



meazon
measure | monitor | manage

Our Mission

Through our technology we **monetize** energy related business decisions

Our Value

We develop technology to detect & process the **energy signature** of equipment and buildings, used by our customers and partners to ...

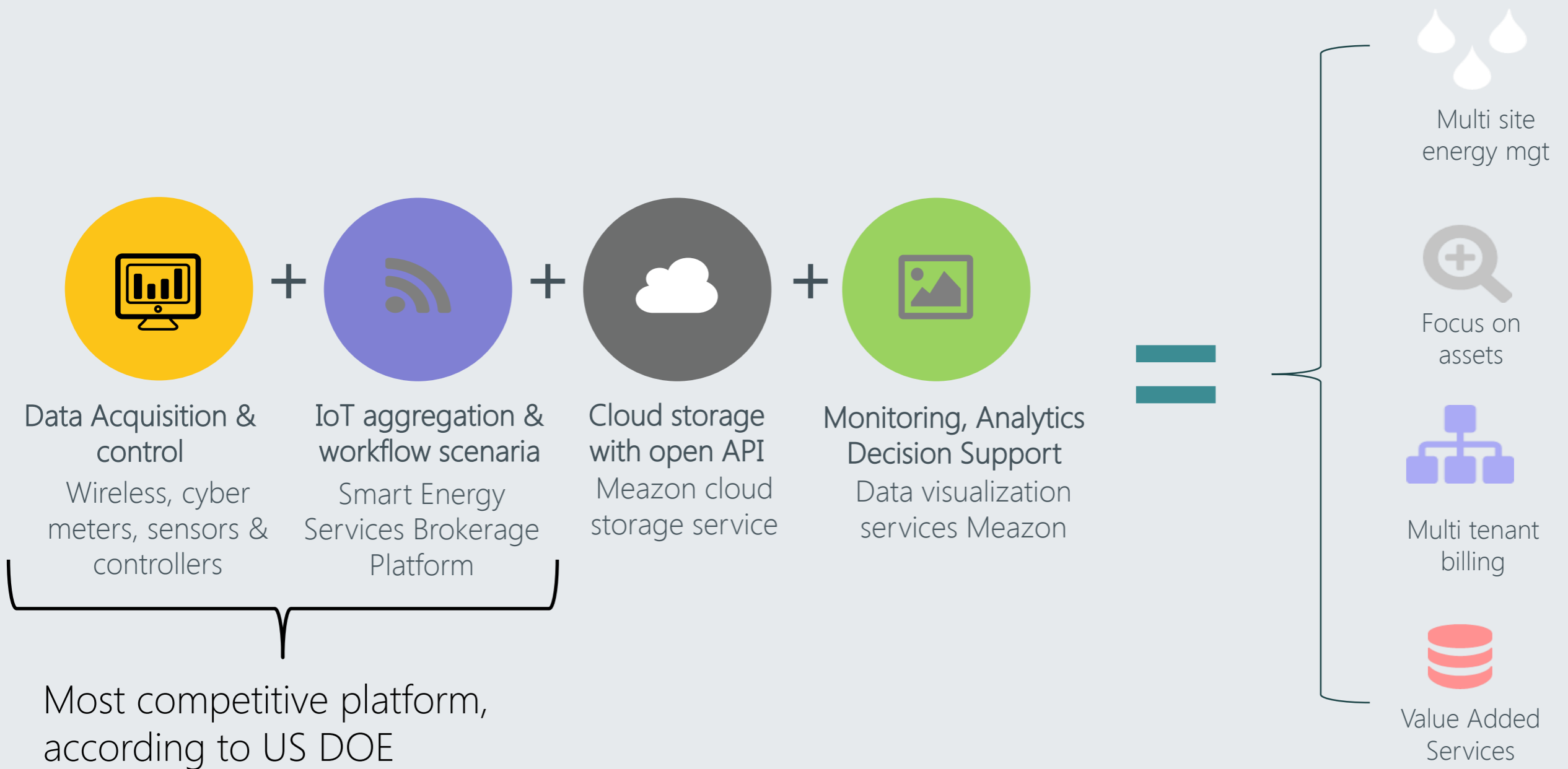
- optimize operations
- improve energy efficiency
- prevent costly maintenance
- support demand management
- support regulatory compliance



