meazon

measure | monitor | manage

# Smart Building

## Energy Management Service

In the developed countries, buildings account for 50%-60% of electricity use. Smart Building solutions are a critical element for any smart city initiative and an area of focus for city governments, utilities, enterprises and building systems vendors. It is important to highlight that buildings are responsible for 40% of total EU energy consumption and generate 36% of GHG. Therefore, buildings must be capable of not only providing mechanisms to reduce their energy consumption - even integrating their own energy sources to ensure their energy sustainability- but also improving occupant productivity.

Undeniably, energy efficiency is one of the key enablers in creating a greener world. With IoT, a mass of new technologies such as the cloud, remote access, data sharing, analytics, connected and shared networks are becoming an essential part of a smart building's operational dynamics, fundamentally changing how buildings are used and operate.

**Today, energy management faces important barriers preventing buildings becoming smarter and efficient:**

- **Monolithic and closed energy monitoring and control systems lock the buildings with specific vendors practically for ever**
- **Large energy submeters, prevent monitoring of many loads simultaneously in the same electrical distribution panel**
- **Expensive equipment and installation costs including wiring**
- **Lack of real-time visibility and monitoring into building systems and operations**

***Keep your building's energy and maintenance costs under control. Use an energy management system that starts small and grows according to your needs whenever you want, as much as you want. Create energy efficiency business cases based on real data and follow them up***

**MEAZON, serving its commitment towards energy efficiency and sustainability in buildings, launched an innovative, end-to-end, secure, scalable and flexible energy management building solution. Meazon Smart Building solution currently consists of three services: Energy Management, Comfort Zone and Energy Analytics & Forecasting.**

This combination of services allows a building to sense its own environment and react to both real-time and historical data for the maximum operational efficiency.

## ENERGY MANAGEMENT SERVICE

Energy management as a service is a continues improvement process that creates value for buildings including immediate cash flow optimization through reduced energy bills and commercial value increase over the years. The initial investment usually is reasonable since the project can start small and increase gradually as benefits for the building become apparent.

**Meazon provides an effective strategy to tackle the long-term energy challenges that hold back energy efficiency investments.** Meazon Energy Management service is ideal for monitoring real time energy data (usually 15-minute measurements) of distributed sites and buildings, with various loads monitored in each site, to derive a reliable energy profile and valuable actionable insights about energy consumption.

**''Meazon makes energy management easy & affordable''**

**There is always the question: "Why do I need to constantly monitor the energy consumption in an analytic and detailed manner in my building(s) or plants? I've done this once at the beginning of my energy efficiency project and this should be enough".**

**The answer is relatively simple: There is no such thing as a non-monitored system, especially when its performance is related to human behavior. Once the energy interventions, related to energy efficiency, have been implemented in a building, constant monitoring in a detailed and real time manner is required to make sure that the contracted energy savings are delivered and therefore monetized.**

This service can also cope with controlling on/off connected loads adhering to a logic that resides either in the cloud, or the gateway or the DinRail submeter. It is highly robust and redundant, storing energy data and schedules both on meter and gateway level.

Meazon Energy Management service can be combined with other services such as **multi-tenant billing, energy analytics, customized reporting and forecasting**. In addition, with this Energy Management Service, Meazon can identify power quality characteristics such as harmonics, voltage or current distortion, enabling further understanding of power utilization within a building.

**Lately, Meazon provides also NB-IoT and LTE Cat M1 energy data communication option, increasing coverage and cost efficiency. No more need for a field gateway. Even easier to install and maintain. Enabling new business models such as measure as a service.**

**Components:**

- DinRail Energy Submeters
- Janus field gateway (optional)
- Meazon M3 platform

TÜV AUSTRIA HELLAS
EN ISO 14001:2015
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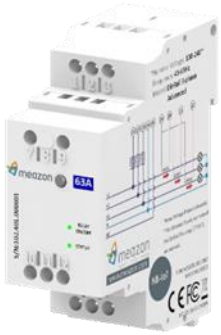
## DinRail Energy Submeters (MID & NB-IoT meters)

Electricity submeters are important for well-planned building energy retrofits and provide all the information needed to measure and therefore manage, energy usage.



