



monitoring made easy



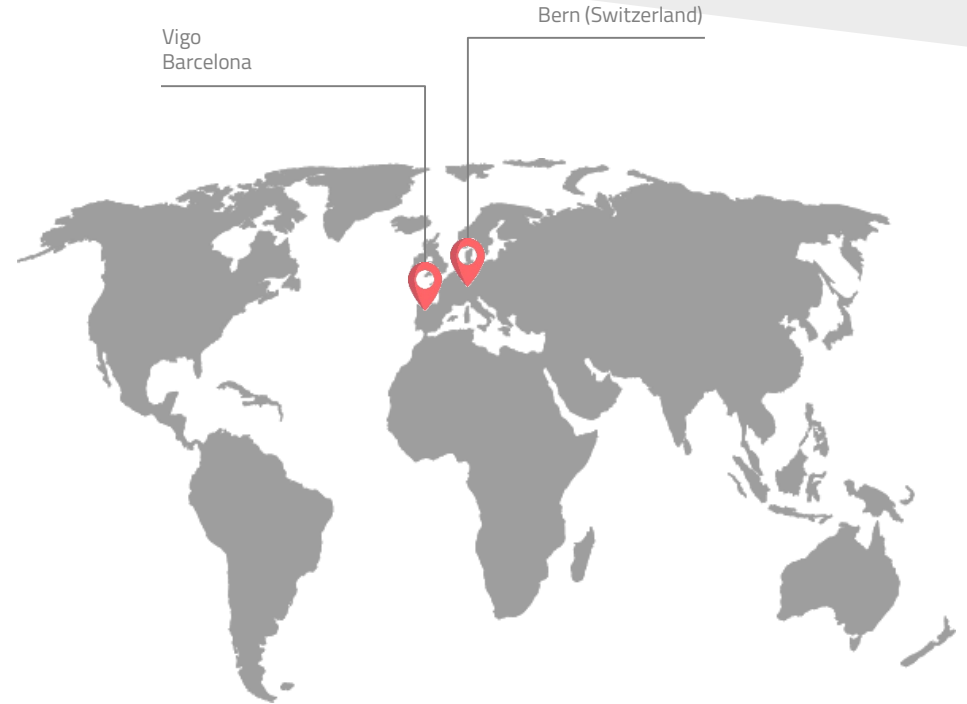
# Who we are

**Muutech** is a technology-based company that offers global solutions in the field of industry 4.0 and **monitoring** (monitoring as a service)

Our main lines of action are the monitoring and control of **production processes**, **telecommunications** and **IT** environments.

We fight against **process and system stoppages**.

Our best asset is our people. We have a multidisciplinary engineering **team** specialized in new monitoring technologies.