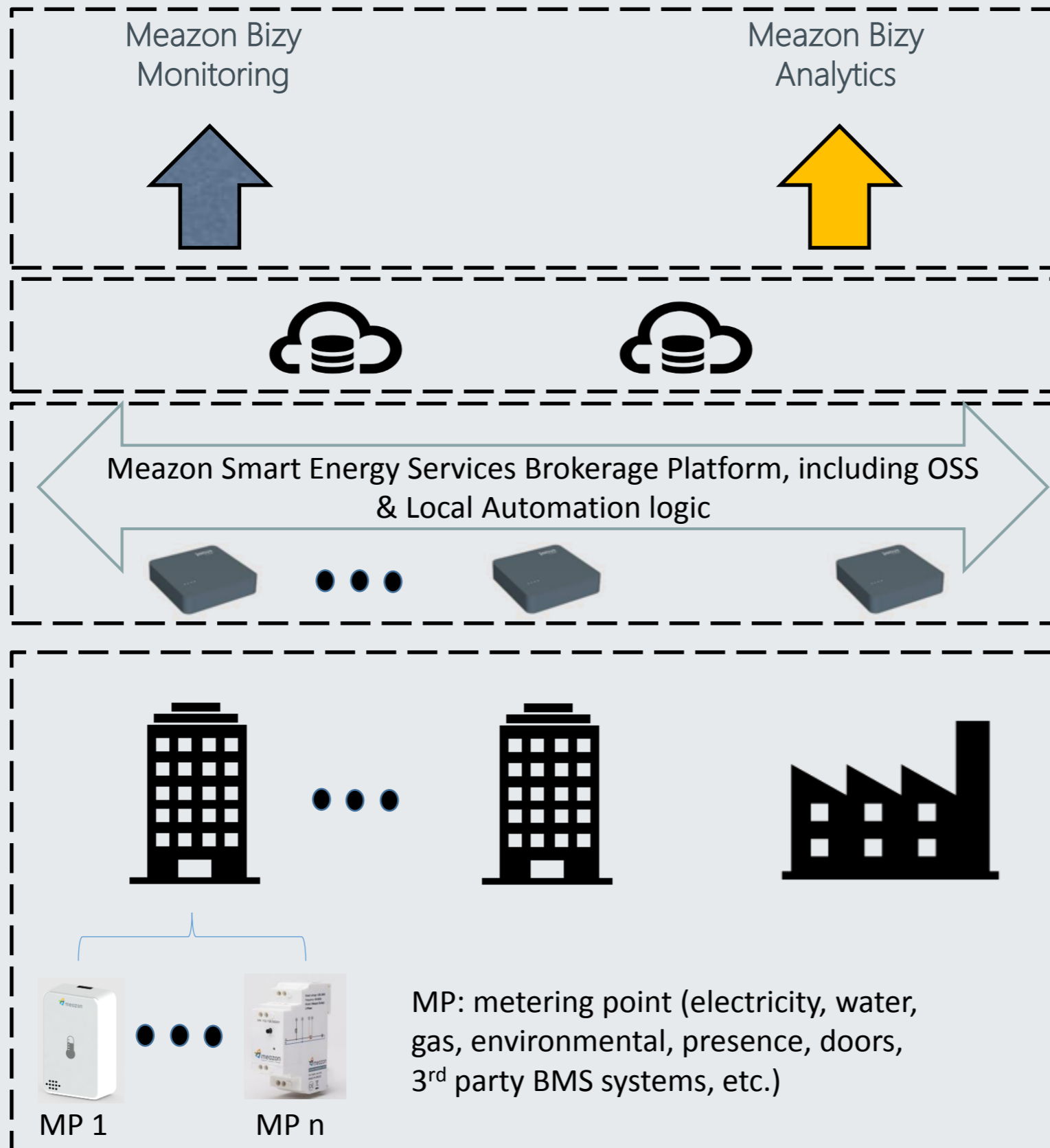
Our technology



How it works



Architecture



Meazon Technology



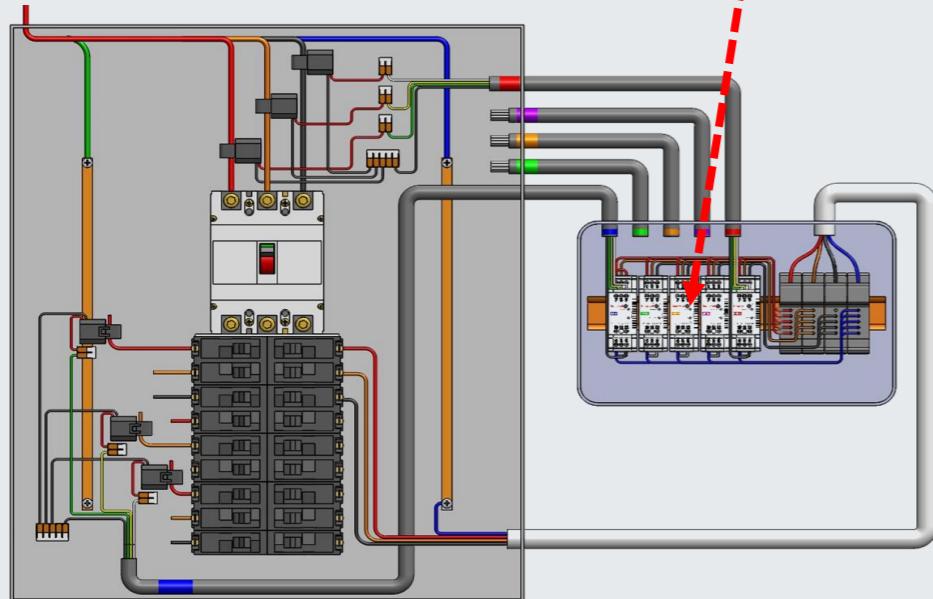
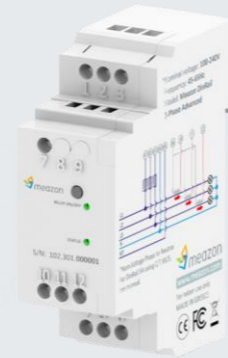
Meazon DinRail energy cyber-meters & controllers incorporate more than

- ... 6.000 lines of embedded SW
- ... enabling unique capabilities such as:
 - robustness, redundancy, wireless networking, self-scheduling & uniquely small size.

Meazon DinRail



Winner of DOE Wireless
Submetering Award 2017



Miniaturized, wireless energy cyber-meters with embedded logic

Designed for fast installation

Automated remote commissioning

Measurements from 63A to 2000+A

Accuracy 99%+

Three levels of data redundancy on meter, gateway and cloud levels

Low Total Cost of Ownership (TCO)

According to US DOE Meazon technology can boost buildings' energy efficiency in US

DOE Challenge

Specification Key Requirements

- Low cost target
- Electrical energy measurement
- Reliable wireless data transmission to an onsite collection point
- Operation independent from existing building networks

Opportunities

- Better understanding of when and how energy is used can help building owners reduce costs by taking actions based on data.
- Scalable, low cost wireless metering systems allow small initial installations that can inexpensively be expanded to measure additional loads in the future.
- Wireless metering systems can be used independently or to complement a building automation system to assess energy use in specific areas and improve performance.
- Obtaining and evaluating metered data can support energy cost allocation among tenants, meet regulations, and achieve sustainability goals.
- Energy data can reveal operational opportunities beyond energy savings, including occupancy levels, resource utilization, and other infrastructure needs.



<https://energy.gov/eere/buildings/wireless-metering-challenge>

Wireless Metering Challenge

Initially, 30 commercial firms indicated interest in participating in the Wireless Metering Challenge. A phased review approach was used to evaluate the candidate technologies.

Phase 1, Manufacturers submitted product and cost information to affirm their qualifications. Several firms met the basic criteria and approached the cost target.

Phase 2. Two firms, both small businesses, demonstrated full compliance with specification requirements by supplying independent laboratory test results and product certifications (UL61010).

