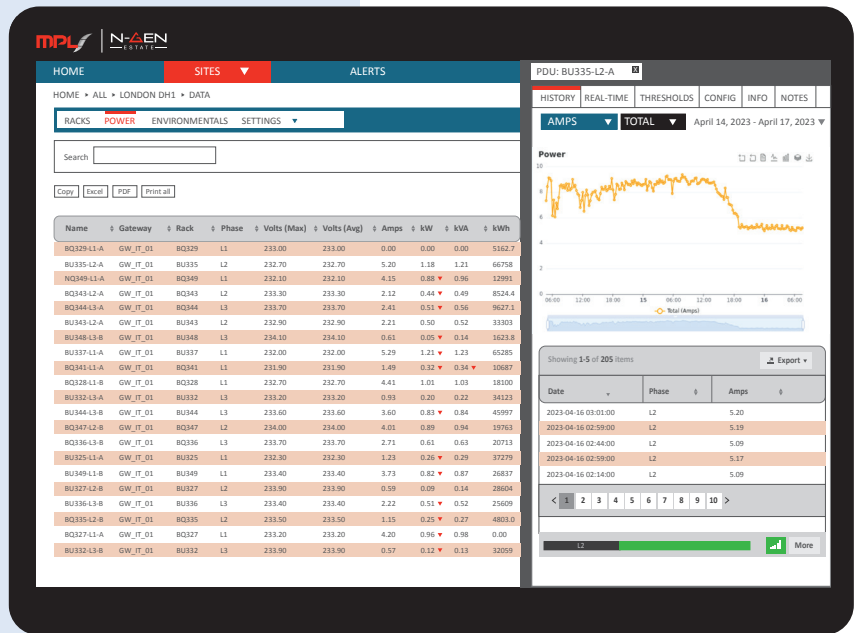
SECURITY ARCHITECTURE

N-GEN Estate is deployed as a fully supported SaaS, offering the highest levels of software security, elasticity and application level security. Alternatively, N-GEN Estate can be securely installed as an On-Premise solution or as an active Gateway Appliance (Edge functionality).

By using a Micro Services Driven architecture, N-GEN Estate offers improved data security, scalability, consistency and high availability. All N-GEN Estate web applications are SSL and https driven.

Centralised data collection is performed by the MPL Gateway which in turn is encrypted to enhance security and compliances.

N-GEN Estate offers a comprehensive metrics driven audit trail across two layers. The Application User layer captures user interactions, whilst the Platform layer performs centralised logging, event management and alerting.

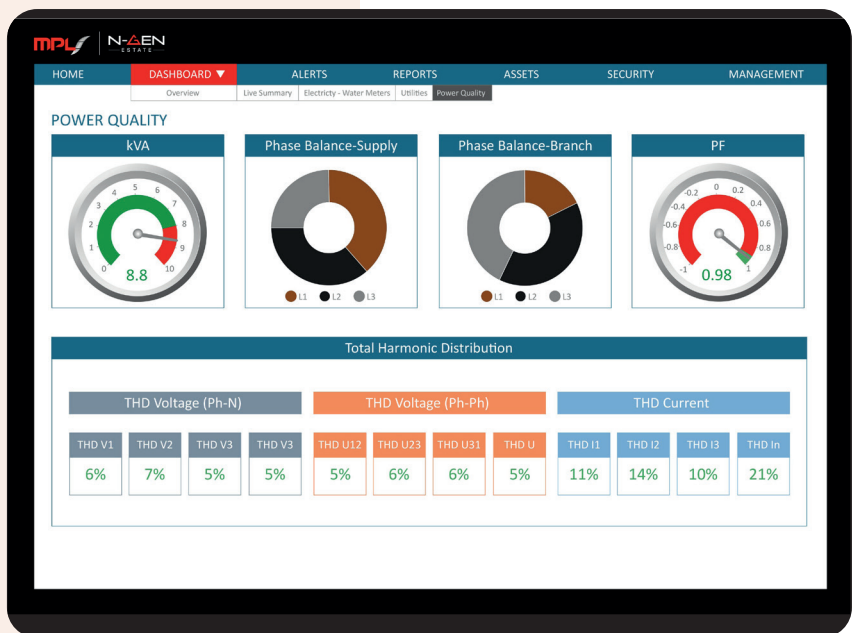**View of Individual Devices**

THIRD PARTY INTEGRATION

Third party integration adopts a 'plug in' type strategy whereby data is collected into the platform via SNMP, Modbus, REST APIs and wireless protocols.

