

ENERGY VISION NX

Product Data



GENERAL

ENERGY VISION NX is an Energy Management Suite for energy benchmarking and analysis in the HVAC market. It is based on Niagara NX using HTML5 technology and provides a large range of techniques for the management of all aspects of energy related data.

EnergyVision NX is the ideal system to:

- manage energy by analyzing and optimizing the operation of facilities and
- measure performance across multiple levels within the building or estate

It is fully web-enabled and able to integrate data from a wide range of existing systems. HAWK 8000 and ARENA NX can provide data from most of the metering devices available in the market. It allows to collate and manage all aspects of energy data at a central location.

FEATURES - BENEFITS

Feature	Benefits
Complete integration into Niagara NX	Saves costs. No additional equipment needed. Gets metering data from most of the metering communication protocols. Visualizable on smartphones, tablets or PCs.
Automatic collection and aggregation of metering data	Needs no expensive data collection devices. Reliable and continuous data collection. No need to send the housekeeper to note metering data.
Monitoring of energy consumption with daily, weekly, monthly or annual profiles	Easily recognizes waste of energy
Analysis of energy profiles	Detects waste of energy. Optimizes energy efficiency.
Translation of raw energy values into monetary units	Provides overview of the energy costs. Compares actual costs with budget.
Energy Benchmarking graphs, with weekly, monthly, yearly views	Proves the efficiency of energy saving actions. Allows easy comparison of current energy consumption in comparison to target profiles and historical consumptions.
Visualization and ranking of consumption between meters, zones, systems, buildings, and sites	Gets an overview of the highest consumers. Starts optimizing the energy efficiency where you can achieve the biggest savings.

Feature	Benefits
Instant and automatic reports for users, energy managers and auditors	Saves costs for generating energy reports. Provides relevant data with highest accuracy and just in time for energy managers and auditors
Kiosk Mode – a rotating sequence of easy understandable energy efficiency data	Provides increased awareness of occupants in building foyers or reception areas
Complete offer of meter portfolio	Honeywell offers all needed metering devices starting from one and three phase electrical meters, heating, cooling energy meters, hot and cold water meters and all types of flow meters.
Cost-efficient solution	Logos and layout can be customized free of charge. Existing BACnet schedules can be used. All components are part of NX palette – low effort for technical support.
Low training effort for engineers and users	Very easy installation and start-up. Low training efforts for customers and partners / engineers Training video available on the partner web. Face-to-face trainings offered by TAC team.

UNIQUE SELLING POINTS

- **100%Web-Enabled Architecture**

The ENERGY MANAGEMENT is a 100% web-enabled software. This means that it:

- Needs to be installed only at a single location
- Can be accessed via the internet or intranet
- Requires only one browser (Google Chrome or Firefox) for access via client smartphone, tablet or PC
- Can be managed from a single central location which makes installation and ongoing maintenance simple and cost-effective

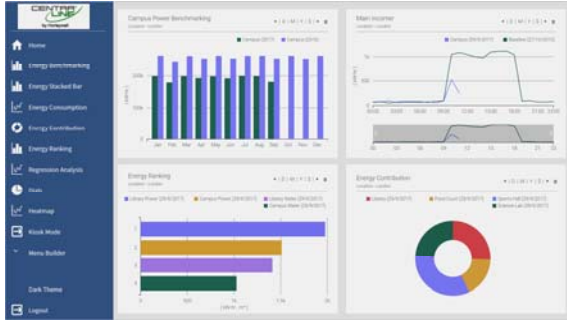
- **Integration of Data from Multiple Sources**

ENERGY VISION NX is able to integrate data from a wide range of existing systems. HAWK 8000 and ARENA NX can provide data from most of the metering devices commercially available. ARENA NX supports the data exchange between the LONWORKS network, M-Bus, and all existing Honeywell installed base and the energy management suite. All existing equipment can be reused. ENERGY VISION NX enables an integrated solution allowing the user to collate and manage all aspects of energy data at a central location.