Phase 3. The in-building communications test was performed on one system at the GSA Headquarters Building in Washington, DC. in February 2017.

Completion. The wireless technology company Meazon met the specifications and was recognized by DOE on May 15, 2017, for their exemplary performance in meeting the specifications. Although the Challenge has ended, the performance specification stands as an opportunity for other organizations to enhance the market for low cost submetering.

Meazon Zi-Clamp

Product innovation awards from

European Utility Week 2015

Energy Manager Today (US)

Fits everywhere & Plug 'n Play!

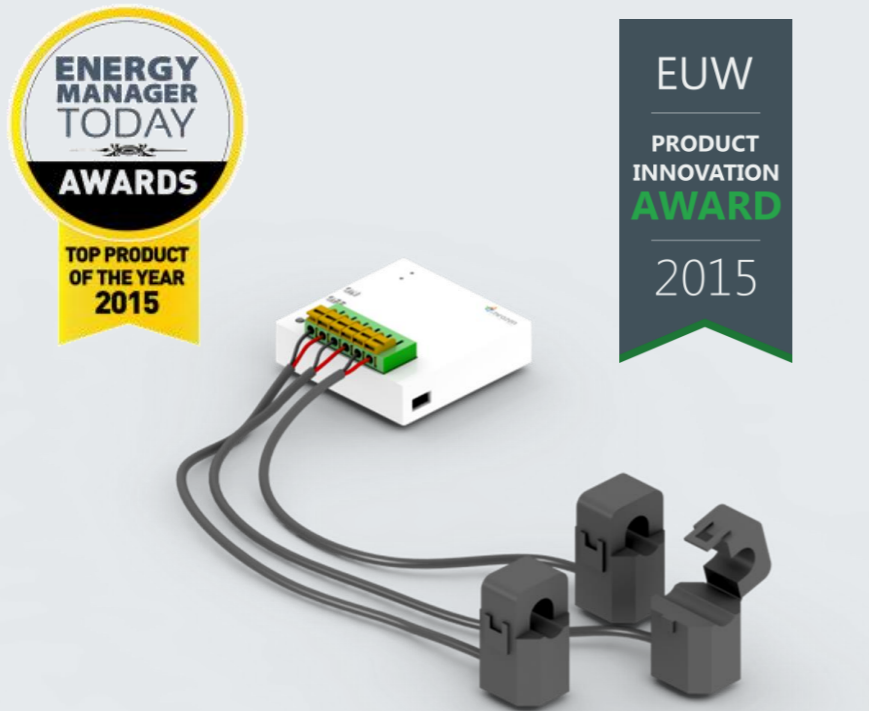
Minimizes installation time

No wires, no downtime

Measures current, cloud connected

No power needed (wireless energy harvest)