DinRail Advanced Nb-IoT


Janus Gateway

Measured parameters: Current, Voltage, Harmonics, Frequency, Active/Reactive Power and Active/Reactive energy

Meazon Energy Submeters, are highly compatible with 3-phase as well as 1-phase installations, **highly accurate** (error <1%), **revolutionary small**, with local memory for storing up to 3 weeks of energy data, on/off schedules and control capability.

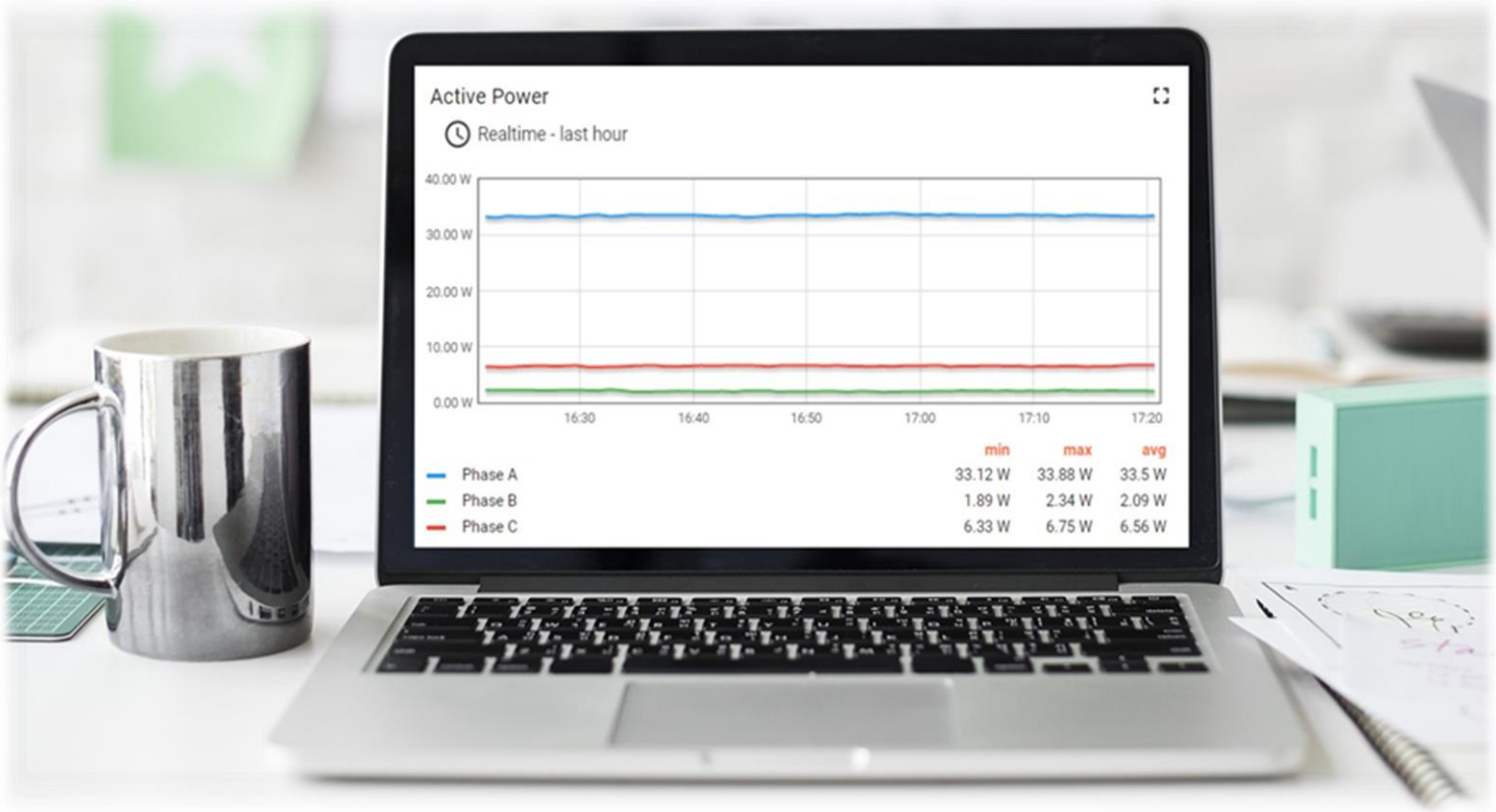
**Meazon provides two options to gather data from submeters: using a field data aggregation device (Meazon Janus Gateway) or using the NB-IoT and LTE Cat M1 communication without the need for a gateway**.

