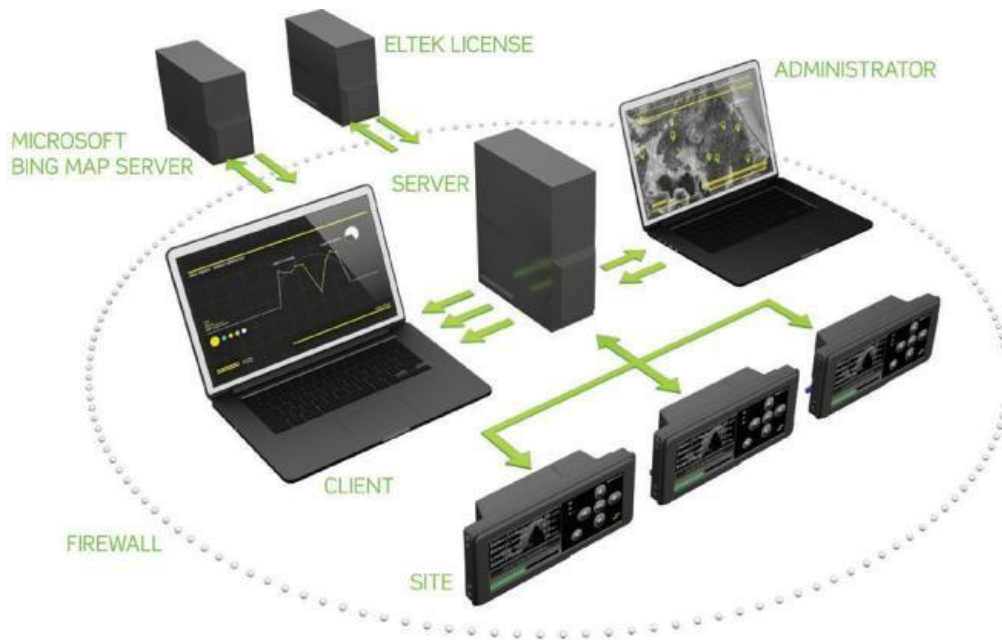


# MultiSite Monitor

## Server-based Monitoring Software



## Remote Monitoring of All Sites in One Tool

Monitor energy and performance on multiple sites

- Statistics on energy produced
- Instant status overview
- KPI (Key Performance Indicators)
- Alarms
- Detect underperforming sites
- Email reports

### Product description

#### Server-based Monitoring Software

The MultiSite software is a server-based tool that gathers statistical data from connected sites and stores it in a database. The software also includes web pages for viewing the data from the database. The tool support up to 25000 connected sites.

#### Monitor the sites energy performance

The MultiSite software is a tool for monitoring multiple sites' energy performance and status.

The site owner gets access to performance data that can be used to evaluate investments in hybrid DC power system and for marketing of site fleet's reduced carbon emission.

The instant status of sites makes MultiSite a 1st line site maintenance tool; whenever there is a site in alarm, it is easily seen in the map, the list and top bar. One click in the site's details view will open the site's web pages in a new tab for further investigation of the alarm

## Key features

- Easy access  
Through web browser for both clients and administrators
- Client monitoring  
Not dependent on access to site network
- Central database server  
Holds statistical data, resulting in decreased browsing latency
- Server to site data transfer  
through http port 80  
Fire-wall friendly (SSL on port 443 is fully supported)
- Map view  
Comprehensive sites overview
- Site list  
Grouping of sites enables a greater overview
- Supports up to 25 000 sites  
Based on multiple server installations
- Support fqn
- Automatic detection of underperforming sites  
Use of battery, energy, generator and network connectivity
- Comprehensive alarm views  
Rolling alarm view, alarm details view and alarm ranking of sites
- Key performance indicators  
Set kpi targets and measure site energy and performance
- Email reports
- Site surveillance  
Allows for site specific ip cameras to be monitored through multisite monitor
- Battery status  
Remaining battery life and battery backup time
- Grid availability
- Cloud computing  
Vmware platforms compatible

See the last pages for technical specifications

# MultiSite Monitor

## Server-based Monitoring Software

Specifications				
Available packages	Small	Medium	Large	Enterprise
Included clients/user accounts	2	5	15	15
Maximum no. of clients/user accounts	5	15	30	30
Included sites/connected power system controllers	5	50	200	3000
Max. no. of sites/connected power system controllers	49	199	3000	25000

Support agreements	Limited	Maintenance & Service	
Email support	No minimum response time	Reply within 2 business days	
Telephone support (free support hours per year)	-	Small	4h
		Medium	15h
		Large	40h
Support availability	09:00-15:00 CET (not included)	09:00-15:00 CET	
On-site support	-	Upon request	
Free MSM software upgrade	-	Yes	

Server requirements		
Sites	Recommended Server Hardware	Recommended Free Disk Space after installation
0 - 100	2 CPU Cores, 3 GB RAM	100 GB
100 - 250	3 CPU Cores, 5 GB RAM	250 GB
250 - 500	5 CPU Cores, 8 GB RAM	500 GB
500 - 1000	8 CPU Cores, 16 GB RAM	1 TB
1000 - 2000	8 CPU Cores, 32 GB RAM	2 TB
More than 2000	Contact MSM.support@eltek.com	

