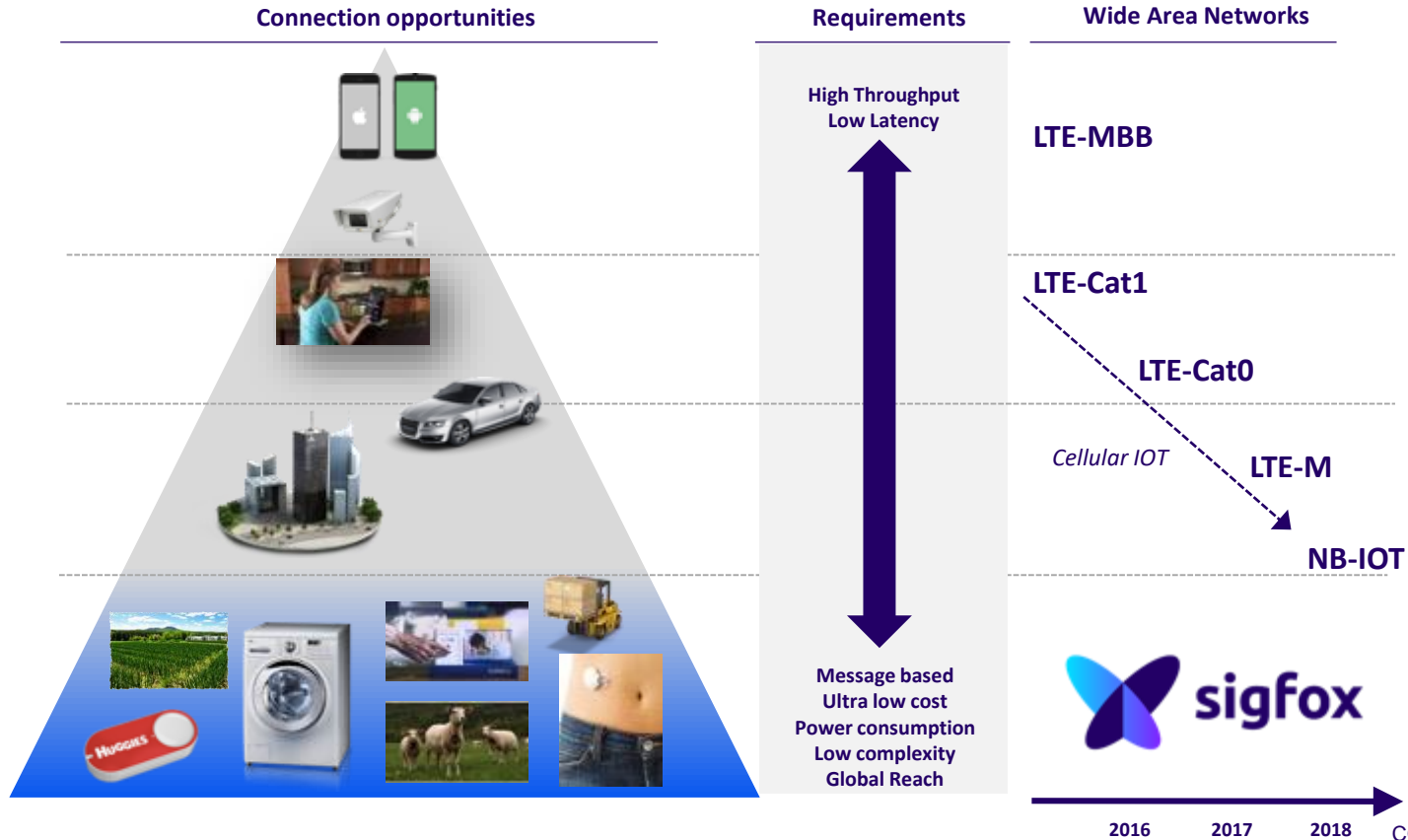




Why Sigfox –a quick guide

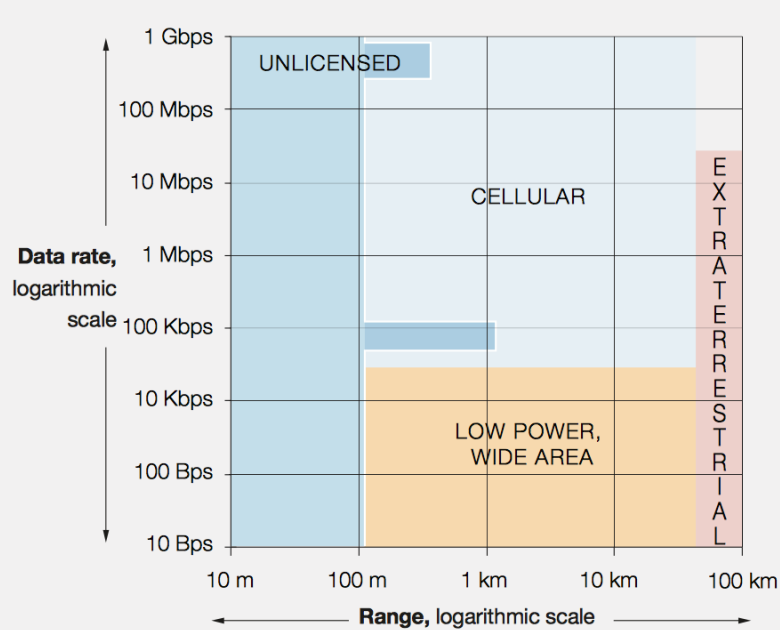


Use cases dictates the technology to be used

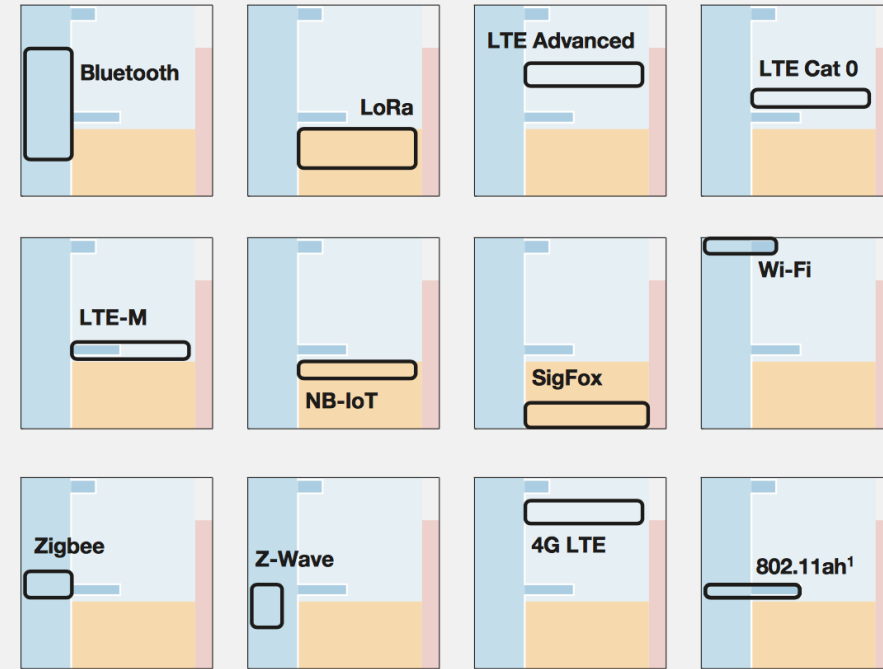


Different technologies –complementary/overlap

The Internet of Things connectivity solutions fall into four categories, with significant overlap in specifications.



Technology segments



¹ 802.11ah is a new low-power Wi-Fi standard.

Sigfox key differentiation factors

GLOBAL REACH



Global SLA
One global network
50 countries today, global coverage within 3 years

ENERGY EFFICIENT & SIMPLE



10 years battery lifetime
Extremely simple to deploy devices (a minute or less)
Built in security minimizing risk








COST EFFECTIVENESS




Lowest cost for HW (<2 USD)
Lowest cost for subscription (<1 USD annually)
On open band (no cost)

Sigfox offers commercially proven (more than 500 customers globally with 10s of millions of objects), tailor made connectivity for IoT with the lowest Total Cost of Ownership

What are the merits of Sigfox and NB-IoT?

