



## GENERAL

ENERGY VISION is a simple tool for energy benchmarking and analysis, built on Niagara web graphics technology, and providing a large range of techniques for managing all aspects of energy related data.

EnergyVision is the ideal system to:

- help manage energy, analyze, and optimize the operation of facilities and
- measure performance across multiple levels within your building or estate

It is fully web-enabled and able to integrate data from a wide range of existing systems. HAWK and ARENA AX can provide data from most of the metering devices used in the market. It enables an integrated solution, allowing the user to collate and manage all aspects of their energy data at a central location.

Features:

- Collect and aggregate metering data
- Monitor energy consumption
- Analyze energy profiles
- Detect waste of energy
- Optimize energy efficiency
- Translate raw energy values into monetary units
- Energy benchmarking graphs, with weekly, monthly, yearly views
- Visualization and ranking of consumption between meters, zones, systems, buildings, and sites
- Instant and automatic reports for users, energy managers, and auditors
- Kiosk Mode to raise the awareness of building occupants

## KEY BENEFITS

- Completely integrated into AX – saves costs
- Flexible product palette
- Cost-efficient solution
  - No annual fees
  - Unlimited number of users
  - Unlimited usage after purchasing the license
- Flexible application - covers special customer requirements and project extensions
  - Logos & layout can be customized free of charge
  - All components are part of an AX palette – very low technical support needed
  - existing BACnet Schedules can be used
  - Low training effort for experienced AX users
  - Training video available on the partner web
  - Very easy installation and start-up

## FEATURES

### • 100% Web-Enabled Architecture

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

- Needs to be installed at only a single location;
- Can be accessed via the internet or intranet;
- Requires only one browsers (Internet Explorer, Firefox, Chrome or Safari) to access it from the client PC;
- Can be managed from a single central location, thus making installation and ongoing maintenance simple and cost-effective.

### • Ability to Integrate Data from a Variety of Sources

ENERGY VISION is able to integrate data from a wide range of existing systems. HAWK and ARENA AX can provide data from most commercially available metering devices. ARENA supports the data exchange between the LONWORKS network, M-Bus, and all existing Honeywell installed base (?) to the energy management suite. This makes it unnecessary to completely replace the system. ENERGY VISION enables an integrated solution, allowing the user to collate and manage all aspects of their energy data at a central location.

### • Energy Analysis

The software detects energy waste using a number of predefined analysis templates of metering data, including heating/ cooling energy, electricity, water, and other meters. ENERGY VISION 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 with data, yet many customers find the data difficult to acquire, aggregate, analyze, and leverage. ENERGY VISION delivers this information in real-time, providing the intelligence needed for proactive business and energy management decisions.

### • Optimize

ENERGY VISION uncovers opportunities for efficiency gains and provides data to continuously optimize the performance of each of these building systems - without affecting the comfort of occupants. Once building systems are optimized, ENERGY VISION helps keep the systems operating at highly efficient levels so that you can realize long-term energy reductions and extended equipment life.

### • Financial Analysis

The financial tools within the Energy Management software enable users to convert energy usage into monetary values. Users input single-tariff utility contracts to convert kWh to 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, you can proactively monitor your facility and identify opportunities for cost savings.

• **Different User Levels**

ENERGY VISION can be engineered to support different user levels, energy managers with access to the complete functionality, and users with limited access rights (?).

**ENGINEERING**

The graphical engineering tool (COACH AX) is embedded in the ARENA<sub>AX</sub> system

**KEY ENERGY ANALYSIS FEATURES**

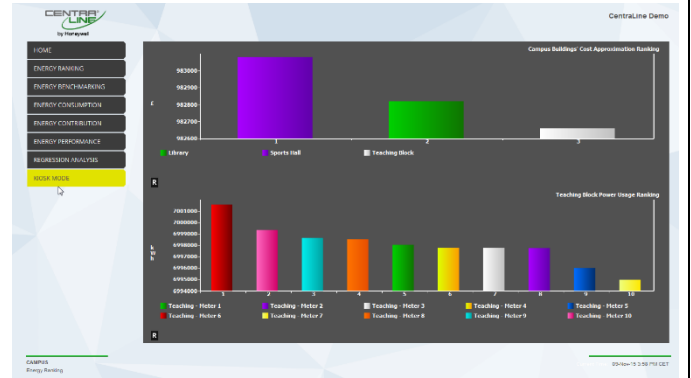
**Daily Consumption**

Detect inefficient energy usage by comparing multiple days across their 24-hr period.