Client requirements
Web browser with Silverlight (v4.0) plug-in on client computer

# MultiSite Monitor

## Server-based Monitoring Software

Site and controller requirements	
Eltek system controller with Ethernet and JSON support	General requirement
Smartpack2 Master	All versions
Smartpack (only .242100.118)	WebPower version >4.6 (not compatible with SNMP auto config.)
Smartpack S	All versions
Compack	Firmware version > 1.05
Delta Orion	Firmware version v7.00 or newer
3 <sup>rd</sup> party controllers/SNMP Devices	SNMP v1, v2c, v3. MIB Compiler and mapping feature in MSM

Network infrastructure requirements			
Bandwidth to sites (no dial-up)		Minimum 256 kB/s	
Daily data usage on each site		Typically from 50kB to 3.0 MB, dependent on configuration	
Maximum response time		700 ms	
Transport layer/MSMJsonService	TCP Port 80 / TLS Port 443	MSM Json Service	TCP port 8082
443 Data Set / Get SNMP, Alarms SNMP Traps	UDP Port 161/162	MSM SNMP Service	TCP port 8083
161/162 Transport layer / MSM Network Utility Service	UDP Port 20034	MSM Network Utility Service	TCP port 8084
Port 20034 Transport layer / MSM SNMP Trap Receiver	TCP port 8083	MSM Northbound Service	TCP port 8085
Transport layer / MSM Restricted Site Service	TCP Port 8087	MSM SNMP Northbound Service	TCP port 8086
8087 Transport layer / MSM SNMP Data Collector Service	TCP port 8088		

Security
User login required, min 4 letters, upper/lower case & number

Features and statistics	
Dashboard	
Total number of sites connected	
Number of sites in alarm	
Number of offline sites	
Solar energy generated in the last 24 hours	

# MultiSite Monitor

## Server-based Monitoring Software

Features and statistics - Continued	
Map view	List view
Server data update interval every 10 minutes	Site Name
Map data from BING or similar service	IP Address
Use of JPG or BMP image as replacement to BING maps	Controller Type
Site locations	Number of Major Alarms
Visible monitors (6)	Number of Minor Alarms
	Connection Status
	Alarm monitors (6) (default: Mains Voltage, Battery Voltage, Rectifier Current, Battery Temperature, Solar Current)
	SNMP for 3 <sup>rd</sup> party controllers

Energy trend, single site	
Server data update interval, typical	Daily
Energy from solar, wind, generator, rectifiers, DC load (Multi Tenant) and auxiliary equipment on mains	Pie chart 24h/30d/50w (%) Line chart 30h/30d/30w (kWh)
Generator run time, fuel consumption and efficiency (hybrid sites only)	Line chart 30h/30d/30w (m), (l), (kWh/l)
Battery charge and discharge	Bar Diagram (Ah) total
Battery back-up time	Instant elimination and target (h)
Alarm Report	Hourly
Solar CO2/OPEX savings trends	

Run hours	
Generator, Grid, Battery	Table min/day, Hours/week, Hours/Month
Eltek Cooling box (ECB), Aircondition	Line chart 30d/30w/30months

Specifications are subject to change without notice

# MultiSite Monitor

Server-based Monitoring Software

Compare (comparison of sites)	
Server data update interval, typical	Daily
Energy from solar, wind & renewable in total, Renewable versus total DC system or Mains energy	Site versus Site Group versus Site Group versus Group Bar diagram 30h/30d/30w (kWh), (%)
Energy usage DC Load, Multi tenant: (up to 8 channels)	Site versus Site Group versus Site Group versus Group Bar diagram 30h/30d/30w (kWh), (%)
Generator run time, fuel consumption and efficiency	Site versus Site Group versus Site Group versus Group Line chart 30h/30d/30w (m), (l), (kWh/l)
Battery temperature	Site versus Site Group versus Site Group versus Group Bar Diagram average (°C or °F)
Alarm Report	Hourly

Features and statistics - Continued	
KPI view [energy]	
Energy (Solar/Wind/Generator/Grid)	Total Last 30 days Average run hours (generator only) Average fuel efficiency (generator only) Low fuel level (generator only)

KPI view [performance]	
Energy	Solar energy Wind energy Grid, other Grid availability
Battery	Near end of life Backup time Average battery temperature Charge condition Symmetry alarms
Generator	Average run hours Average fuel efficiency Low fuel level
Connectivity	Quality Frequent loss of connectivity
Cooling	ECB (Eltek Cooling Box) run time Air conditioner run time

Detection of underperforming sites	
Automatic detection of underperforming sites	Use of Battery, Energy, Generator and network Connectivity, Cooling KPI