We provide a **monitoring platform** that allows



**Real-time** data collection from any source (**IT, OT, IoT, BI**)  
- In the cloud or on-premise -



**Interrelation of information**  
- Regardless of location, source or manufacturer -



Data management from a single **centralized interface**



**Predictive analytics** and **machine learning**  
Generation and notification of **intelligent alarms**

*confidential*



Simplified visualization through **custom dashboards** and **AR**



Data integrity and confidentiality through **encryption**



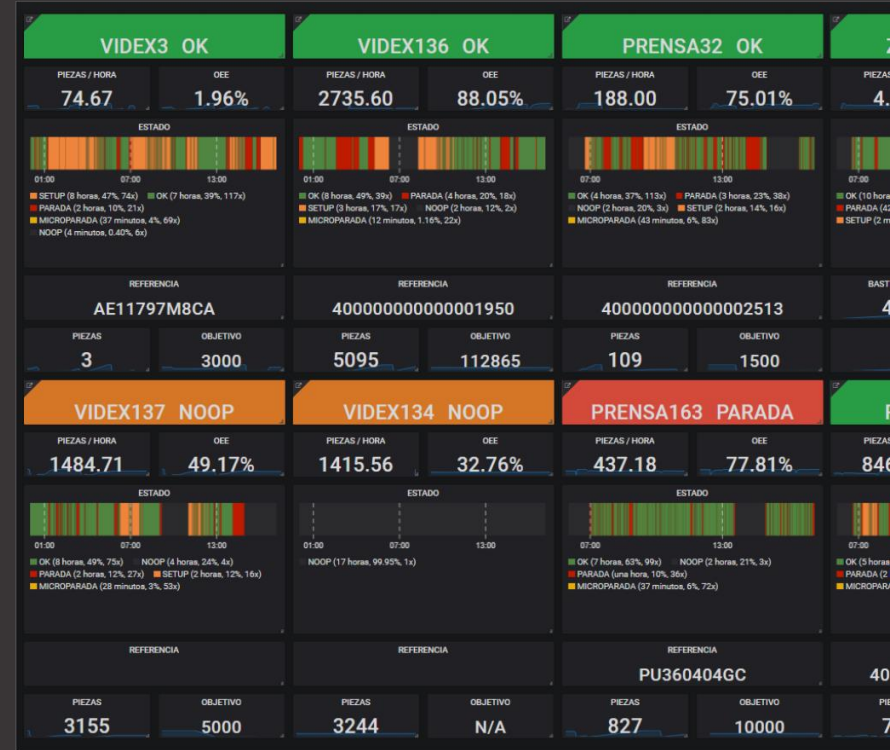
# Direct real-time VISIBILITY over your factory, for everyone



## Connect to

- IoT, low-cost and industrial sensors.
- Industrial machinery, robots, PLC, CNC.
- IT and network elements.
- Energy resources: machine use, electrical and compressed air consumption.
- ERP, MES, SCADA systems.

**- 25%**  
**Surveillance time**





# Less paper, less calls, make historic data automatically ACCESSIBLE



## Analyze

- Visual smart analytics. Uncover data-driven insights to diagnose and predict problems.
- Multi-site, multi-manufacturer.
- Multi-device platform.

