

# METIS

*BY PURPLE BLOB.*

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# What is METIS?

## What is METIS?

METIS is a completely **anonymous and wireless** flow monitoring device that identifies passersby and vehicles and transmits this data via LoRaWAN.

It's wide range, **plug-and-play** installation and reliability makes this solution suitable for both urban and industrial environments.



## Details of METIS

- High precision radiofrequency monitoring
- Automatic RF adaptability
- Operation on 802.11 b/g/n protocols
- LoRaWAN 1.0.2 compatibility
- Bluetooth v4.2

# Technical Specifications

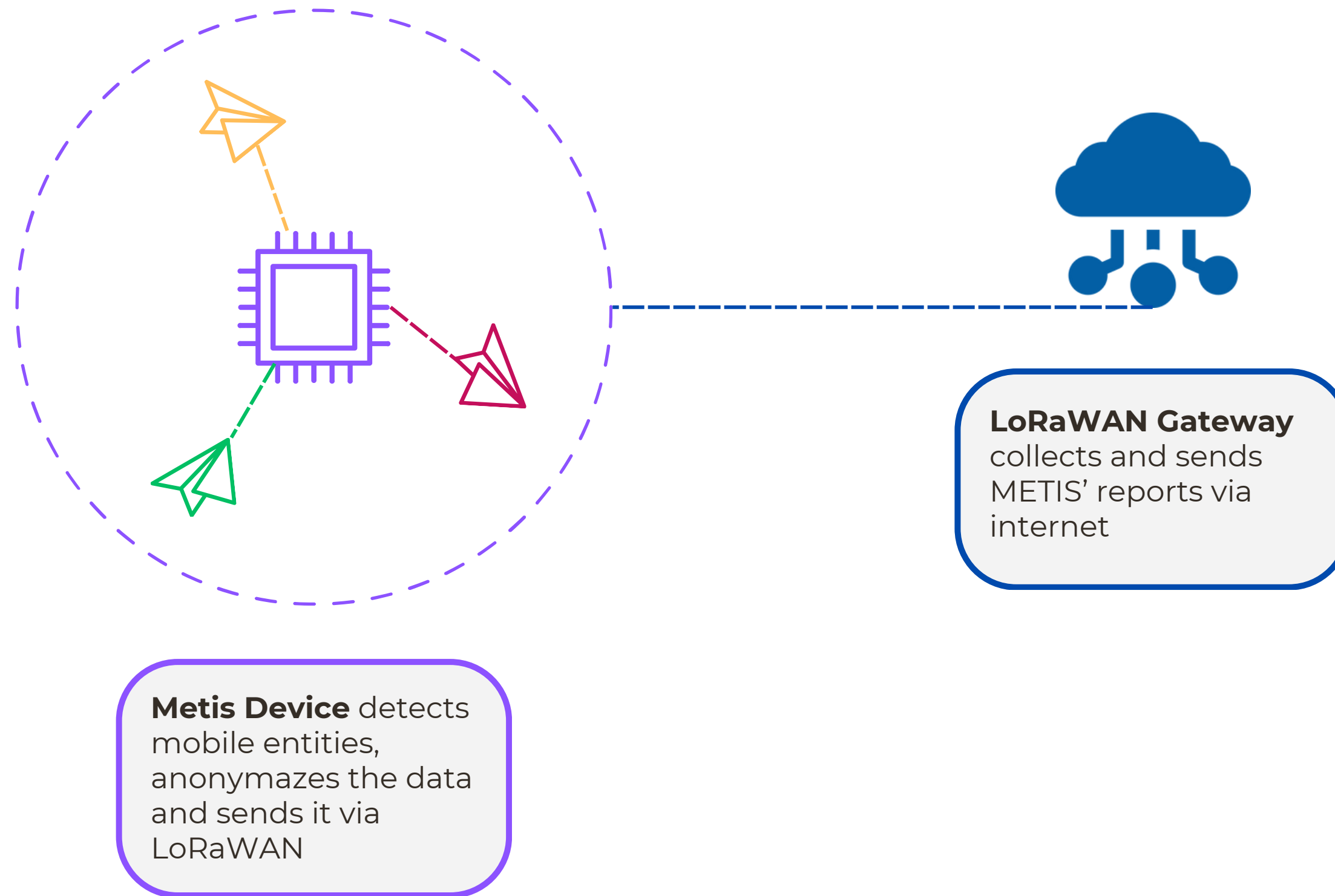
Specification	Value
<b>Model</b>	Waterproof box included with power plug connector
<b>CPU</b>	240 MHz Dual Core
<b>RAM</b>	8 MB PSRAM
<b>Sensibility</b>	-139dBm @ LoRa & 62,5 kHz & SF = 12 y 146bps -136dBm @ LoRa & 125 Khz & SF = 12 y 293bps -118dBm @ LoRa & 125 Khz & SF = 6 y 9380bps -123dBm @ FSK y 5 kHz y 1,2 Kbps WiFi -80dBm
<b>WiFi</b>	b/g/n (2.4 GHz)
<b>Flash memory</b>	4MB

Specification	Value
<b>Consumption (Typ.)</b>	3 Watt
<b>RF Power</b>	14 dBm
<b>Cryptographic acelerator</b>	AES, SHA, RSA
<b>Power Supply</b>	220 V power plug
<b>Bluetooth</b>	4.2 BR / EDR / BLE
<b>Temperature Range</b>	-20°C a +70°C
<b>Aprox. measurements</b>	82 mm (L) x 57 mm (W) x 33 mm (H)
<b>Installation</b>	Preconfigured plug-and-play, wall or floor mounting

# Methodology



# Methodology of METIS



# Methodology of METIS

METIS is a **plug-and-play** IoT device.