Specifications are subject to change without notice

# MultiSite Monitor

Server-based Monitoring Software

Battery status	
Presentation of Battery Condition	Bar diagram Battery Life Days Remaining Battery Backup Time
Smartpower & Grid Services Features	Battery health / quality statistics Battery testing / config Battery detailed test overview with SoH

Grid status	
Grid Availability	Run time Bar diagram 30h/30d/30w (h), (%) Pie chart 30h/30d/30w (h) (%)

Features and statistics - Continued	
Alarms (snmp, eltek / delta)	
Rolling alarm view	See all alarm traps sent from controllers connected to the MSM Filter by status, system template, search on site/ alarm description and time interval
Alarm details view	See all active and historical alarms on a site/group Filter by severity and date Statistics about how long the site has been in alarm, and on which level
Ranking of sites "In Alarm" time (all sites ranked)	Shows an overview of how long a site has been in alarmstate compared to the other sites
Polling alarms (other)	Alarm traps

Logs	
Event log	Log of site status change and email report sent
Change log	Logs when sites are altered: Configuration upload Firmware upgrade SNMP configuration changed

Email reports	Trigger type
Alarm Report	Active alarm
Underperforming report	Underperforming
Energy report	Hourly, Daily, Weekly interval Daily Energy summary (new) Weekly Energy summary(new) Daily Energy usage per site for last days(new)
Site summary report	Hourly interval, Daily interval, Weekly interval, Monthly interval, Quarterly interval, Yearly interval
Run hour report	Monthly interval
KPI report (global report)	KPI Trigger

Specifications are subject to change without notice

# MultiSite Monitor

Server-based Monitoring Software

## Site surveillance

IP camera integration

Visual surveillance of remote sites

## 3rd party application support

Launch 3<sup>rd</sup> party applications through MultiSite Monitor

Ticketing system

## Features and statistics - Continued

### Site inventory

Serial numbers

Warranty alert

Module type

Part numbers

Hardware version

Software part numbers

Software version

Warranty period

Delivery date

Battery

Serial numbers etc. from Smart batteries

### Site management

Deployment of configuration to multiple controllers

Automatic SNMP configuration on connected controllers

(requires controller software v.2.3 or higher)