Ideal for Asset Management



Meazon Janus gateway



Linux based HW agnostic Gateway

ZigBee stack development tool

Deployment of 10ths of meters made super fast

Local and cloud energy monitoring

Loads characterization made easy

ZigBee based and IP communication

Fully configurable & controllable

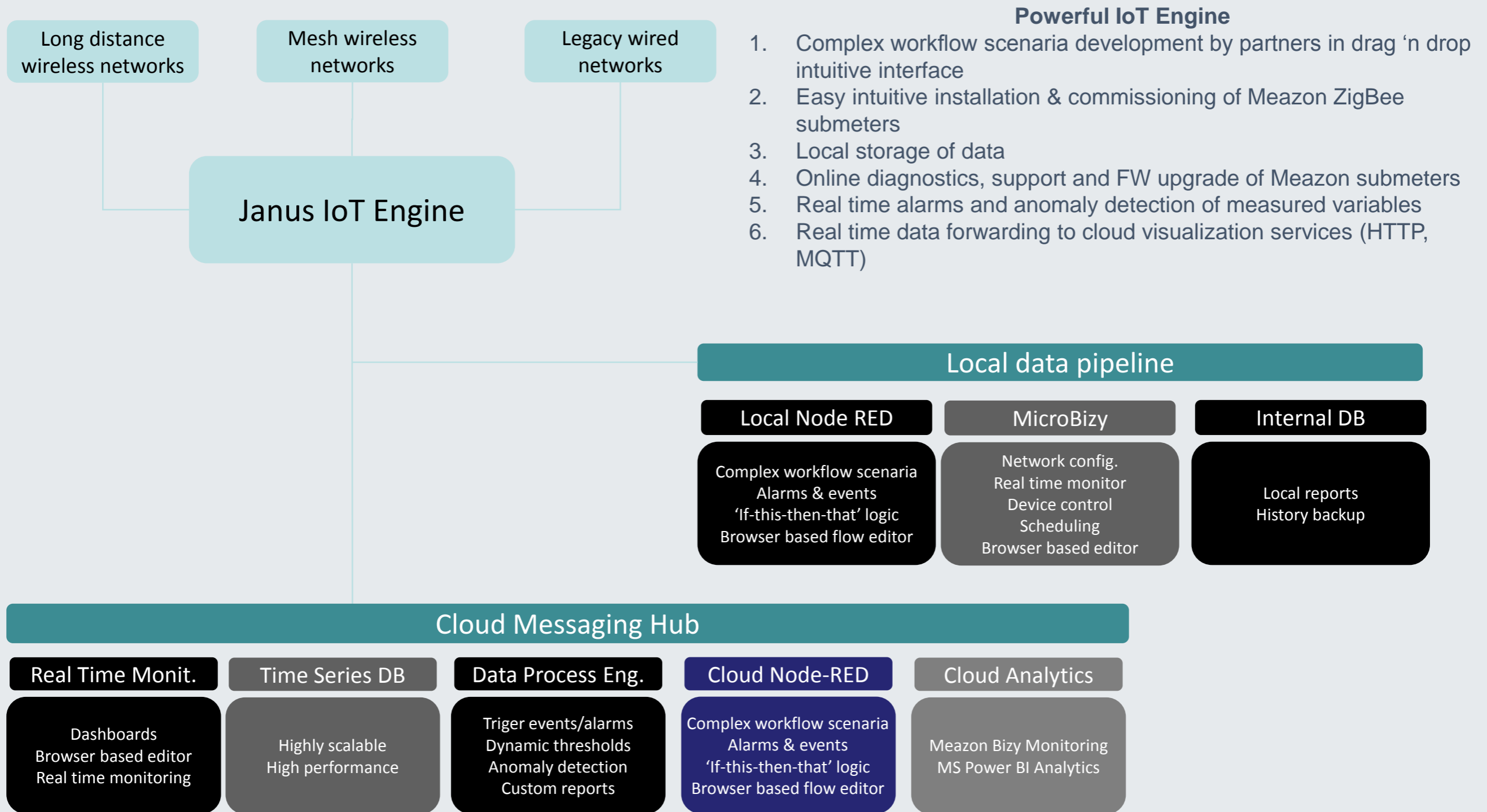
Ideal for maintenance of many meters installations

Node Red automation workflow scenario builder

Powerful IoT engine (see next slide)



Janus - powerful IoT engine



Powerful IoT Engine

1. Complex workflow scenaria development by partners in drag 'n drop intuitive interface
2. Easy intuitive installation & commissioning of Meazon ZigBee submeters
3. Local storage of data
4. Online diagnostics, support and FW upgrade of Meazon submeters
5. Real time alarms and anomaly detection of measured variables
6. Real time data forwarding to cloud visualization services (HTTP, MQTT)

Local data pipeline

Local Node RED

Complex workflow scenaria
Alarms & events
'If-this-then-that' logic
Browser based flow editor

MicroBizy

Network config.
Real time monitor
Device control
Scheduling
Browser based editor

Internal DB

Local reports
History backup

Cloud Messaging Hub

Real Time Monit.

Dashboards
Browser based editor
Real time monitoring

Time Series DB

Highly scalable
High performance

Data Process Eng.