**Energy Ranking**

Visualize and compare the performance of your sites, buildings and plants. Start energy efficiency actions optimizing your biggest consumers.



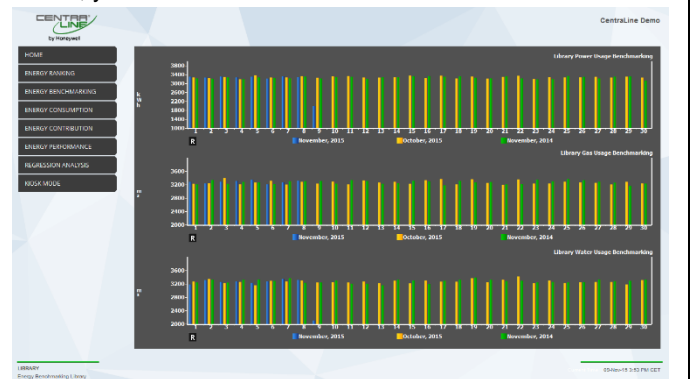
**Energy Performance**

Compare your actual energy consumption with your planned target consumption. Display energies in range, below, and above estimated ranges.



**Energy Benchmarking**

Detect low energy-efficiency areas by comparing consumptions against similar periods, e.g., days, weeks, month, years....

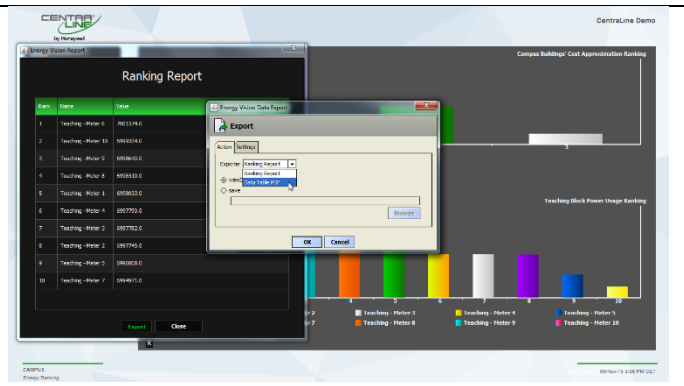


**Energy Contribution**

Get an overview of the energy or monetary energy contribution for different zones, buildings, or time periods.

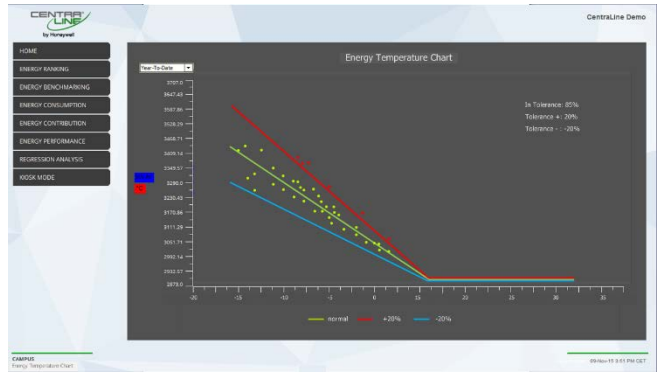
**Energy Efficiency Reports**

Save management effort, generating booklets of reports, e.g., for the energy manager, departments, or energy audits.