Compare controller configurations

Show and upgrade controller firmware

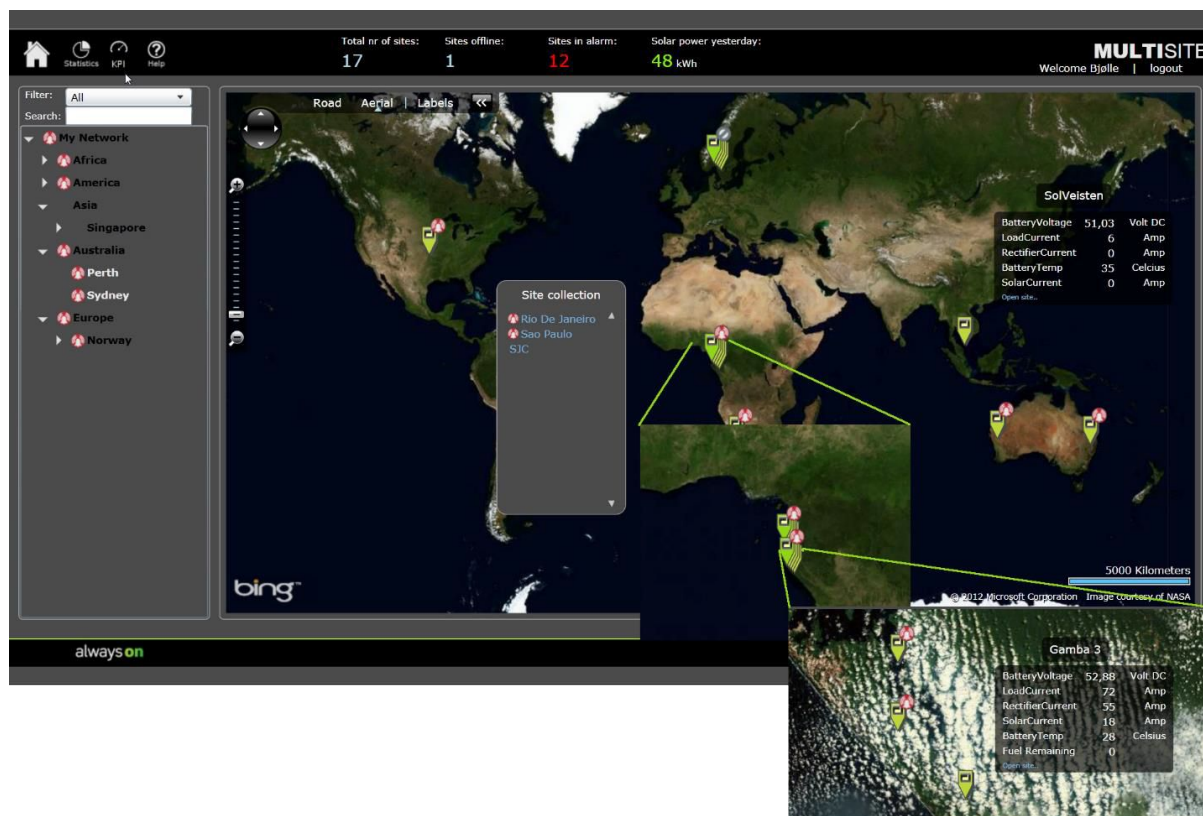
Northbound Communication

EDM Panama (XML format)  
SNMP w/MultiSite Monitor KPIs

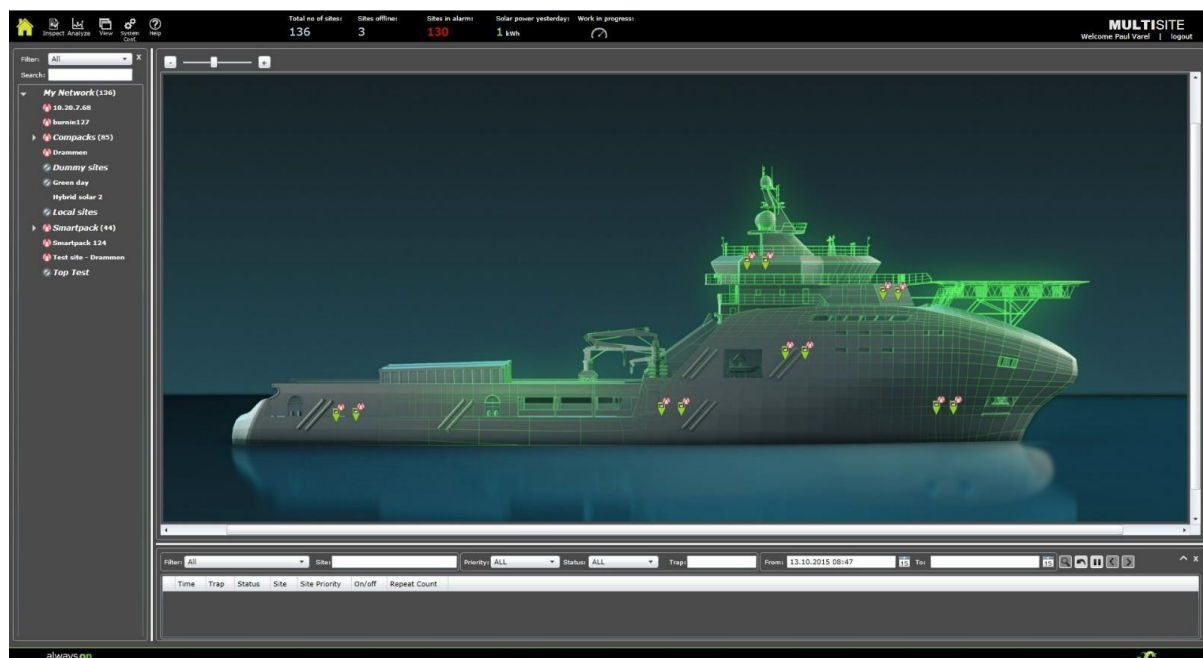
# MultiSite Monitor

Server-based Monitoring Software