# +20%

## Machine availability & capacity





# Bidirectional communication, know why you stop

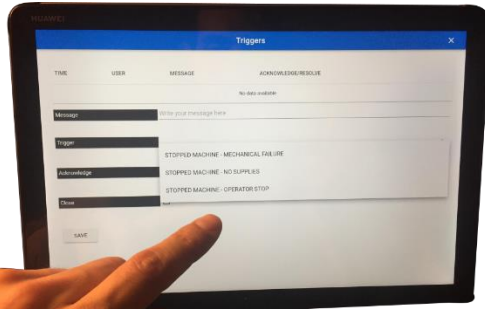


## Visualize

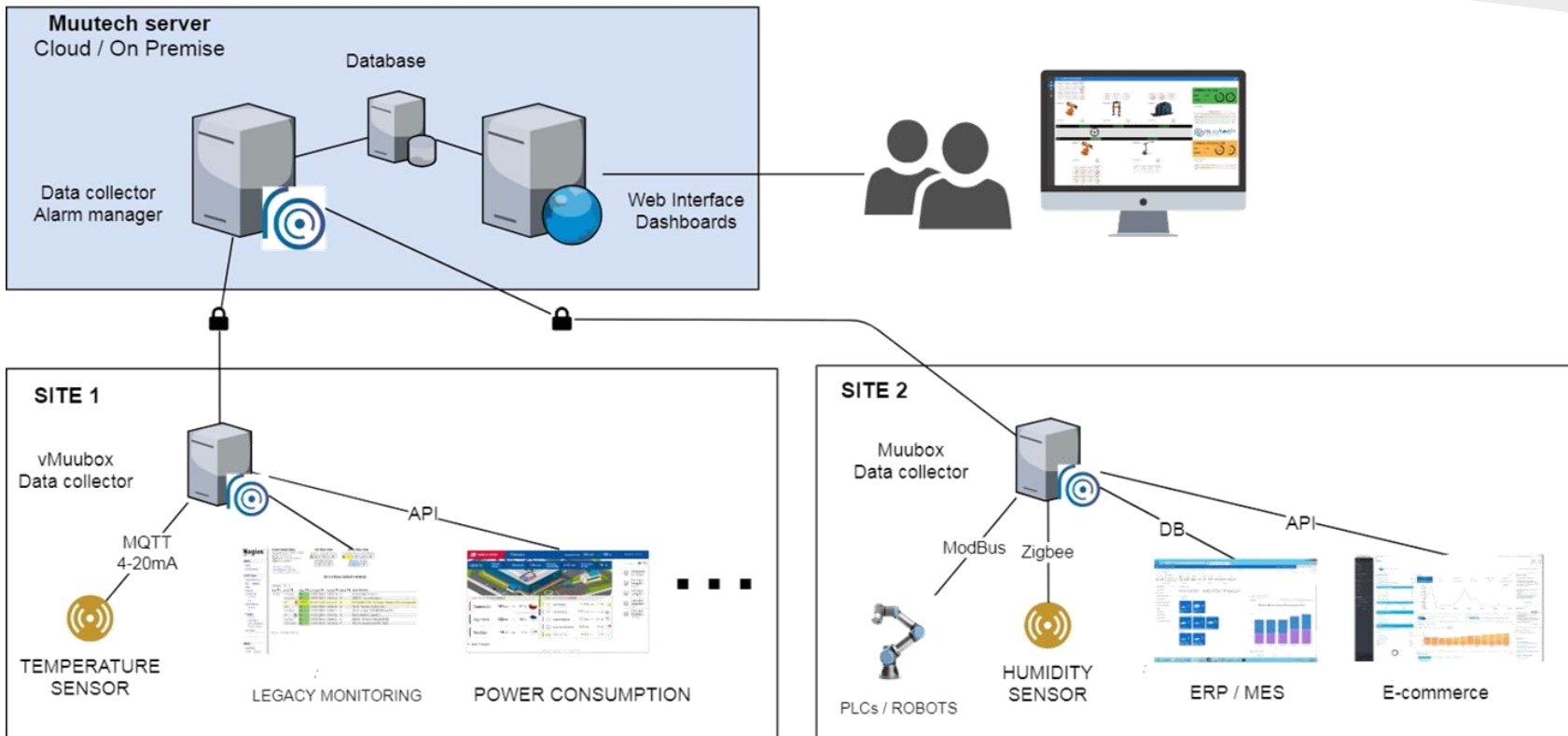
- Simplified dashboards and reports.
- Intelligent alarms.
- Integration with AR tools.

## Take Action

- Data classification through operator form input.
- Communication workflows deliver notifications to the right person at the right time that optimize processes.
- Data hub / action automation