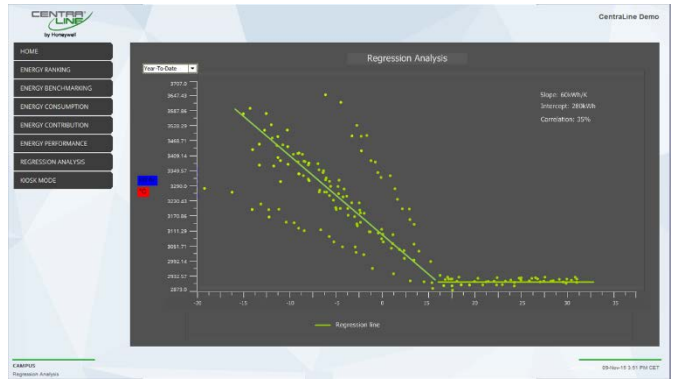
**Energy Signature ET Analysis**

Discover anomalies in energy consumption by visualizing the effect of the outside temperature on the energy consumption.



**Regression Analysis**

Compare your consumption with the line-of-best-fit against outdoor temperature, degree days, or any other value of interest.



**Kiosk Mode**

Get an overview of the most important energy consumers - show a rotating sequence of energy dashboard pages ideal for use in a building foyer or reception area.



## PLATFORM REQUIREMENTS

CentralLine ENERGY VISION is designed to run on Niagara 3.8 on the following platforms:

CLEMC12 runs on HAWK 600 with Niagara 3.8 or any other ARENA AX Supervisor

Order Number (SKU)	Description	Version
CLAXARENASBS05B	ARENA AX small building version for up to 5 controllers	AX 3.8.38 AX 3.8.111
CLAXARENASBS10	ARENA AX small building version for up to 10 controllers	AX 3.8.38 AX 3.8.111
CLAXARENA	ARENA AX supervisor	AX 3.8.38 AX 3.8.111

All the other products – e.g., CLEMS75, CLEMSPRO and CLEMADVCHARTS - will run on ARENA AX Niagara 3.8 only and the following Windows platforms:

- Microsoft® Windows XP SP3 (32 bit)
- Microsoft® Windows Server 2012 Standard/ Enterprise SP2 (64 bit)
- Microsoft® Windows Server 2012 R2 Standard/ Enterprise SP2 (64 bit)
- Microsoft® Windows 7 Professional/ Enterprise/ Ultimate (32/64 bit).
- Microsoft® Windows 8 Professional/ Enterprise/ Ultimate (32/64 bit).
- Microsoft® Windows 8.1 Professional/ Enterprise/ Ultimate (64 bit)
- Microsoft® Windows 10 64 Bit
- VMware – ESXi 5.1.0
- Microsoft Virtual Server 2008

We do not currently provide support for CentralLine ENERGY VISION on any other platforms.

## ENERGY VISION PC

This chapter defines the minimum and recommended hardware requirements for the installation of ENERGY VISION. The hardware specification should be used as a guide only, as the number of concurrent users, metering channels, and read frequency will affect the specific hardware required.

Specification	Minimum	Recommended
Processor type	Intel® Core™ 2 Duo	Intel® Core™ i3, i5, i7
Processor speed	2.4GHz	3.0GHz
RAM	4GB	4GB
Hard disk space	60GB	120GB
OS requirements	Windows 7 pro	Windows 7/10 pro
OS Type	32 Bit	64 Bit

Display	Video card and monitor capable of displaying 1024 x 768 pixel resolution or greater
Network Support	Ethernet adapter (10/100 Mb with RJ-45 connector)
Connectivity	Full-time high-speed ISP connection recommended for remote site access (i.e. T1, ADSL, cable modem)

## ENERGY VISION PRODUCTS

CentralLine ENERGY VISION provides the following functionality:

Product	Description
CLEMC12	License for Hawk or ARENA AX with maximum 12 meters
CLEMS75	Basic supervisor license (for ARENA AX) with maximum 75 meters
CLEMSPRO	Professional supervisor license for ARENA AX
CLEUPGR75PRO	Upgrade from Supervisor Basic to Supervisor professional
CLEMADVCHARTS	Advanced Charts and Reports

## One-hour runtime Version

With Energy Vision 1.3.70 a new demo license mechanism is implemented. The user can engineer the whole project with an un-licensed version. The visualization of the function will run for one hour. After this time the screen will be covered by the text "Unlicensed Version". If the user wants to further visualize the Energy Vision Charts he has to re-start his PC to present, the functions for another hour.