## Map view / dashboard (example)



## Custom jpg/bmp view/ dashboard (example)





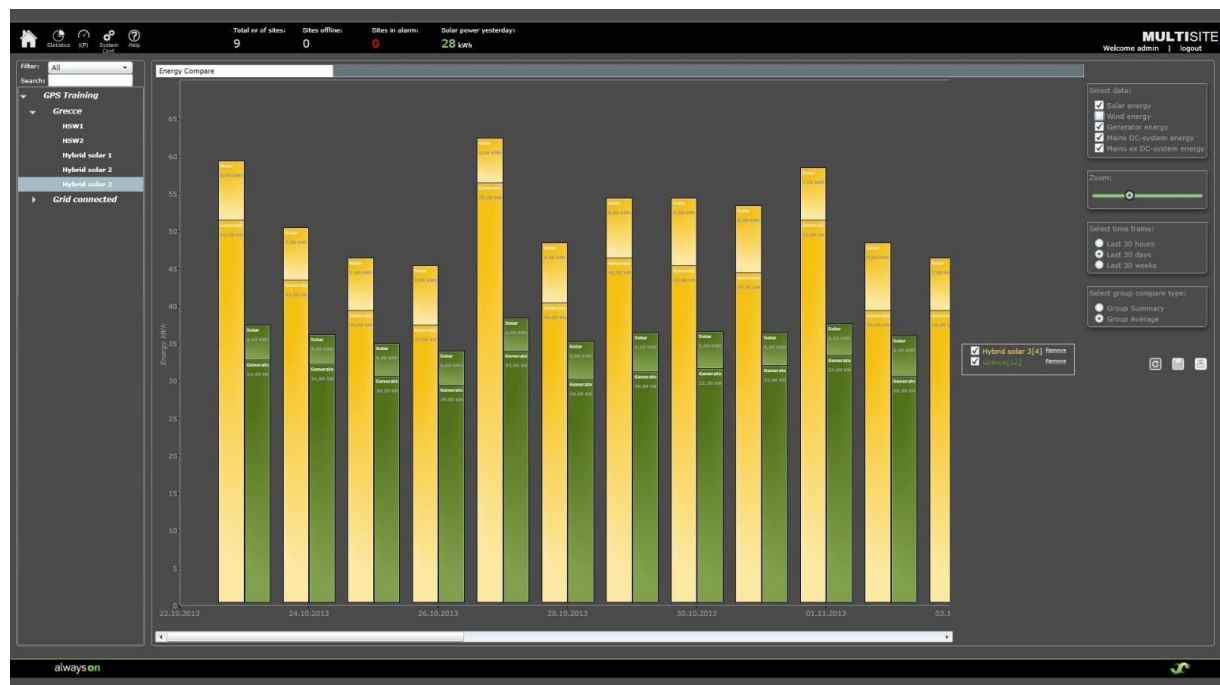
# MultiSite Monitor

Server-based Monitoring Software

## Energy trend, single site (example)



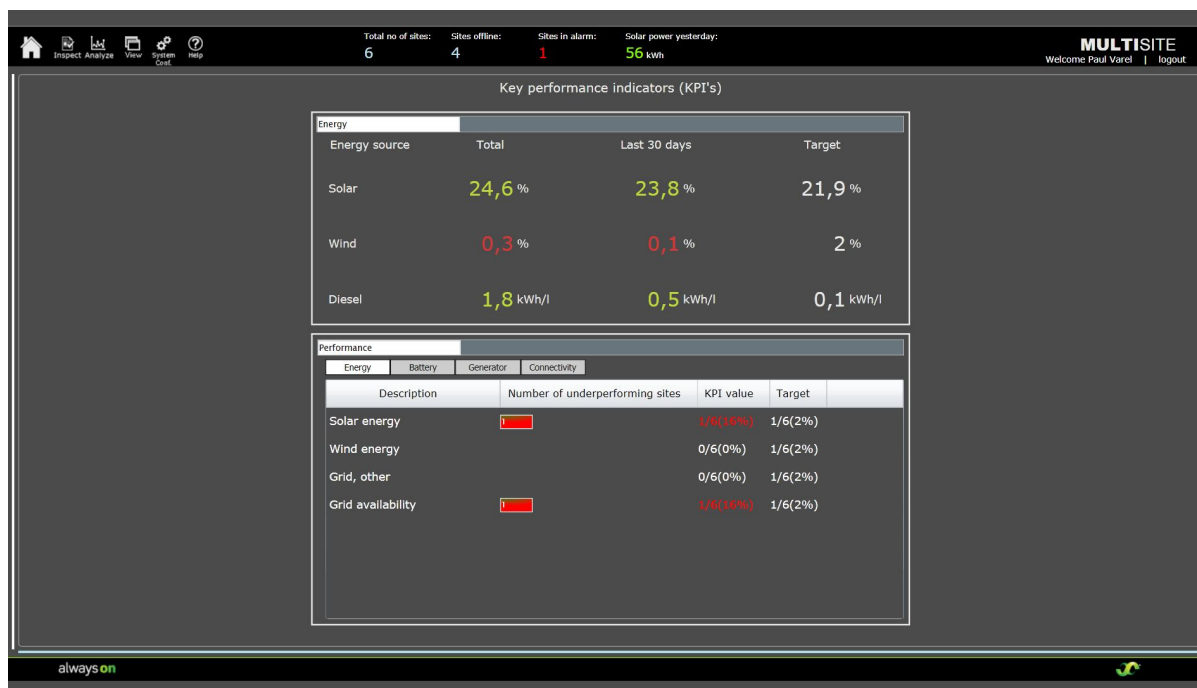
## Compare (comparison of sites) (example)