Triger events/alarms
Dynamic thresholds
Anomaly detection
Custom reports

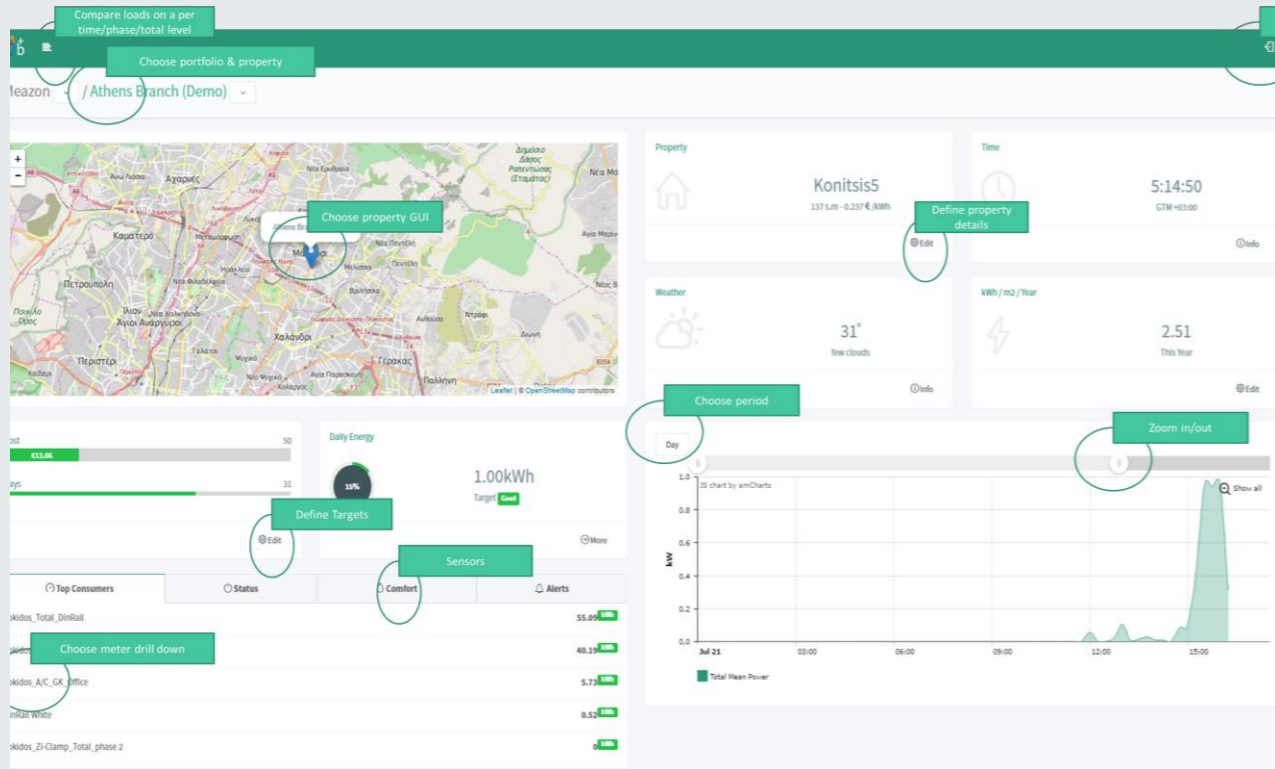
Cloud Node-RED

Complex workflow scenaria
Alarms & events
'If-this-then-that' logic
Browser based flow editor

Cloud Analytics

Meazon Bizy Monitoring
MS Power BI Analytics

Meazon cloud service

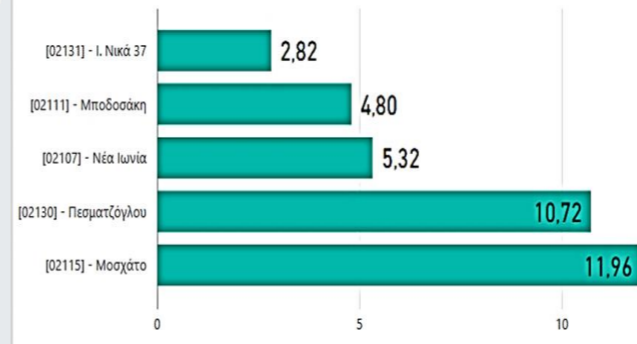


use Meazon's or build customized visualization FAST, based on Microsoft's Power BI