Energy Analysis

By using a number of pre-defined analysis templates, the software detects energy waste of metering data, including heating/ cooling energy, electricity, water, and other meters. ENERGY VISION NX proactively monitors facilities and identifies opportunities for cost savings.

The software supports intelligent metering components with normalization of data, handling meter roll-over, and periods of missing data.



Analyze Energy Profiles

Building management systems, utility smart meters, data loggers, and utility online databases are rich of data, yet many customers find the data difficult to acquire, aggregate, analyze, and leverage. ENERGY VISION NX delivers this information in real-time and provides the intelligence needed for pro-active business and energy management decisions.

Optimization of Building Performance

ENERGY VISION NX uncovers opportunities of efficiency gains and provides data to continuously optimize the performance of each of those building systems without

affecting the comfort of occupants. Once building systems are optimized, ENERGY VISION NX helps to keep the systems operating at high efficient levels so that you can realize long-term energy reductions and extended life cycle of the equipment.

Financial Analysis

The financial tools within the Energy Management software enables users to convert energy usage into monetary values. Users input single-tariff utility contracts to convert kWh into financial data. In addition, users are able to create and analyze consumption or financial targets.

Reports

Combining historical usage information and energy analytics with real-time data feeds provides usable information and justification for both, operational and capital business decisions. With ENERGY VISION NX, you can pro-actively monitor your facility and identify opportunities for cost savings.

User Management

ENERGY VISION NX can be configured to support different users, e.g. normal users with limited access and energy managers with complete access.

Cyber Security

Compliant to the newest Cyber Security standards. HTML5 views for any smartphone, tablet or PC.

ENGINEERING

The ENERGY VISION NX engineering can be done using COACH NX or ARENA NX.

KEY ENERGY ANALYSIS FEATURES

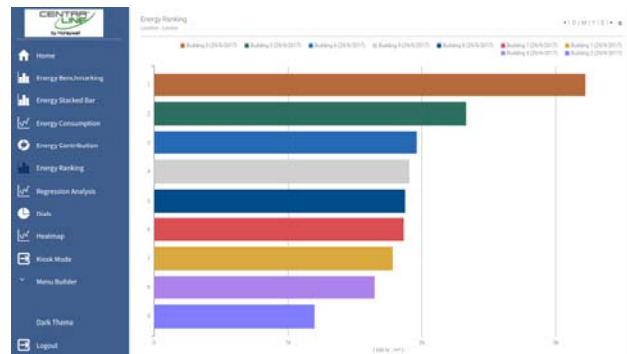
Daily Consumption

Detection of inefficient energy usage by comparing multiple days across their 24-h periods.



Energy Ranking

Visualization and comparison of performance of sites, buildings and plants. Start of energy efficiency actions to optimize biggest consumers.



Stacked Bars
 View of stacked bar charts which show the contribution of different consumers to the cumulated energy over time:

- (Day / Week / Month / Year / Cost)

Add a common allowed target/ budget.

Energy Benchmarking
 Detection of low energy-efficiency areas by comparing consumptions against similar periods, e.g., days, weeks, months, years.

Energy Contribution
 Graphic overview of the energy or monetary energy contribution for different zones, buildings, or time periods.

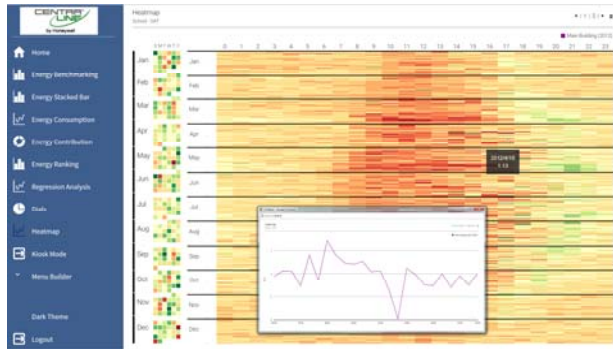
Energy Efficiency Reports
 Storage of management effort, generation of booklets of reports, e.g., for the energy manager, departments, or energy audits.