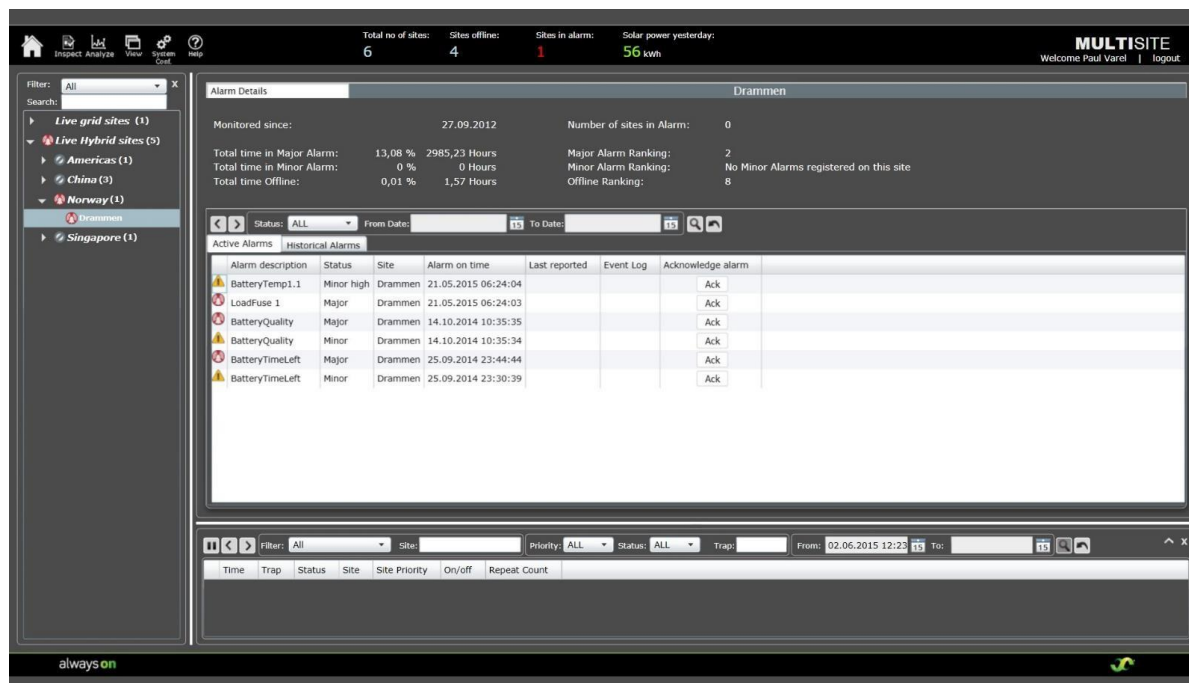
# MultiSite Monitor

Server-based Monitoring Software

## Kpi view [energy] & [performance] (example)



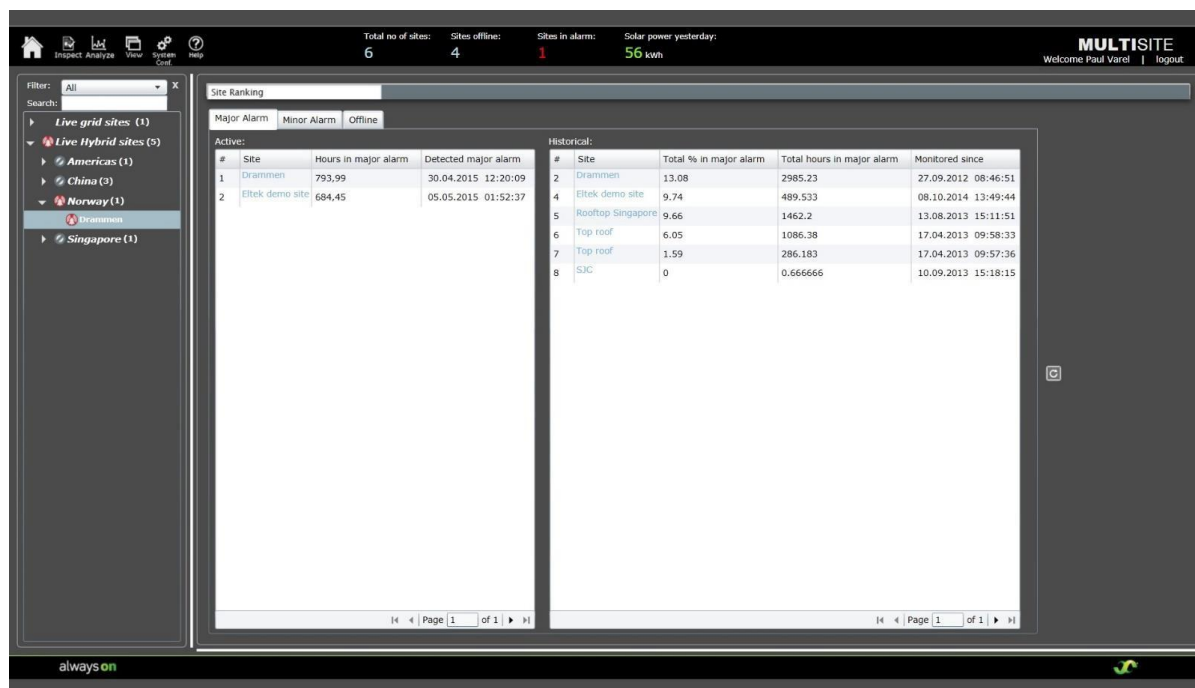
## Alarm details view (example)