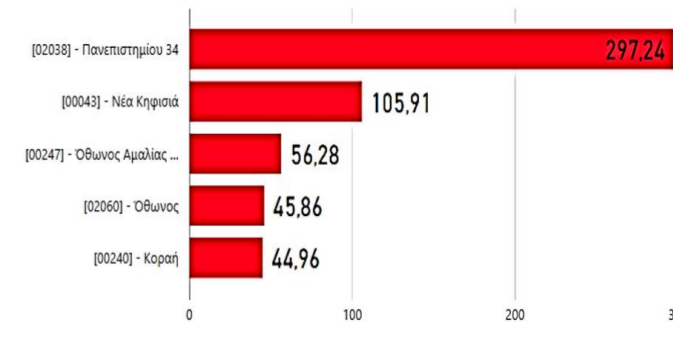


monitor geographically distributed buildings on a per load, phase, sensor or plug level, set targets and make easy comparisons download graphs and data set schedules for turning on and off devices use Meazon analytics reports or build your own using MS Power BI

Top Performers at Energy / m2



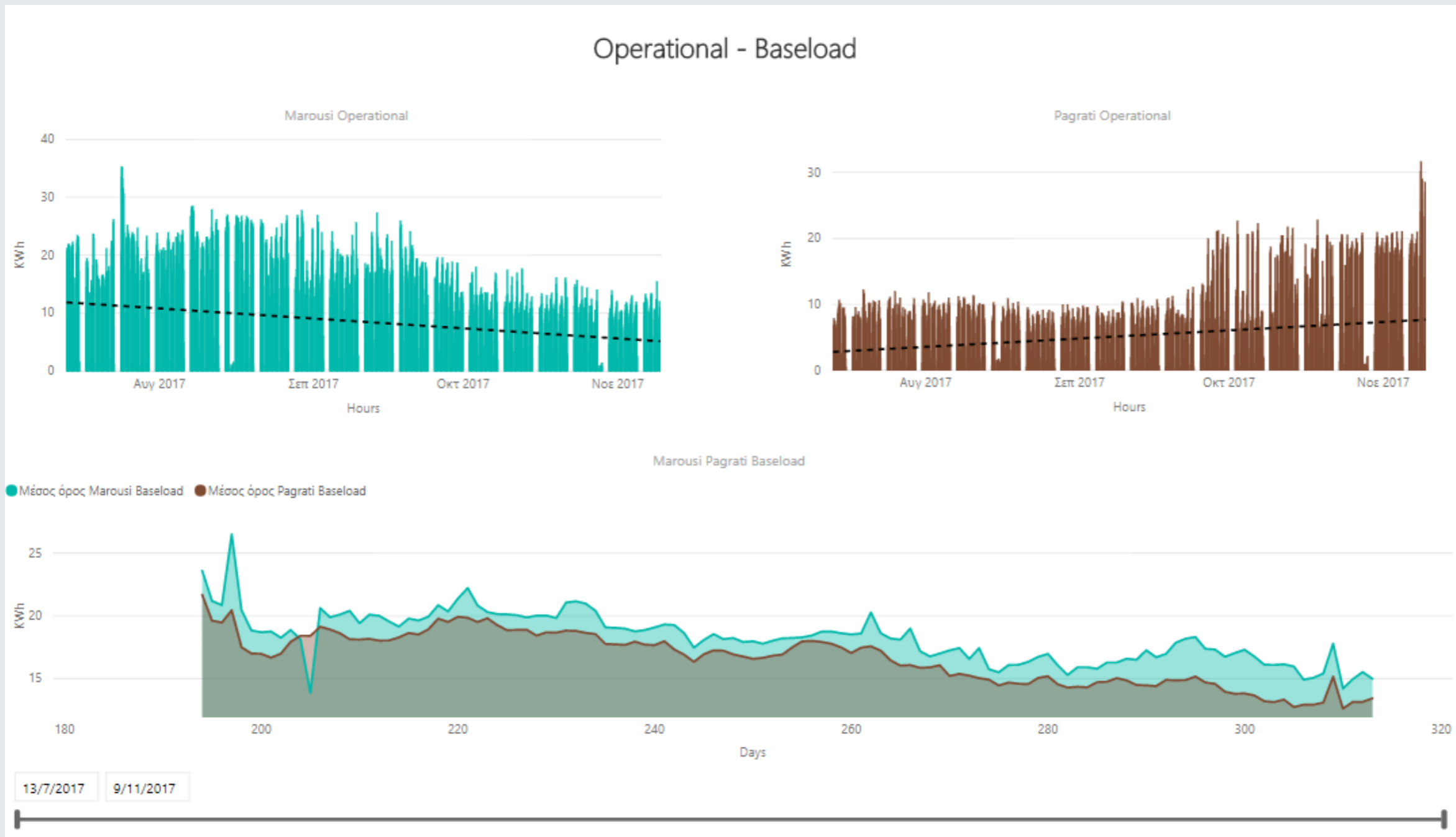
Bottom Performers at Energy /m2



Description	MainEnergy	SqMeters	MainEnergyPerSqM
[02038] - Πανεπιστημίου 34	29.724,03	100,00	297,24
[00043] - Νέα Κηφισιά	27.855,40	263,00	105,91
[00247] - Όθωνος Αμαλίας Πατρέως 1	36.175,45	642,79	56,28
[02060] - Όθωνος	151.427,98	3.302,00	45,86
[00240] - Κοραή	31.358,61	697,50	44,96
[00017] - Αιγάλεω	10.716,82	274,14	39,09
[02036] - Φιλελλήνων	150.643,74	4.276,00	35,23
[00205] - Λ. Ηρακλείου	17.554,11	517,70	33,91
[00101] - Βουκουρεστίου	54.997,46	1.632,05	33,70
[00015] - Πάτρα - Αγ.Ανδρέου 26	16.544,65	590,00	28,04
[02044] - Καλλιρόης 19	42.751,88	1.941,67	22,02
[00040] - Κορωπίου	10.225,08	474,94	21,53

Year 2016
 Month 01 02 03 04 05 06 07 08 09 10

Baseload calculation



Where to use Meazon

Energy efficiency projects

- Understand how power is used during production and non-production hours and days
- Identify saving opportunities and create business cases for energy efficiency investments

Sustainability certifications, regulations and targets

- Use energy data for energy and sustainability certifications (e.g. ISO 50001)
- Use historic data to report on energy and sustainability targets

Optimize production operational costs

- Understand the amount of energy consumed per production phase
- Identify maintenance needs of production equipment and prevent production down time