Building	Total Power (kWh) 2017-08-01 to 2017-08-31	Total Power (kWh) 2017-07-01 to 2017-07-31	Total Power (kWh) 2017-06-01 to 2017-06-30	Total Power (kWh) 2017-05-01 to 2017-05-31
1	10000	10000	10000	10000
2	10000	10000	10000	10000
3	10000	10000	10000	10000
4	10000	10000	10000	10000
5	10000	10000	10000	10000
6	10000	10000	10000	10000
7	10000	10000	10000	10000
8	10000	10000	10000	10000
9	10000	10000	10000	10000
10	10000	10000	10000	10000

Building	Power (kWh)	Value	Rank
1	10000	10000	1
2	10000	10000	2
3	10000	10000	3
4	10000	10000	4
5	10000	10000	5
6	10000	10000	6
7	10000	10000	7
8	10000	10000	8
9	10000	10000	9
10	10000	10000	10

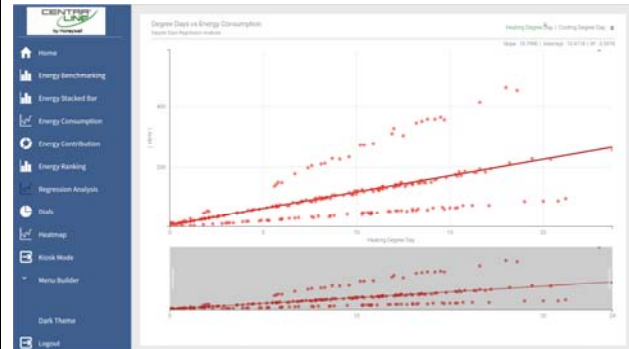
Heat Map

One screen heat map view of the yearly data of a consumer. Clickable daily profile view. Easy configuration of the heat map.



Regression Analysis

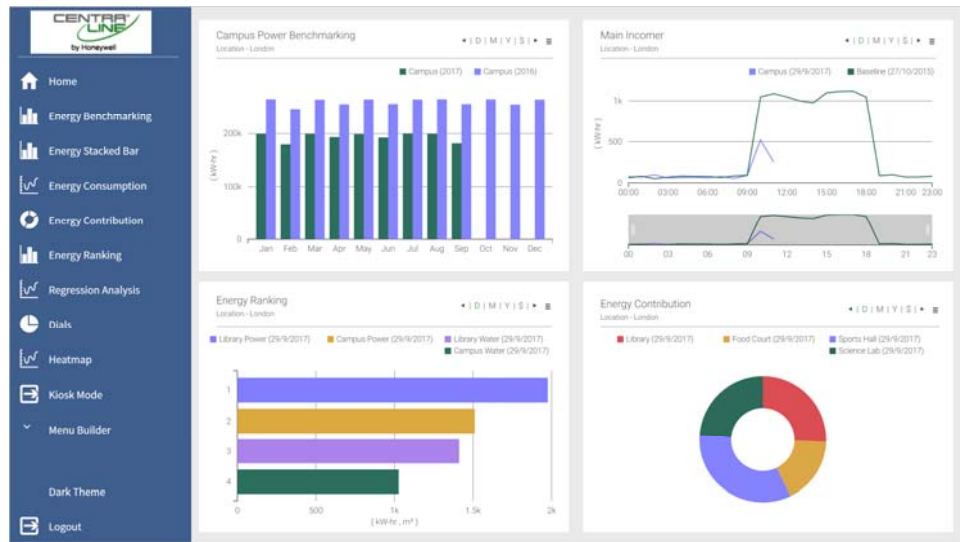
Comparison of own consumption with the line-of-best-fit against outdoor temperature, degrees days, or any other value of interest.



Kiosk Mode

Increase of awareness of building occupants. Visible overview of the most important energy consumers. Shows a rotating sequence of energy dashboard pages, ideal for use in a building foyer or reception area.

Training for occupants by explaining them how they can increase the energy efficiency of their building.



