



meazon
measure | monitor | manage

Fuzzy Experts

Energy Analytics & Forecasting





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

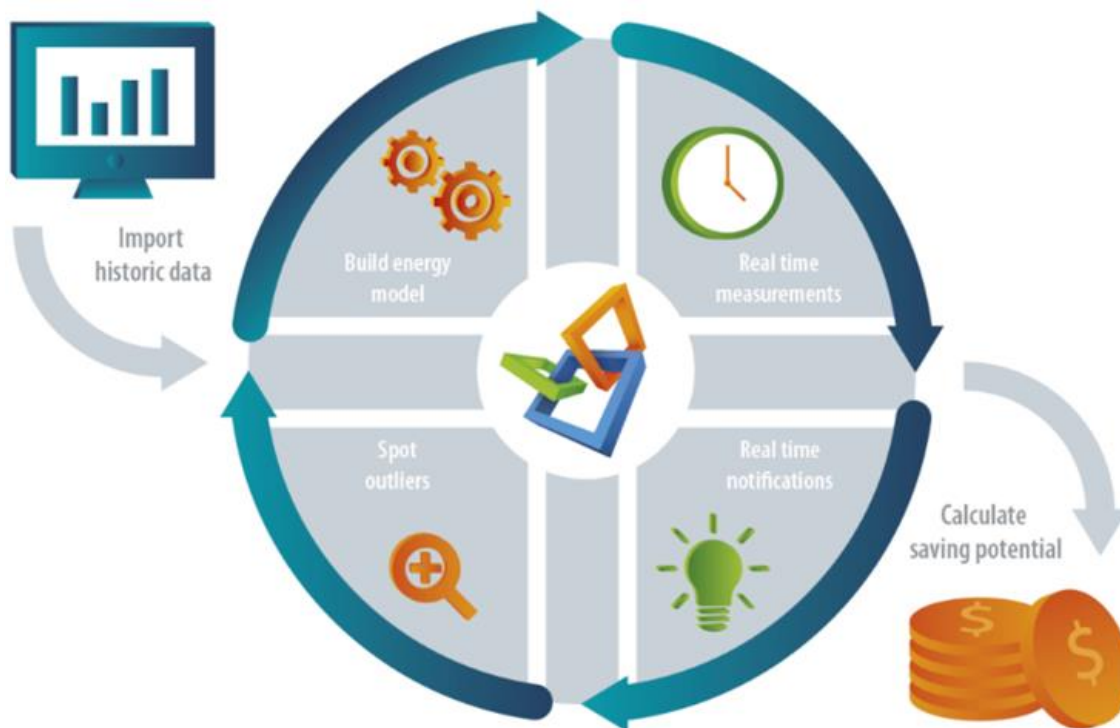
MEAZON, serving its commitment towards energy efficiency and sustainability in buildings, launched an innovative, end-to-end, secure, scalable and flexible energy management building solution. Meazon Smart Building solution currently consists of three services: Energy Management, Comfort Zone and Energy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

Energy analytics is the process of deriving business insightful information out of a series of energy consumption data, employing advanced data analysis methodologies such as Machine Learning (ML) and Artificial Intelligence (AI) techniques. Utilizing energy analytics tools, all the data is stored in a cloud-based environment, making access to data and reporting of the findings much easier and faster.

Meazon Energy Analytics & Forecasting is a cloud-based service that makes energy data transparent, reveals initial savings potential and provides building owners with customized visualizations of energy profiles. Energy consumption prediction and anomalies detection are possible.



Meazon expanded its services towards the Energy Analytics sector, by developing an energy demand forecasting model efficiently predicting consumption in buildings equipped with smart meters.