# Aggregation and correlation of existing information on a single centralized platform





# Monitoring 360° where data becomes valuable information







# Platform + Service = Monitoring As A Service



**Fast deployment.** Start monitoring from the first minute.



**Scalable, Agile.** Start with a part of your business and keep growing step by step.



**Flexible, Customizable.** We adapt to your needs.



**Pay per use or by project.** Pay only for the data you use.



**Cloud / On-Premise.** We install the platform the way that best suits your infrastructure and strategy.



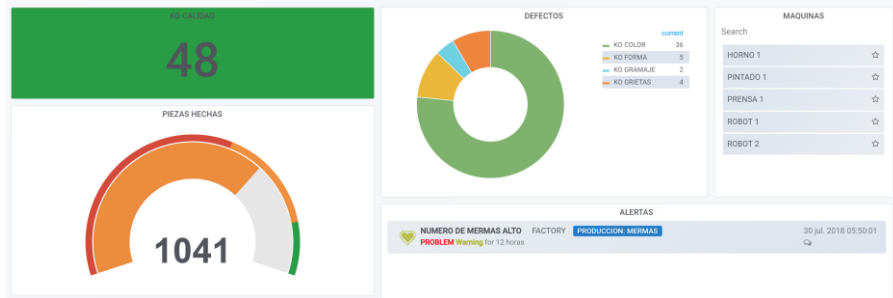
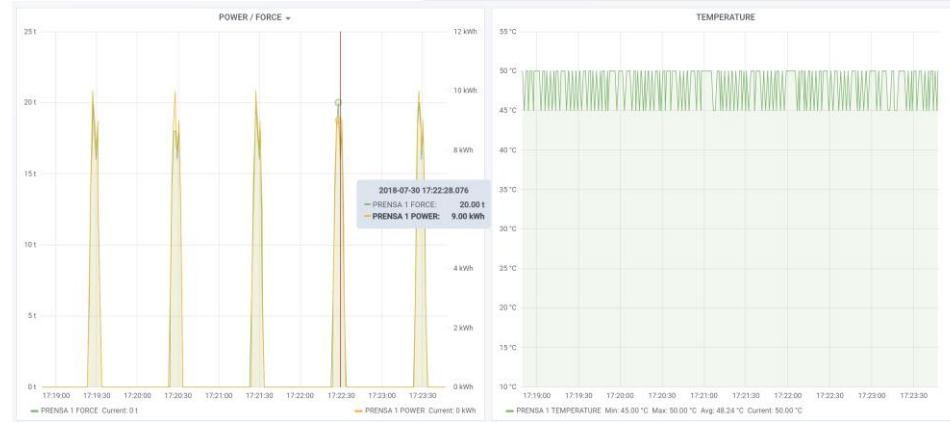
# *Industry, OT and IIoT monitoring solutions*





# Industrial processes monitoring (OT)

- Monitoring of **IoT and industrial sensors**: temperature, humidity, pressure, level, presence, etc.
- Monitoring of industrial machinery, robots, PLC, etc. through **multiple protocols**: Modbus, OPC-UA, etc, minimizing the installation of new sensors or equipment.
- Monitoring of **electrical and compressed air consumption**.
- Monitoring of logs / CSV files of machines
- Monitoring of the underlying network infrastructure: routers, switches, industrial PCs, etc.



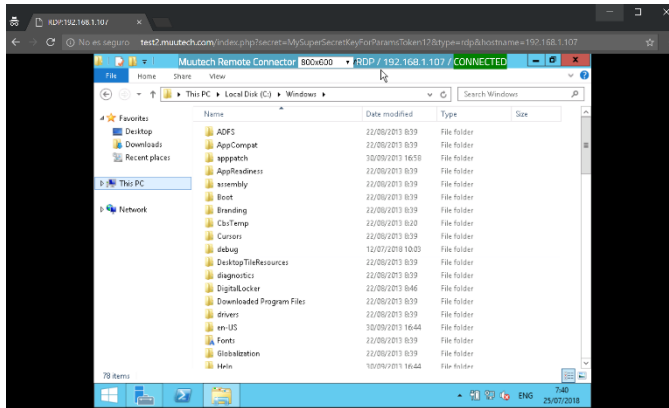
- Your **production controlled in real-time from a PC, Tablet or Mobile**: paper sheets and Excel are over.
- Compatibility with **low-cost sensors**, Arduino type.
- **Indoor positioning** of the equipment.
- Massive application of configurations
- Automation **actions** (alarms, configuration settings, switching off / on equipment with relays, etc.)



# Industrial processes monitoring (OT)

API NAME	RESPONSE (NOW)	RESPONSE (MAX)	RESPONSE (MEAN)	GROUPS	SERVICES	HITS/MIN	STATUS	ACTIONS
API FOR TEST	0.2s	0.5s	0.4s	SERVICE APIS	LOGISTICS PRINTERS	220	🟢	🔄 ⏸
API SOAP	0.53s	1s	0.67s	SERVICE APIS	PROVISIONING	842	🟢	🔄 ⏸
API JSON-RPC	0.35s	0.7s	0.32s	SERVICE APIS	LOGISTICS BIGDATA	523	🟢	🔄 ⏸
API XML-RPC	TIMEDOUT	9s	1.2s	SERVICE APIS	INTERFACE LOGISTICS	1032	🔴	🔄 ⏸

- **Integration of other tools:** ERPs, CRMs, MES, SCADA, own developments, databases, etc.
- Connection with a click from a web browser to the equipment via **CONSOLE / REMOTE DESKTOP**.