As it comes preconfigured, it only needs a power connection in a location with **LoRaWAN or WiFi** coverage.

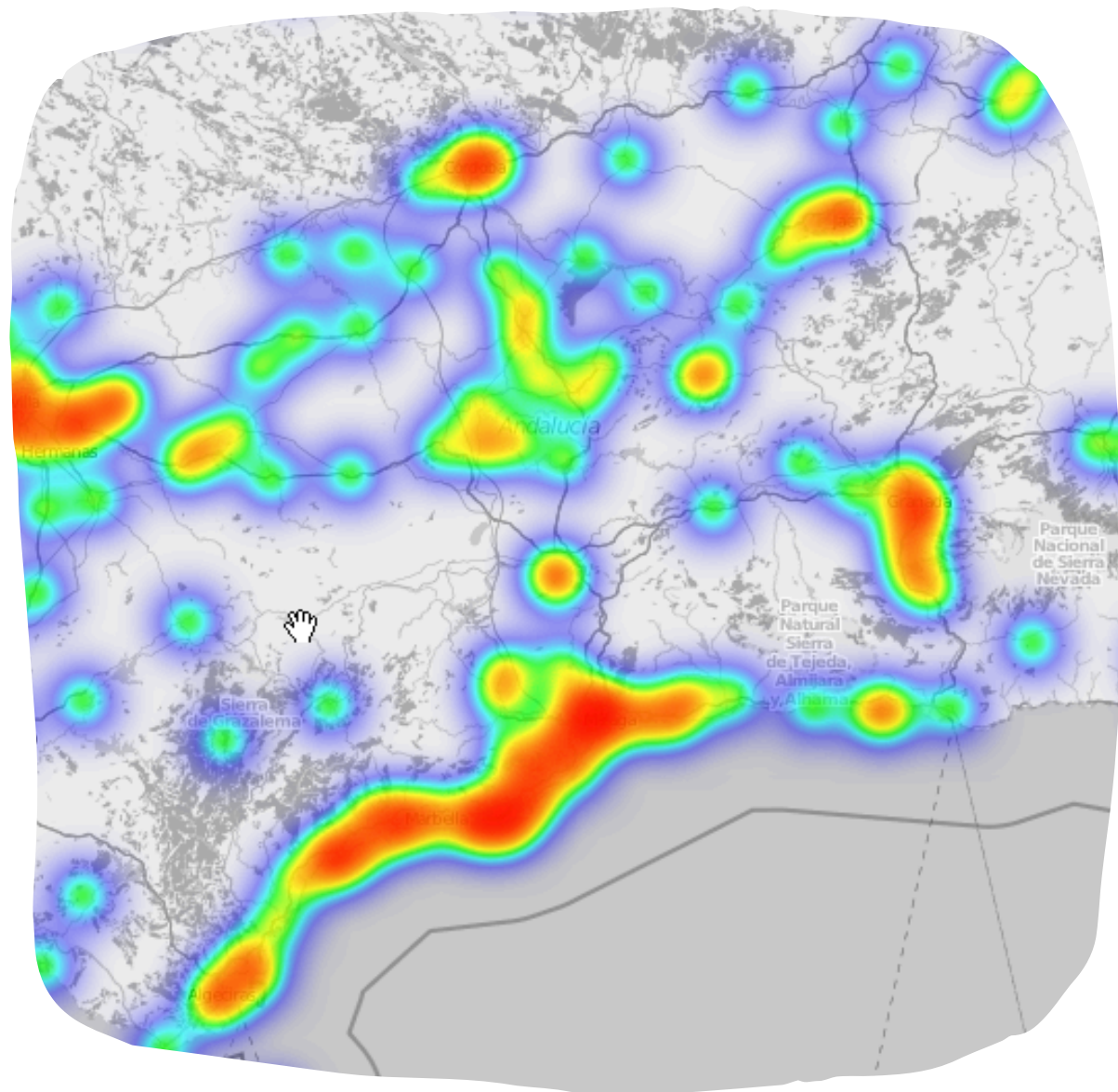
The device will automatically **join the network via OTAA** and will start monitoring mobile entities in its proximity (from 35 to 50 meters depending on obstacles and terrain).

It reads parcial MAC addresses and anonimizes them on a **criptographic process** that cannot be reverted.

The result is an **anonymous yet unique identifier** that is stored on the device. When the device has enough identifiers stored it sends a LoRaWAN framewith all of them.



# Methodology of METIS



The device **keeps the identifiers stored** so it doesn't repeat them, but cleans the memory every 6 minutes, enabling a traceability of the passer-by or vehicle.

Since each node follows the same process, deploying a network formed by several devices allows **flow monitoring**, for the same mobile phone will result in the same identifier on different devices.

METIS offers a **high precision** (>70%) while maintaining privacy, is nonintrusive, has an easy installation and a wide area range, it's easily integrated in external LoRaWAN networks and IT systems and offers a great IoT flow monitoring solution overall.



# Purple Blob

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