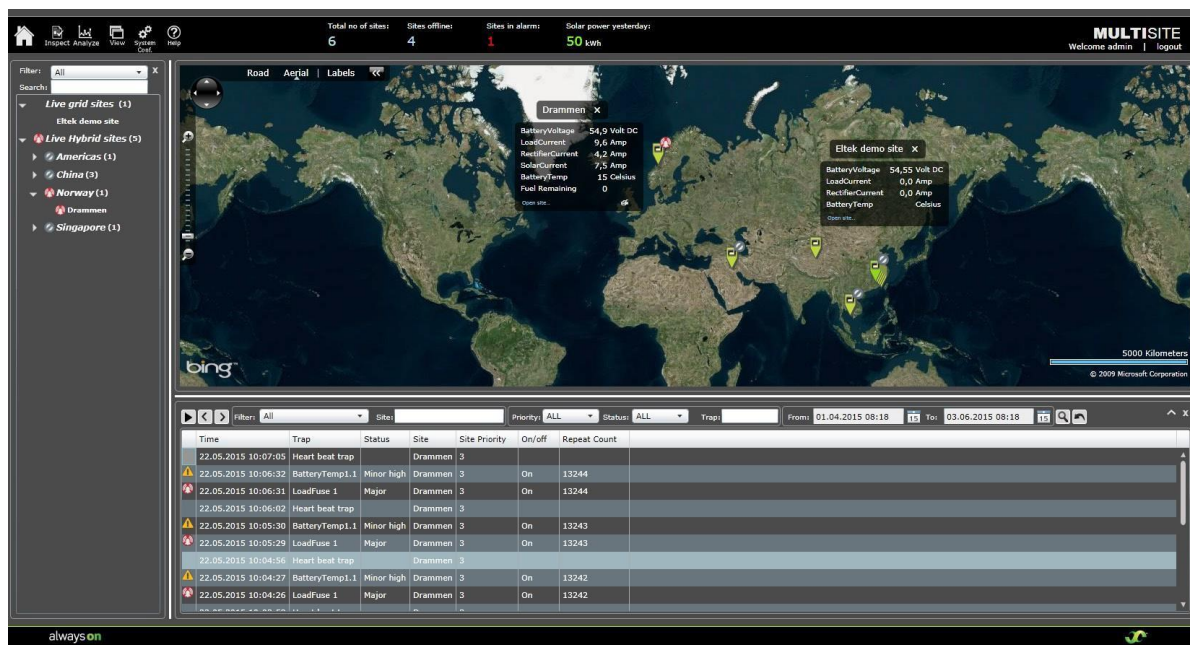
# MultiSite Monitor

Server-based Monitoring Software

## Alarm ranking (example)



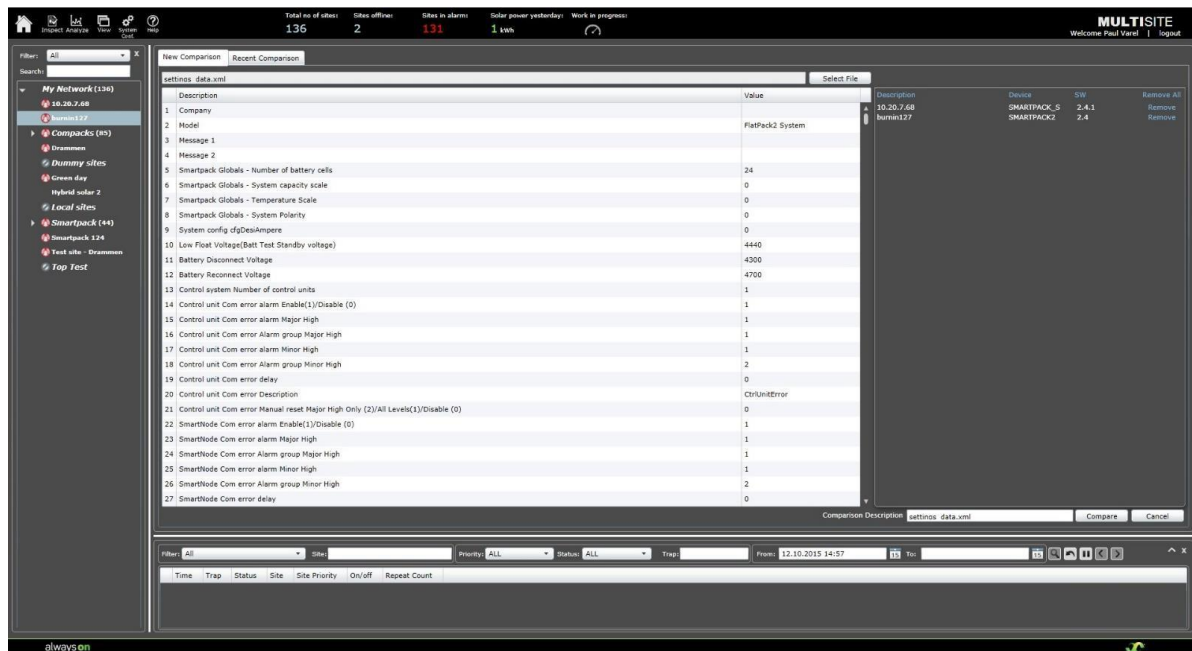
## Rolling alarm view (example)