With these new feature the "CLEMDEMO" license is not needed any longer and has been phased out.

Purchasing a normal license and importing the license will transform the unlicensed version in a licensed one, keeping all the data histories.

## Enhanced DEMO Station

To allow presentation at customer's sites, we have provided a demo version for remote access. This demo version is a fully licensed version and all the functions are available.

This demo can be accessed from anywhere except from the Honeywell network:

<http://glt-arena.de:8080/login>

**User & Password(s)**

- admin : Claxadmin123

- guest\_ : Claxguest123
- demo : Claxdemo123

## SOFTWARE DOWNLOADS

You can find the following files on the DONWLOADS section of the PARTNER web <https://www.centraline.com>:

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

You need an account for the Centraline PARTNER web.

## Installation

To install the software, copy the java files into the COACH AX modules directory:

...\Centraline\COACHAX-3.8.38\modules or  
...\Centraline\COACHAX-3.8.111\modules

Copy the demo station in the COACH AX station directory:

...\Centraline\COACHAX-3.8.38\stations  
...\Centraline\COACHAX-3.8.111\stations

Check the software version using the Software Manager of the platform.

## Licensing

For licensing your software you need an account for the Niagara Central.

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

To create your bundled licenses, you must log-in to the Niagara Central and host create the software licenses, adding your host IDs and serial numbers for HAWK controllers to

## Remote Access

ENERGY VISION remote access is possible using the newest versions of the following browsers

- Internet Explorer – 11.0.9600.18097
- Mozilla Firefox – 42.0
- Opera - 33.0.1990.115

or without browser using the new “Java Web Start”:

- „Java Web Start“ - 3.8.111

Remote access to ARENA AX without Web browser

Chrome no longer support JAVA plug-ins, so it is no longer compatible.

Please consult the how to documents for the Java installations:

- [HowToSetupBrowserConnection IE11 R 1 00.pdf](#)
- [HowToSetupBrowserConnection Firefox R 1 00.pdf](#)