Users can set thresholds on any third party custom field and visualise the consolidated data on the N-GEN Estate platform.

Furthermore, MPL Gateways can be deployed to function as data aggregators to collect data from hybrid environments, to be presented into N-GEN Estate.

Typical integration projects include plant equipment (UPS, Generator, Cooling), RPDU devices, third party Metering and a variety of DCIM/BMS software packages.

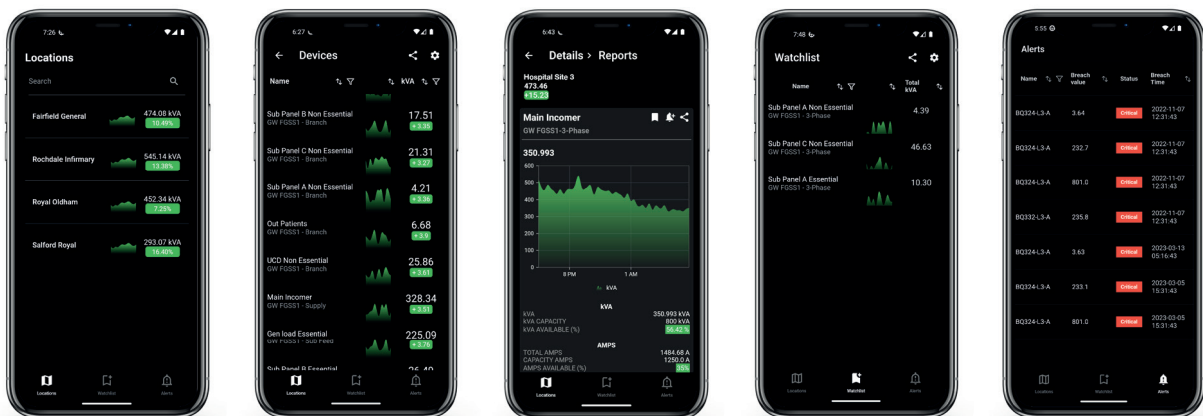**Power Quality Summary Dashboard**

N-GEN ESTATE DELIVERS

- A secure environment and architecture
- Simplified business intelligence with associated reporting
- Centralised information across the EPMS infrastructure offering site wide views of utilities, total consumptions and the granular monitoring of plant equipment, sub distribution and individual payloads
- Mapping of when, where and how energy is consumed
- Simple navigation
- Operational Efficiencies typically delivering a saving of 10-30% on total energy consumption
- Alerting and alarming against user defined thresholds
- Reporting of Power Quality monitoring to EN 50160 with global accuracy to Class 0.5 in accordance with IEC 61557-12 (2-120% nominal load)

- Reports and alerts THD in accordance with IEC61000/IEEE 519:2014
- Centralised reporting of utilities including electricity, gas, water, heat, steam and fuel oils
- Granular reporting of Solar PV to maximise operational efficiencies and provide early detection of any failures
- 'Out of Norm' event reporting
- The management and control of remote field based equipment
- Integration with third party hardware and software platforms
- Granular reporting of environmental conditions including air quality
- Continuous residual current monitoring to avoid costly periodic inspection shutdowns according to IEC 60364

N-GEN ESTATE APP

To further enhance the N-GEN Estate user experience, MPL provides an intuitive Companion App for iOS and android devices.

The App offers real time 'snapshot' views of critical data across the client's estate and will receive 'push' notifications of any estate wide alert.