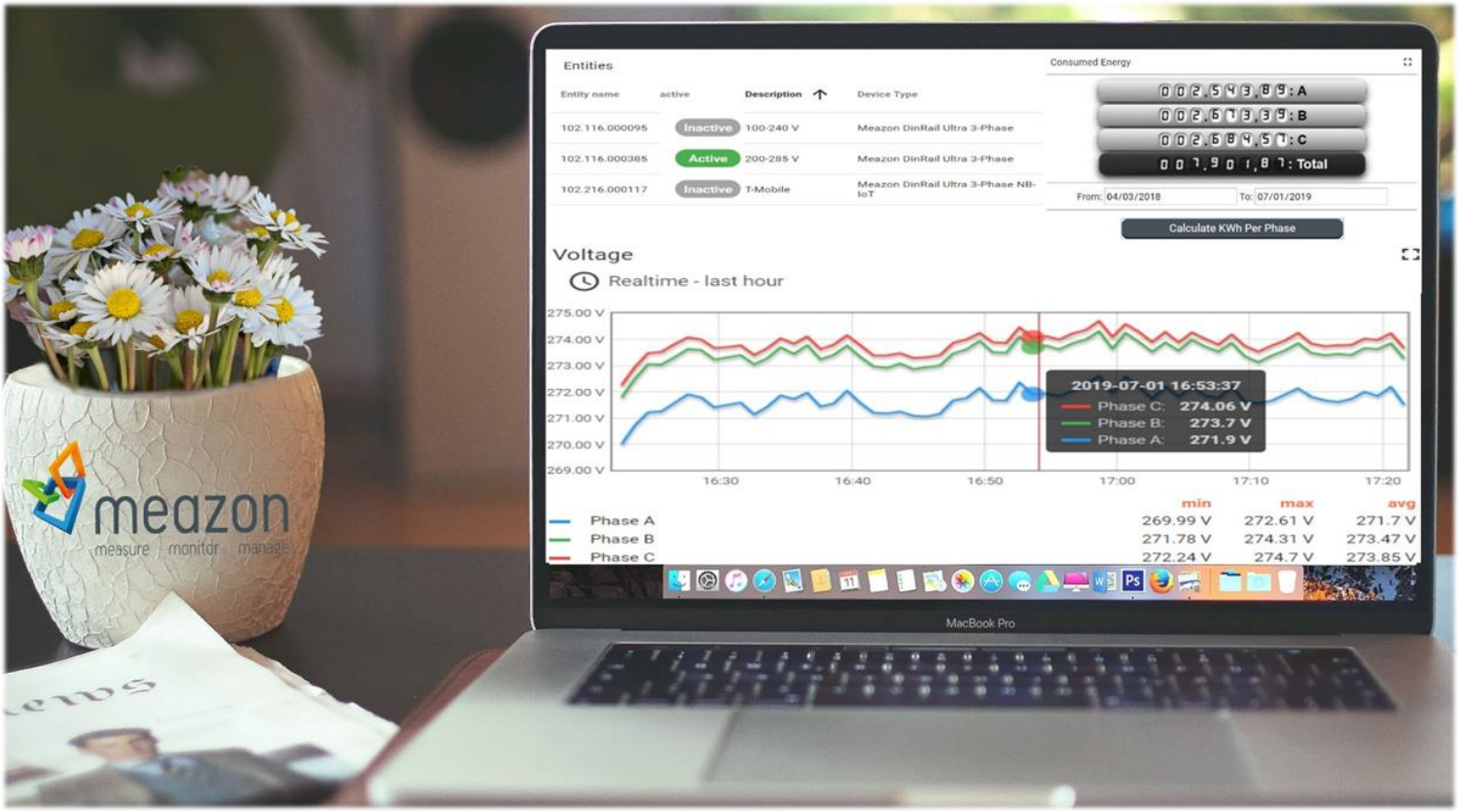
## Meazon M3 platform

**Meazon M3 platform is a fully customizable, scalable, user friendly and secure IoT platform, capable of visualizing real time data from energy submeters, sensors and other smart city products such as Meazon Smart Polis Hub Controllers, Meazon IoT Water Meters, Meazon Cerberus EV Metering Plugs etc.**

Meazon M3 platform, features smart building energy loads control capabilities, including scheduling and light controllers' dimming. The information is analyzed per appliance, line, phase, site or geographic area. Data can easily be exported for off-line processing in Excel or Business Intelligence systems.

## "Collect, analyze & monetize data"






## Features

- ✓ User friendly, fully customizable dashboard with actionable insights and KPIs.
- ✓ Information access from anywhere, anytime.
- ✓ Aggregation and comparison of time series data across metrics, devices, phases, and locations.
- ✓ Real time monitoring & management of buildings' data per distributed location, phase, line and appliance
- ✓ Advanced intelligent reporting including regression modelling, auditing, data heat maps, load profiling and model baselines (combined with Analytics service)
- ✓ Real-time customizable notifications if a problem occurs along the grid
- ✓ Display and store data in one place
- ✓ No gateway needed (NB-IoT)
- ✓ US Department of Energy awarded

# Benefits:

**Scalable, reliable, cost efficient:** Meazon Energy Management service, is modular and tailor made to the needs of each corporate customer to fit at any building's energy management requirements. It can start small and grow big, managing, real time, the energy in multiple geographically distributed sites and buildings, keeping the total cost of ownership low.

**Affordable solution boosting energy efficiency investments**: Up to now real time energy data acquisition was an expensive task. Meazon changes that by introducing a cost-effective, accurate, wireless system capable of measuring various electric loads within a building and wirelessly communicating the data. US Department of Energy awarded Meazon as the only technology meeting its energy submetering specifications.