- **Sensor provisioning and maintenance management.**
- **Advanced inventory management**, advanced alert management, customized dashboards, etc.
- **Plant / process maps** with real-time visualization.



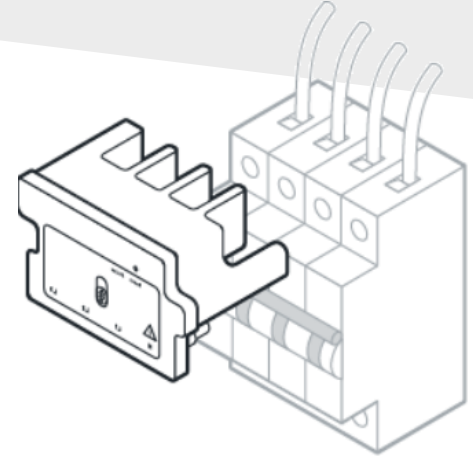
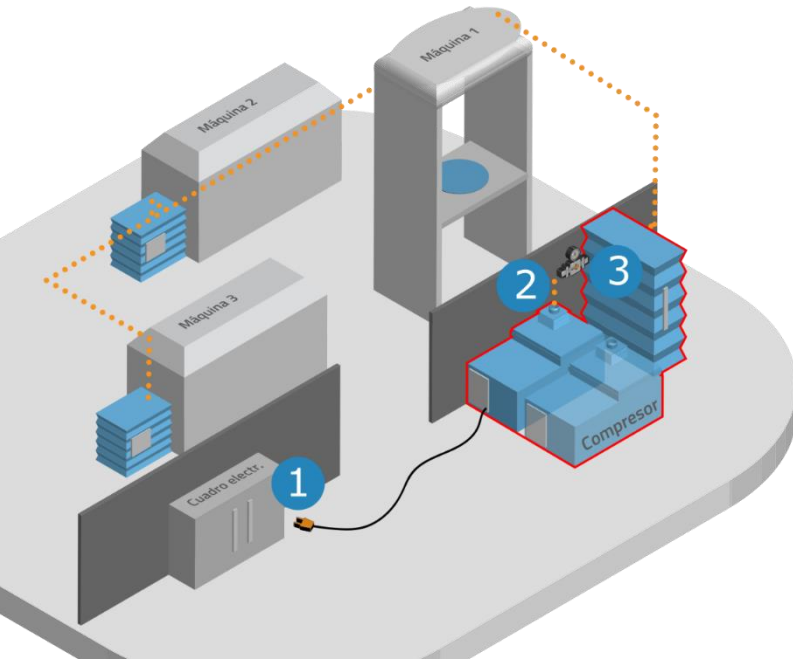


# Compressed air consumption monitoring

Energy consumption is currently the second largest expenditure of companies after personnel

10-30% of the energy consumed is used to generate compressed air

A single 3mm hole causes losses of up to €3,000 per year



1. Electricity consumption  
Essential to know how much energy your compressor is consuming

2. Air pressure  
More pressure than necessary causes premature wear and tear.  
Monitor it to suit your needs

3. Consumed flow rate  
Reduce system losses both during shutdown and operation through  
flow usage patterns



## *Success Stories*



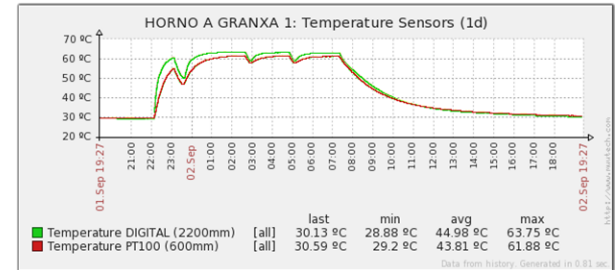
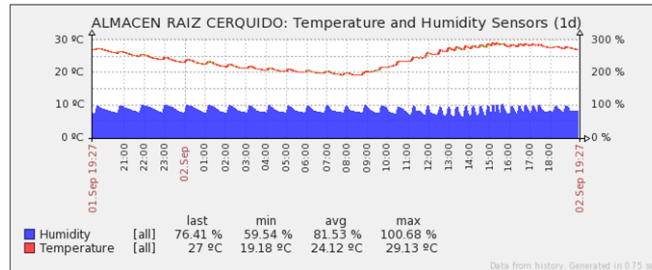


