Sens’it learnings

All you need to know about what we learn developing the Sens'it
Find your need quickly

Adoption levels : what can I learn with Sens'it?

- 1st Level : How to use IoT and what are the possibilities ?
- 2nd Level : What are the Sigfox main rules?
- 3rd Level : Technical implementation
- 4th Level : Production and business tasks

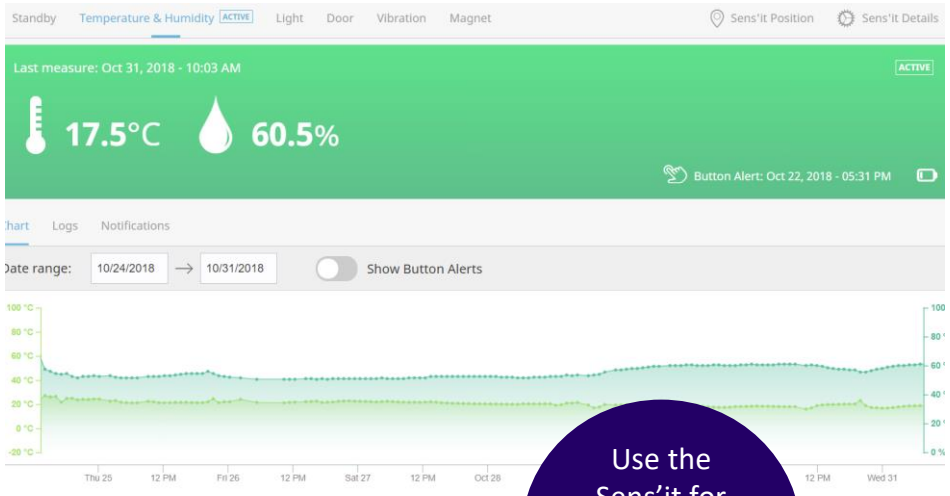
1st Level
How to use IoT and what are the possibilities ?

Using the Sens'it with the associated application gives you a lot of possibilities to discover the IOT and the use cases :
Hoow it can be useful in your daily life at work or at home?

and Propel into industrial usages

sigfox

Monitor your temperature and humidity at your office, at home…



Use the Sens'it for your personal need

… for business : Facility management – Temperature and humidity monitoring

What does it mean in a real business environment

Problem solved

Detect a change of temperature or humidity beyond a set threshold in your office.

Device

The measured temperature, humidity parameters can be locally stored.

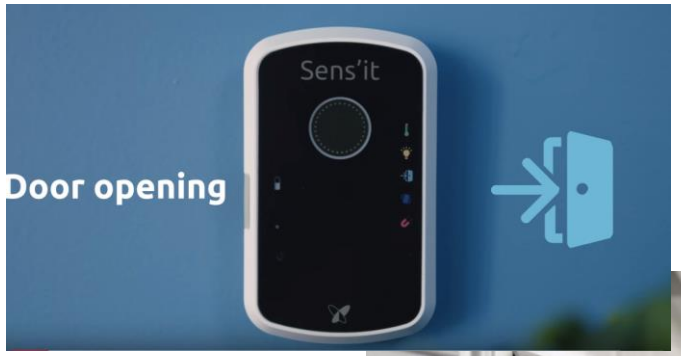
- ON/OFF
- Min & Max temperature
- Min & Max humidity
- Ex: alarm is transmitted immediately if a threshold value is reached.

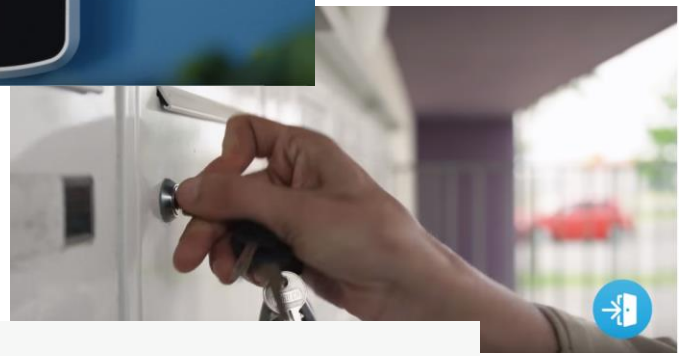
Benefits

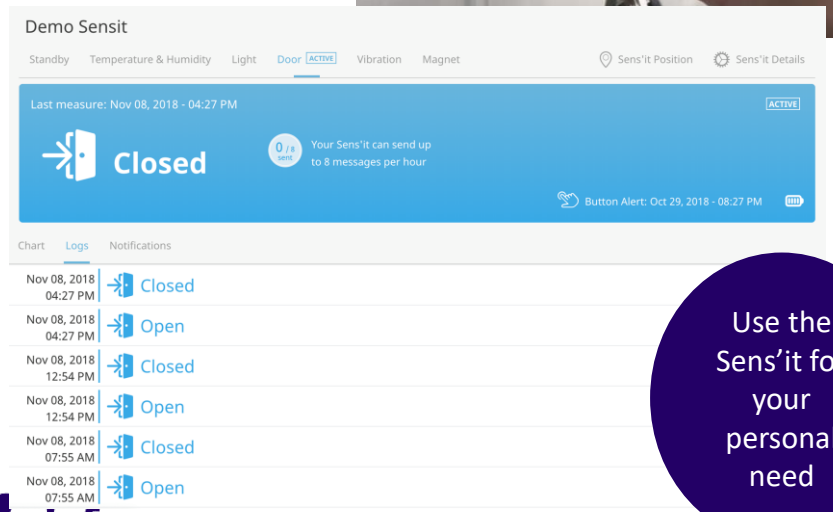
- Ensure that the heating contracts are respected between the heat producer and the customer (social landlords, building management companies).
- The humidity is monitored to ensure that the air is pure and the ventilation is properly done

sigfox

Detect if your door/locker/ is opened or not…







Use the Sens'it for your personal need

…. Infrastructure monitoring- Door opening detection

What does it mean in a real business environment

Problem solved

Triggers an alert when a door is left open or has been opened (in your office, or in a safety area)

Device

A message is sent at each open/close event.