## Products and Features of the Basic Products

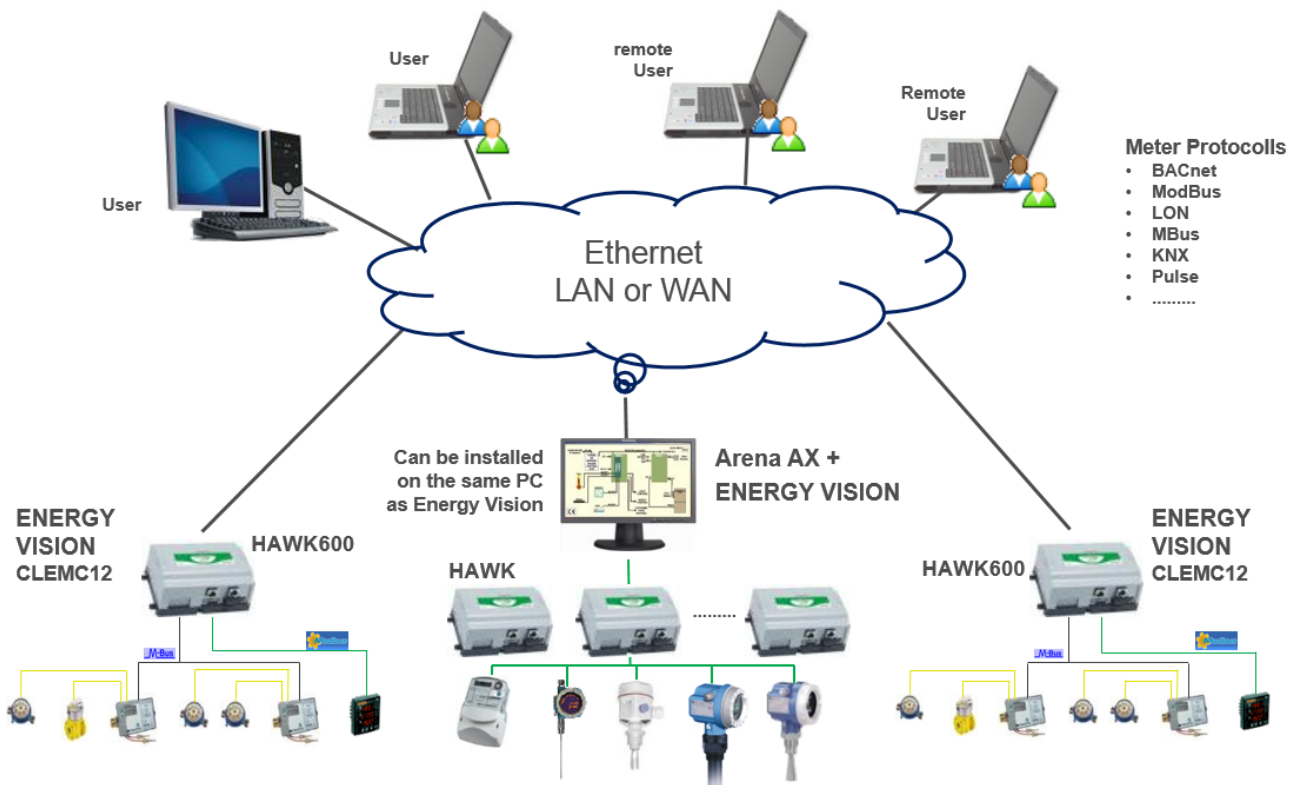
Feature/ License	HAWK 12 meters	Supervisor Basic 75 meters	Supervisor Professional
Web-based system, accessible from anywhere	<input checked="" type="checkbox"/> limited	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Energy benchmarking graphs, with weekly, monthly, or yearly views to compare this week, against last week, against this week last year	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Monitoring & Targeting against historic, pre-set, or degree day data.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
High number of users with user segregation	<input checked="" type="checkbox"/> limited	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Automated email of energy reports	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Aggregation of meter data to compare energy profiles or peak demands for different zones, buildings, or sites.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ranking of consumption between meters, zones, systems, buildings, sites etc...	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Support for a wide variety of meter communications including Modbus & MBUS protocols	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Import or export meter data using .csv files, SQL, web services, etc...	<input checked="" type="checkbox"/> limited	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Kiosk mode – displays a selection of pages in a rotating sequence for display in a building reception area	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Instant reports – generated from each graph or chart as csv or pdf.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
automatically generated reports to PDF file and saved locally, or sent to email accounts.		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Support of multiple languages. Language is a user property	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Energy Temperature Analysis available		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

\* limited = reduced number of instances depending of the lower resources

## Components of Advanced Charts and Reports

Feature/ License→	Availability
Stacked Bars	1.3.70
Regression Analysis	1.3.70
Multi-Regression Analysis	1.3.70

## SYSTEM DIAGRAM



You should connect maximum 1400 meters and 5 sites to a professional license CLEMSPRO. When your project size is bigger, you can install several licenses distributed in the network. You can access the data of the remote stations via remote access. The remote station licenses can be:

- CLEMC12
- CLEMS75
- CLEMSPRO

For the scalable solution you simply create a cluster of ENERGY VISION Supervisors which collect and aggregate the meter data, and a single ENERGY VISION Supervisor which is the user interface. It works very much in the same way as a BMS system. One Niagara instance is used to host the graphics, and multiple HAWKs collect the data.

For ENERGY VISION one instance is used for graphics, and multiple HAWKs/ EAGLEHAWKs or supervisors are used to host the meter aggregators.

The software contains a driver which is built into every copy of ENERGY VISION to handle the communication between the user interface and the aggregators. This creates proxy copies of the aggregators in the user interface station, but the processing of aggregators happens in a remote supervisor or HAWK/ EAGLEHAWK controllers.





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

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