# Use case industry: Steering wheels factory

- **Humidity / Temperature** in ovens, freezers, presses, warehouse. **Power consumption** in presses
- Industrial sensors
- Problem detections / improvements made in almost all the measured points
- Users are from Quality Department
- IT monitoring
- Tracking software integration

*"Muutech has succeed in all the Project phases, even the hardest ones. We have added improvements to our quality control process and maintenance by using monitoring and gathering data from all the sensors installed all over our productive process. Muutech have been added to our R&D and engineering providers and future is promising."*

*Francisco Rojo - R&D Technical adviser*

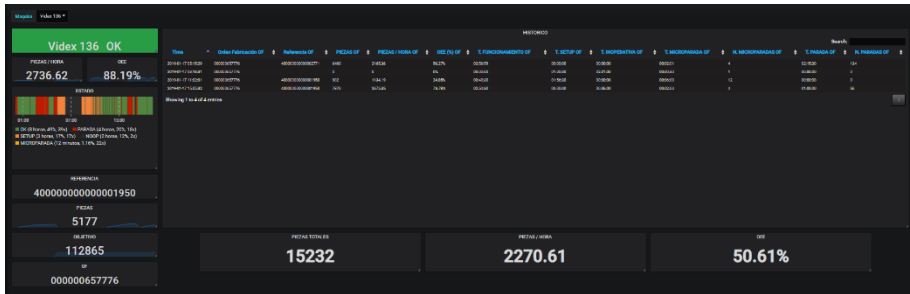






# Use case industry: manufacturer of metal products for construction industry

- Overview and status of the manufacturing machines in **real time**:
  - See which machines are producing, in setup, stopped, or in maintenance.
  - **Productivity vs. ERP (SAP)** data monitoring
  - **OEE** Calculation
  - **Cadence** (pcs/hr.) calculation
  - Line stops, maintenances in a temporary availability time-set frame
- Aggregated vs. individual vision







# Use case industry: manufacturer of metal products for construction industry





# Use case industry: Precision Machining, In-Situ Machining

- **Real-time** monitoring of **CNC** machines from various manufacturers and their control **PCs**
- Productivity monitoring vs. **ERP**

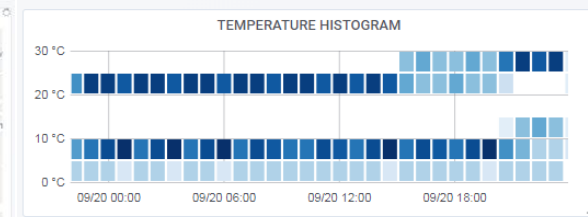
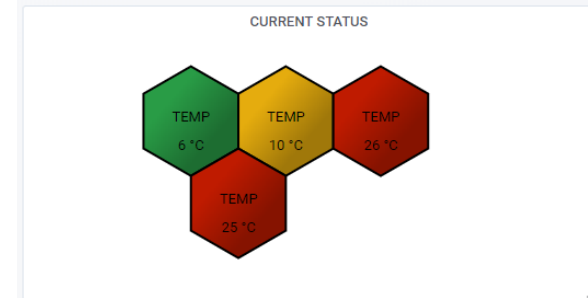
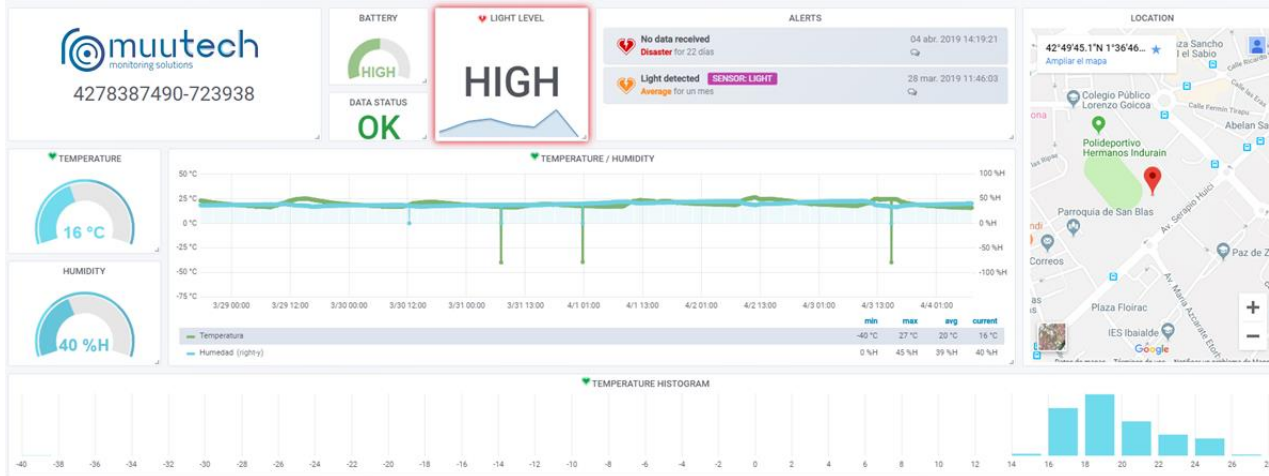