A weekly 'awake' message is also sent to ensure the device is always functioning and to monitor battery status

Benefits

- Increase security for areas that are not supposed to be accessible (e.g. server rooms or theft in storage spaces)
- Optimize cleaning processes (based on frequency of usage)

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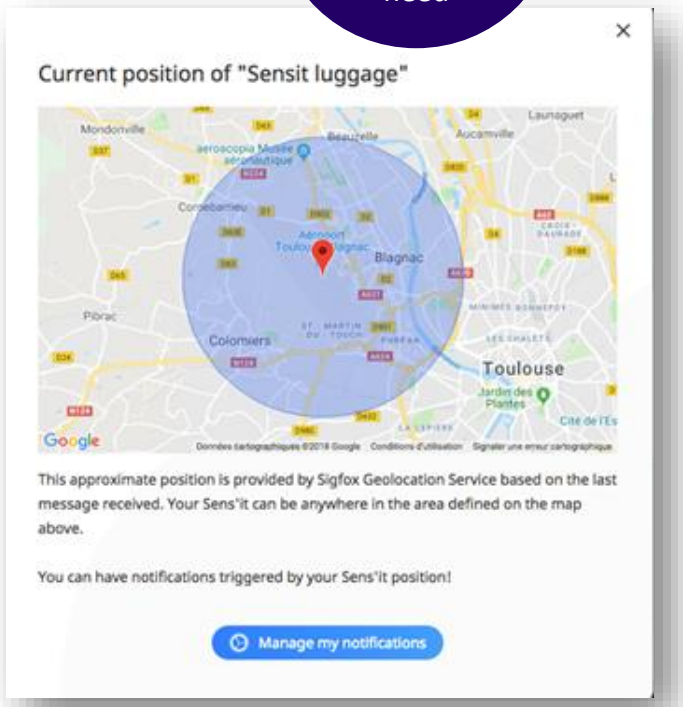
Track your bag with the Sens’it…

Use the Sens’it for your personal need



…Asset tracking – Sigfox Geolocation

Problem solved

Track & trace your containers

Solution

Track and trace any type of asset, from pallets to material boxes, thanks to Sigfox Geolocation service:

- Tracking and/or positioning assets
- Alerting if entering a specific area (Point of Interest)

Benefits

- Reduces and simplifies processes and infrastructure required to manage logistic operations
- Enables the creation of new business models

2nd Level
What are the Sigfox main rules ?

Using the Sens'it gives clues on how Sigfox works :

- **Sigfox protocol** : Device is master on the network it decides when it wants to communicates
  It is visible with the downlink which is one a day or requested via a button press and the uplink and downlink possibility. (bidirectional)
- **Sigfox RC** : There are 4 RC in the word
  When purchasing the Sens'it the RC is asked
- **Sigfox message limitations** : 140 messages limitation per day
  On RC1 you can visualize remaining number of message you can send and the Sens'it blinks 2 time red when you don't have any more.
- **Type of messages** : triggered by an event or periodic messages
  Different usage of the different modes shows it
- **Processing of the data** is better on the device side
  Notification and payload calculation is on the application side
- **Battery life** : depends on your implementation and your component but always better than other protocols
  Depending on the mode the battery life is different
- **Coverage is important** : asked on the onboarding phase

3rd Level
Technical implementation

- Webhook usage: Show you that the data is the value for the business device and network is just a way to get them
- Sigfox Cloud and devkit: use the backend and discover the different aspects
  - Only one token can be used associated to a contract created via buy portal
  - The hierarchy of the groups and the device type in the backend
  - Messages visualization: your implementation is not known by Sigfox; a parser is needed to see clearly the data
  - There is a sequence number from the device for each devices
  - To get the data use the callbacks or the Sigfox API V2 (understand the message flow)
- Firmware modification: give you clue on the code and the possibilities
  - Payload conception: how to fit that amount of data in a small payload
  - Code hierarchie: Sigfox library, Sens'it library and the use case
  - Multi-usage is possible with one hardware
  - Compatibility between the payload and the application
- Hardware visualization: Get the hardware files
  - Discover the discrete implementation: don't copy it.

4th Level

Production and business tasks

When developing Sens’it we have learnt a lot about industrialization and users' constraints, it was very educational, and we can share it :

- Production
  - Customization needs to be anticipated in the logistic flow
  - Integration and provisioning of the Sigfox Credentials in the flow
  - Test bench : software maintenance and anticipation of the testing points on the device (test radio)
  - Supply chain : one production line and multiple version for the different RC and countries
  - Obsolete components management : impact on the BOM and the stocks
  - Certifications : one for each country (time and money)

- Hardware bad anticipation
  - Battery size : too small
  - Pressure sensor : could have been useful for Monarch use cases

- Support
  - Maintenance web service : data base bigger and bugs
  - After sales service
  - Before sales questions
  - Service issue for customers

Contact:

ask.sigfox.com