PLATFORM REQUIREMENTS

CentralLine ENERGY VISION NX is designed to run on:

- **Niagara**
4.2, 4.3 or higher
- **HAWK 8000** with Niagara 4.2, 4.3 or any other ARENA NX Supervisor. For this, the basic CLNXEMC12 license is required (see also “Basic Licenses” section).
- **COACH NX / ARENA NX**
The CLNXEMS25 license is the basic version for Niagara supervisors. This version can be upgraded with all the other upgrade licenses (see also “Basic Licenses” section).

- **COACH NX / ARENA NX on Windows:**
Click the link to view the Windows operating systems supported by Niagara:

[Windows Operating Systems](#)

NOTES: Copy the link into your browser, if the first click does not lead you directly to the desired page.

Currently other platforms are not supported.

PC HARDWAR REQUIREMENTS

The following table shows the minimum and recommended hardware requirements for the installation of ENERGY VISION NX. The hardware specifications should be used as a guide only, since the number of simultaneous users, metering channels, and read frequency will affect the required hardware.

As a general rule classifying the projects into small, medium and large, we recommend the following hardware capacities:

Project Size	No of Aggregators	Processor	Min. Main Memory	Storage
small	less than 500	4 cores, 2.5 + GHz	4 GB	250 GB
medium	less than 2000	8 cores, 2.5 + GHz	8 GB	500 GB
large	greater than 5000	8+ cores, 2.5 + GHz	16 GB	500 GB

Display	Video card and monitor capable of displaying 1024 x 768 pixel resolution or greater
Network Support	Ethernet 100 Mbit or 1 Gbit NIC (network interface card) with TCP/IP support.
Connectivity	Full-time high-speed ISP connection recommended for remote site access (e.g. T1, ADSL, cable modem)

Storage:

The secondary storage is dependent on the estimated amount of the Niagara history archive.

SSD is faster than HDD but it will not be possible to provide a performance figure as it depends on too many variables.

Managing JAVA Heap:

The heap is configured by modifying the nre.properties file at: {niagara_install_dir}\defaults\nre.properties
 station.java.options=-Dfile.encoding=UTF-8 -Xss512K -Xms2G

Appending -Xms2G to the file will allocate 2 GB of RAM for the process.

For example: -Xms512M = 512MB
 -Xms2G = 2GB

Remote Access

ENERGY VISION NX Web Browser access is possible using the newest versions of the following browsers:

- Google Chrome (V. 50 and above)
- Opera (V. 37 and above)
- Firefox (V. 47 and above)

PRODUCTS AND LICENSES

Centraline ENERGY VISION NX provides the following licenses:

Product	Description
CLNXEMC12	ENERGYVISION CONTR BASE LIC 12 METER PTS
CLNXEMS25	ENERGYVISION SUPV BASE LIC 25 METER PTS
CLNXEMS50-UP	ENERGYVISION SUPV LIC ADD 50 METER PTS
CLNXEMS100-UP	ENERGYVISION SUPV LIC ADD 100 METER PTS
CLNXEMS500-UP	ENERGYVISION SUPV LIC ADD 500 METER PTS
CLNXEMS1K-UP	ENERGYVISION SUPV LIC ADD 1K METER PTS

SOFTWARE DOWNLOADS

You can download the following files at the *DOWNLOADS* area of the PARTNER web <https://www.centraline.com/>:

- Software files
- Release bulletin
- User Guide
- Training Video
- Link to the Demo Station (which can be accessed only outside the Honeywell network)

NOTE: In order to download files, you need an account for the Centraline PARTNER web.

Installation

To install the software, copy the JAVA files to the COACH NX modules directory:

```
...Centraline\CentraLineNX-4.2.36.34\modules
```

Copy the demo station in the COACH NX station directory:

```
...ProgramData\Niagara4.2\tridium\stations
```

Then, check the software version using the Software Manager of the platform.

Licensing

For licensing ENERGY VISION NX, you need an account for the Niagara Central.

Honeywell will provide unbound licenses for the software you have ordered.

To bind your licenses, you must login to the Niagara Central and create the software licenses by adding your host IDs for the PC versions and adding the host IDs and serial numbers for the HAWK 8000 controllers.