- Monitoring of **electrical consumption**
- **Manual data entry** on the platform (PCs, tablets, mobile)
  - Maintenance notes
  - Operator notes
  - Defective
  - Etc.



# Use case IoT: Dataloggers monitoring

- > 20.000 Dataloggers placed in containers
- **Temperature and humidity** control
- **Light and battery** level
- Geopositioning (**GPS** coordinates)
- Aggregated vs. single datalogger information (macroview vs. single sensor)
- Custom communication protocol



**TEMPERATURE**

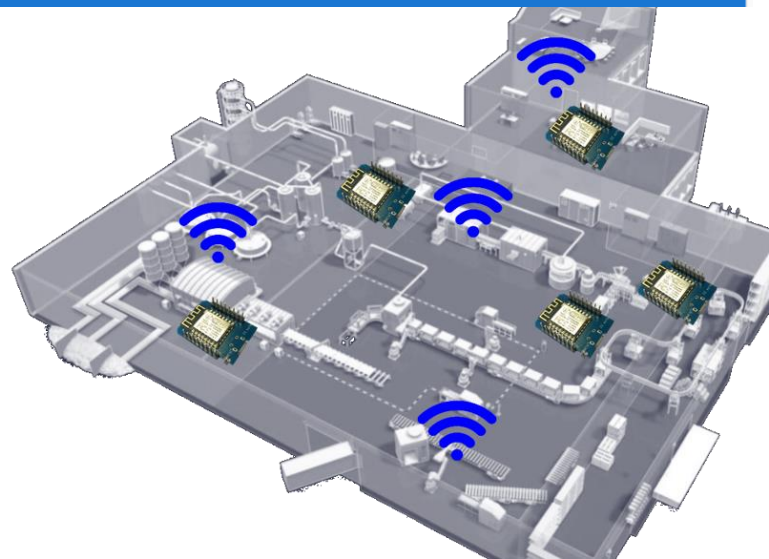
Device	Last	Min	Max
CTJDBBBB: Temperatura	10.40 °C	8.30 °C	10.70 °C
5100027: Temperatura	25.89 °C	22.71 °C	26.80 °C
100001928: Temperatura	24.88 °C	22.38 °C	25.56 °C
100000562: Temperatura	5.94 °C	3.00 °C	7.88 °C



# Use case IoT: IoT device management platform (OEM Car manufacturer)

- ~200 Nano-IoT devices
- Customizable visualization
- Real-time device status information
- Action **automation** (reboot, restart, shut on-off)
- Massive actions by device profile
- Device web **remote access** via VNC, RDP, SSH or Telnet (w/o plugins)
- Device **indoor localization**