# MultiSite Monitor

Server-based Monitoring Software

## Compare config



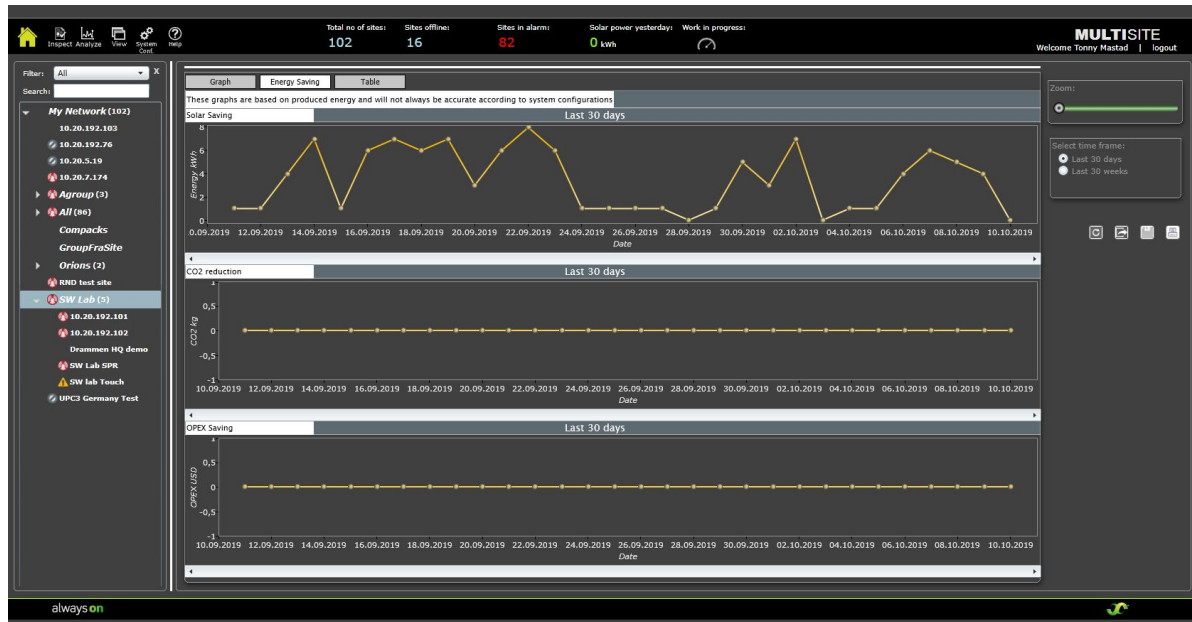
## Eltek cooling box (ecb)



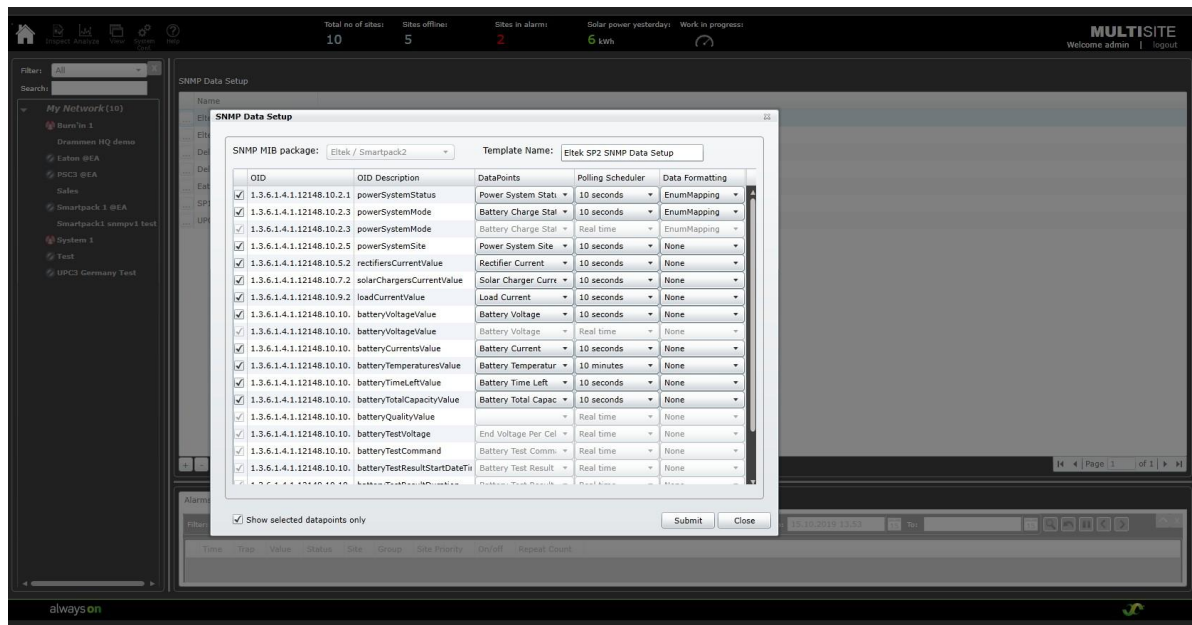
# MultiSite Monitor

Server-based Monitoring Software

## Energy saving from renewables (example)



## Monitoring remote sites by configurable snmp (example)





# Smarter. Greener. Together

[www.delta-emea.com](http://www.delta-emea.com)



[www.eltek.com](http://www.eltek.com)



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