- Build business cases on substituting production equipment

Energy management services

- Utilities offer value added services to their consumers
- Utilities offer demand response services
- Smart city projects



Our Value Proposition

Small(est) meters	→	Monitor more circuits, increase insight
Easy, wireless installation & commissioning	→	Save 40% installation time
Build in intelligence	→	Redundancy in meter level
Open system	→	Avoid single vendor lock in
Cloud based OSS	→	Flexibility, agility, quality of service
IoT scenarios (recipes) builder	→	Flexibility & partner value add
Cloud based services	→	Scalability, efficiency, flexibility
MS Power BI based analytics	→	Top class analytics, partner value add



Adoption



Market acceptance



Installations in 5 continents

Cyber-meters shipped: 10.000

Cyber-meters contracted 20.000

Bizy service: 1.000 metering points

Analytics service: 300 organizations



Industry recognition



US Department of Energy

recognized Meazon as the only winner in energy submeter [challenge](#) (2017)



European Commission

recognized as a high quality project proposal in a highly competitive evaluation process (2017)



T-Mobile
hub:raum

selected Meazon as NB-IoT application pilot partner (2017)



LG

selected Meazon as one of the most promising technologies in energy efficiency (2016)



Shell

Selected Meazon as finalist in US Great Lakes innovation competition (2016)



SXSW Eco

Selected Meazon as a startup show case finalist (2015)



Energy Manager Today

Product innovation award (2015)



European Utility Week

Product innovation award (2015)



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www.meazon.com