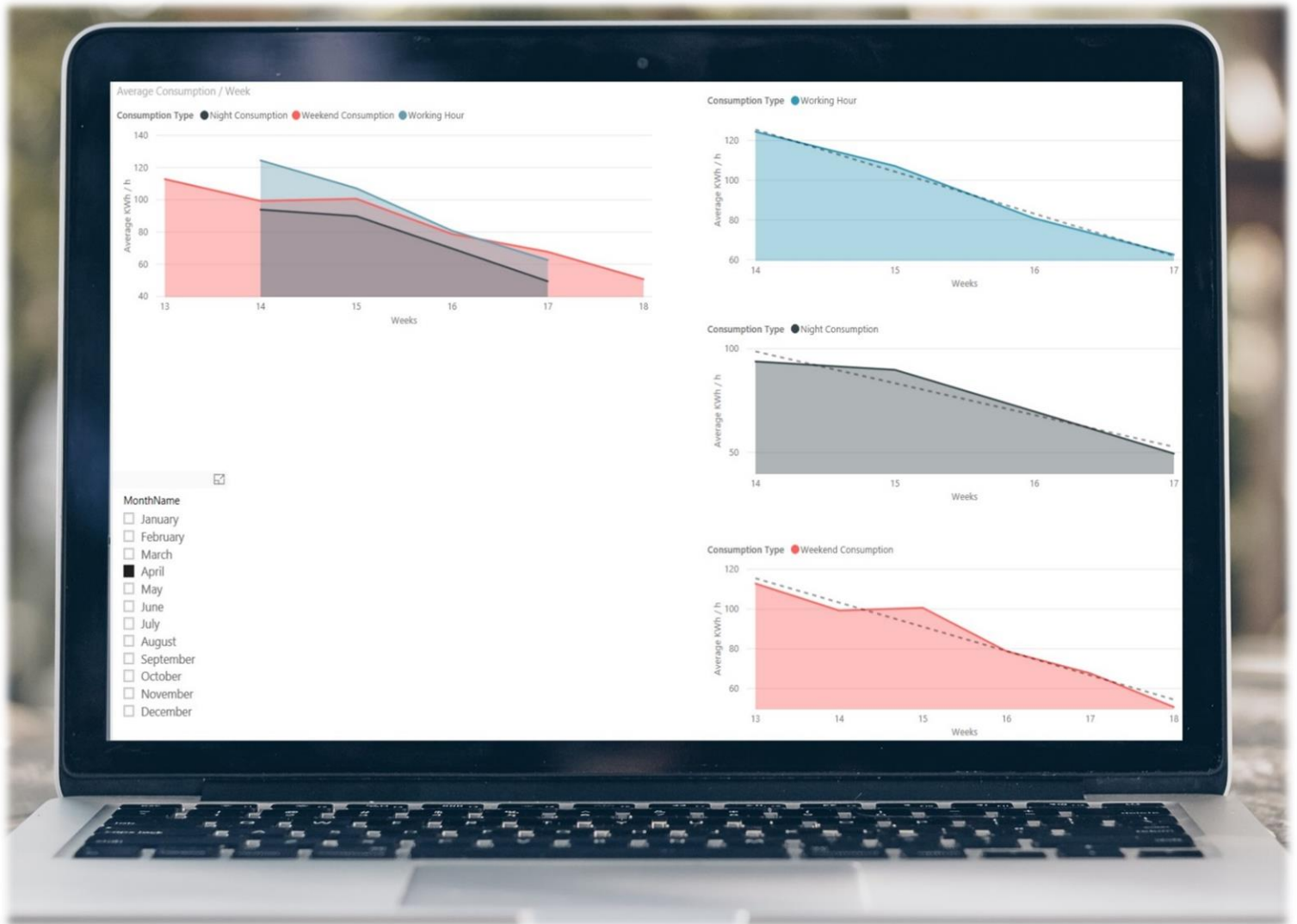
Features:

- ✓ Real-time analytics can identify and create alerts for abnormal behaviors.
- ✓ Smart Buildings solution can collect real time energy data in high resolution. Both real time and high resolution are crucial factors when analyzing energy data
- ✓ Historical data are used to build a customer profile model based on energy consumption habits
- ✓ Use of Machine Learning & AI techniques to split total energy consumption into patterns, based on building characteristics & other variables.
- ✓ On each pattern, using Machine Learning & AI, energy outliers can be spotted.
- ✓ Reveal potential savings for each pattern
- ✓ Short-term consumption prediction
- ✓ Hardware & software assisted load disaggregation



The model aims at providing the building owner with the predicted energy consumption, but also detecting possible anomalies that may occur in the building's function. State-of-the-art machine learning algorithms have been used for the development of the demand forecast methodology, which can be applied to both offline and online (real-time) analysis.

Meazon has developed a framework that exploits Machine Learning/ Artificial Intelligence techniques to accurately predict the energy consumption at different time horizons. The horizon at which one wishes to get an energy prediction may vary from a quarter, an hour, or even a whole day, depending on specific needs. The forecasting algorithm considers energy, time, and weather-related features to build a robust model able to predict the energy consumption with as small error as possible.



Benefits:



Reactive & predictive maintenance made possible



Smart Building solution can collect real time energy data in high resolution. Both real time and high resolution are crucial factors when analyzing energy data



Real-time analytics can identify and create alerts for abnormal behaviors



Identification of unnecessary equipment running at night/weekends

“Do you want to know what will be your energy consumption in the next few minutes or hours?”

Do you need to generate an alarm when the power consumption is not within the expected limits?”

Meazon is the answer

TÜV
AUSTRIA
HELLAS
EN ISO 14001:2015
No. : 20051190001910
EN ISO 9001:2008
No. : 010140478



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.