Basic Licenses

The basic LNXEMC12 license runs on HAWK 8000 with Niagara 4.2, 4.3 or any other ARENA NX Supervisor. This version cannot be upgraded.

The CLNXEMS25 license is the basic version for COACH NX and ARENA NX supervisors. This version can be upgraded with all the other upgrade licenses.

All the upgrade licenses are cumulative.

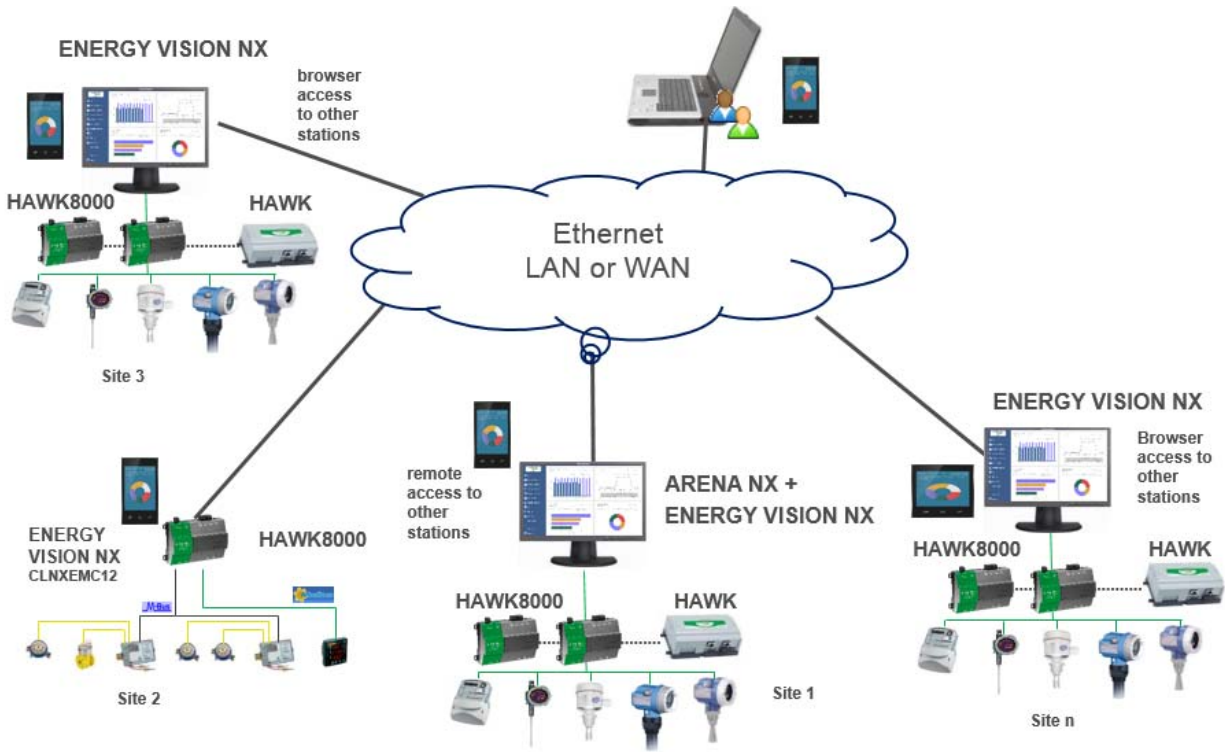
For a scalable solution, you can simply add upgrade licenses.

Energy Vision NX Demo License

- With the non-licensed version of ENERGY VISION NX, you will receive a demo license valid for 1 hour
- Partners can engineer their projects with this demo license
- If you have not finished your presentation within one hour, you can just restart the station and visualize it for another hour.

SYSTEM DIAGRAM

The following figure outlines a typical system architecture:



Manufactured for and on behalf of the Environmental and Energy Solutions Division of Honeywell Technologies Sàrl, Rolle, Z.A. La Pièce 16, Switzerland by its Authorized Representative:

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