**Ideal tool for multi-site and multi-building organizations:** There are no limits to the number of information points or geographical locations that can be connected to the system making it an ideal energy monitoring and management tool for multi-site and multi-building organizations.

**End-to-end solution:** Although Meazon's system is interoperable with 3-party energy submeters and IoT platforms, using Meazon energy submeters and Meazon M3 platform, offers users more features and reduced operations and maintenance costs.

**Environment protection/ Reduce city carbon footprint:** Energy Management service drastically optimizes environmental impact such as reducing carbon emissions associated with excessive energy use. Contemporary green building rating systems recognize the energy saving potential and award points towards the use of sophisticated lighting, shading and heating, cooling and ventilation system controls.

**Real Time Alerts:** Alert reporting can identify anomalies, missing data or connection failures early enough to reduce maintenance and operational costs. This also takes pressure off the building's management staff and improves results – the sooner you know about the problem, the sooner you can fix it.

**Multitenant billing:** Energy Management service not only creates an energy efficient environment, but also accurately assigns energy consumption and bills in a multitenant environment, avoiding unnecessary conflicts.

# About Meazon

**Meazon materializing its mission - Measure | Monitor | Manage - is a global innovator in energy data acquisition technology. Our pioneering submetering technology has been recognized as the only winner of US Department of Energy's wireless submetering challenge - 2017. We enable energy digitization by providing game-changing submeters & controllers connected to the cloud, supporting services such as energy efficiency, smart street lighting, preventive maintenance, demand-response and distributed energy resources planning in low voltage networks. We get involved in demanding projects and deliver consistently.**