	HOSTNAME	FAN	MAC	SITE	GROUPS	IOT PROFILES	APPLICATION	STATUS	ACTIONS
<input type="checkbox"/>	all	all	all	all	all	all	all		
<input type="checkbox"/>	CORPORATIVE WEB DOWN				SOCIAL NETWORKS			<span style="color: red;">❌</span>	[⏏] [🔄] [🔌]
<input type="checkbox"/>	CORPORATIVE WEB OK				SOCIAL NETWORKS			<span style="color: green;">✅</span>	[⏏] [🔄] [🔌]
<input type="checkbox"/>	DEMO SERVER				SERVERS			<span style="color: green;">✅</span>	[⏏] [🔄] [🔌]
<input type="checkbox"/>	INTERNET GATEWAY				NETWORK			<span style="color: green;">✅</span>	[⏏] [🔄] [🔌]
<input type="checkbox"/>	MUJBOX	X37930	40:80:20:90:90	VIGO	SERVERS			<span style="color: orange;">⚠️</span>	[⏏] [🔄] [🔌]
<input type="checkbox"/>	muotech-gps.net				Routers			<span style="color: green;">✅</span>	[⏏] [🔄] [🔌]
<input checked="" type="checkbox"/>	MuotechModule1				MAN-IoE			<span style="color: green;">✅</span>	[⏏] [🔄] [🔌]
<input checked="" type="checkbox"/>	MuotechModule2				MAN-IoE			<span style="color: green;">✅</span>	[⏏] [🔄] [🔌]
<input checked="" type="checkbox"/>	MuotechModule3				MAN-IoE			<span style="color: green;">✅</span>	[⏏] [🔄] [🔌]
<input type="checkbox"/>	muos011				IOT sensors			<span style="color: red;">❌</span>	[⏏] [🔄] [🔌]



	TYPE	NAME	LAST CHECK	LAST VALUE	TRIGGERS
<input checked="" type="checkbox"/>	Zabbix agent	Host name of zabbix_agentd running agent hostname	28/11/2018, 16:59:20	DEMO SERVER	<span style="color: green;">✅</span>
<input checked="" type="checkbox"/>	Zabbix agent	Agent ping agent ping	28/11/2018, 17:29:21	1.00	<span style="color: green;">✅</span>
<input checked="" type="checkbox"/>	Zabbix agent	Version of zabbix_agentd() running agent version	28/11/2018, 16:59:23	3.4.10	<span style="color: green;">✅</span>
<input checked="" type="checkbox"/>	Mindus	DEMO minutes	01/01/1970, 01:00:00	0.00	
<input checked="" type="checkbox"/>	Seconds	DEMO seconds	01/01/1970, 01:00:00	0.00	
<input checked="" type="checkbox"/>	Docker	CPU utilization DEMO-GRAFANA docker:cpu[DEMO-GRAFANA,total]	28/11/2018, 17:29:09	0.03%	
<input checked="" type="checkbox"/>	Docker	CPU utilization DEMO-GUI docker:cpu[DEMO-GUI,total]	28/11/2018, 17:29:10	3.33%	
<input checked="" type="checkbox"/>	Docker	CPU utilization DEMO-SERVER docker:cpu[DEMO-SERVER,total]	28/11/2018, 17:29:11	1.83%	
<input checked="" type="checkbox"/>	Docker	Used cache memory DEMO-GRAFANA docker:mem[DEMO-GRAFANA,total_cache]	28/11/2018, 17:29:12	108.00 kB	
<input checked="" type="checkbox"/>	Docker	Used RSS memory DEMO-GRAFANA docker:mem[DEMO-GRAFANA,total_rss]	28/11/2018, 17:29:16	26.47 MB	

“Let Muutech start up  
the monitoring of your  
company”

Bring me to the Demo



**Muutech Monitoring Solutions S.L.**

Nigrán (Pontevedra) – SPAIN  
L'Hospitalet (Barcelona) – SPAIN  
Bern - SWITZERLAND

Phone: +34 886 117 432  
Phone: +34 886 311 711  
[info@muutech.com](mailto:info@muutech.com)  
[www.muutech.com](http://www.muutech.com)