| |  | NB-IoT |
|--------------------------------|--|---|
| Key Attributes | <ul style="list-style-type: none">• Very low Cost• Global Network• Low Power & predictability power consumption• Anti-jamming• Out of the box connectivity• SLA | <ul style="list-style-type: none">• Lower data limitation• Larger payload• Reactive bi-directionality• Acknowledgements |
| Example of applications | <ul style="list-style-type: none"> Industry Utilities Supply chain & logistics ... | <ul style="list-style-type: none"> Electricity metering Remote health monitoring ATMs and PoS ... |

NB-IoT will be regional

| |  | NB-IoT |
|--------------------------------|--|--|
| Device certification | Single sigfox certification per H/W configuration | Modem certification for each operator |
| Ecosystem | Global 4 different bands worldwide including 2 type of Hardware | Regional Different implementations worldwide (14 bands). Will take time to harmonize |
| Model | One contract – one network No roaming fees | One contract per operator High roaming fees |
| Access to data | A unique place to access the data from worldwide devices | A different interface per operator adding migration costs and complexity |
| Service Level Agreement | Global Same level across all operators | Small alliances initiatives to offer multi-carrier SLA (e.g. GMA) |

The killer apps to trace your assets between factories



Challenge

To know when your container will arrive in the harbor, how long did it stay in logistic hub?

Solution

- Collect T°, GPS coordinate, Wifi, BLE in near real time.
- Sensolus provide an end to end solution. It notifies Airbus about its assets' trips and give insights on supply chain optimization.
- The device embeds an internal memory to record data when outside of coverage
- The devices are installed on a smart rack

Benefits

- No more time lost localizing trailers, racks
- Cross country tracking without high roaming fees
- Real-time visibility on the asset during transportation
- Automation of the supply chain



Solutions composed by Sensolus



Anti jamming capability for home alarm



Challenge

Alarms are connected to central system using GSM. Thieves use sometimes GSM jammers making it inoperative to burgle home.

Solution

This anti-jamming system does not go through the GSM network, which the most savvy burglars manage without difficulty to scramble with dedicated devices. The network developed by Sigfox is inviolable and thus becomes the ultimate weapon to fight effectively against alarm jammers.

Benefits

- ✦ Sigfox brings a clear competitive advantage towards Securitas Direct competitor.
- ✦ Ensure service continuity
- ✦ Already in Spain, France, Portugal!



Sigfox a complementary solution to mobile network by Telecom design

Car stolen & recovery



LIVE

Challenge

Locate and recover stolen assets thanks to a small GPS tracking device

Solution

Every type of assets:

- Cars
- Jewelry
- Construction machinery

Connected with the Police 24/7

Available in 17 countries and soon in 30 more.

Benefits

- 🦋 90% of stolen assets recovered
- 🦋 Anti jamming capability
- 🦋 Battery duration from 3 to 5 years
- 🦋 Anti jamming capability
- 🦋 New services launched like: Fuel Management, eco driving



Connected fire hydrants



Challenge

There are inefficiencies in detecting faulty hydrants and fraud as well as monitoring the water usage of fire hydrants.

Solution

A real time fire hydrant network monitoring system:

- Hydrant status & utilisation thanks to a pressure sensor
- Water usage
- Frost prevention

An accelerometer can alert the city in case of a car crash or degradation of the fire hydrant.

Benefits

- ✦ Network efficiency 24/7
- ✦ Quick fraud detection
- ✦ Water savings for the cities
- ✦ Increased safety for the citizens
- ✦ 10+ year battery life



IoT to secure seniors in Spain



Challenge




Increasing private safety for senior citizens and their close family

Solution

Wristband with SOS button, that can alert family members or emergency services, gives seniors better security in homes and in case of falling, GPS location is sent.

The Home Gateway is voice activated and can alert emergency services and be used a group chat amongst users.

Benefits

-  Fall-detection feature, designed to automatically detect falls and pinpoint the exact location of the user via GPS
-  Tracking gives piece of mind for family members
-  App gives care givers direct alerts and history



Solutions made by Telecom Design and sold by Securitas Direct



Infrastructure monitoring

LIVE



Challenge

Infrastructure monitoring system to detect non visible changes, for safety enforcement and maintenance operations planning

Solution

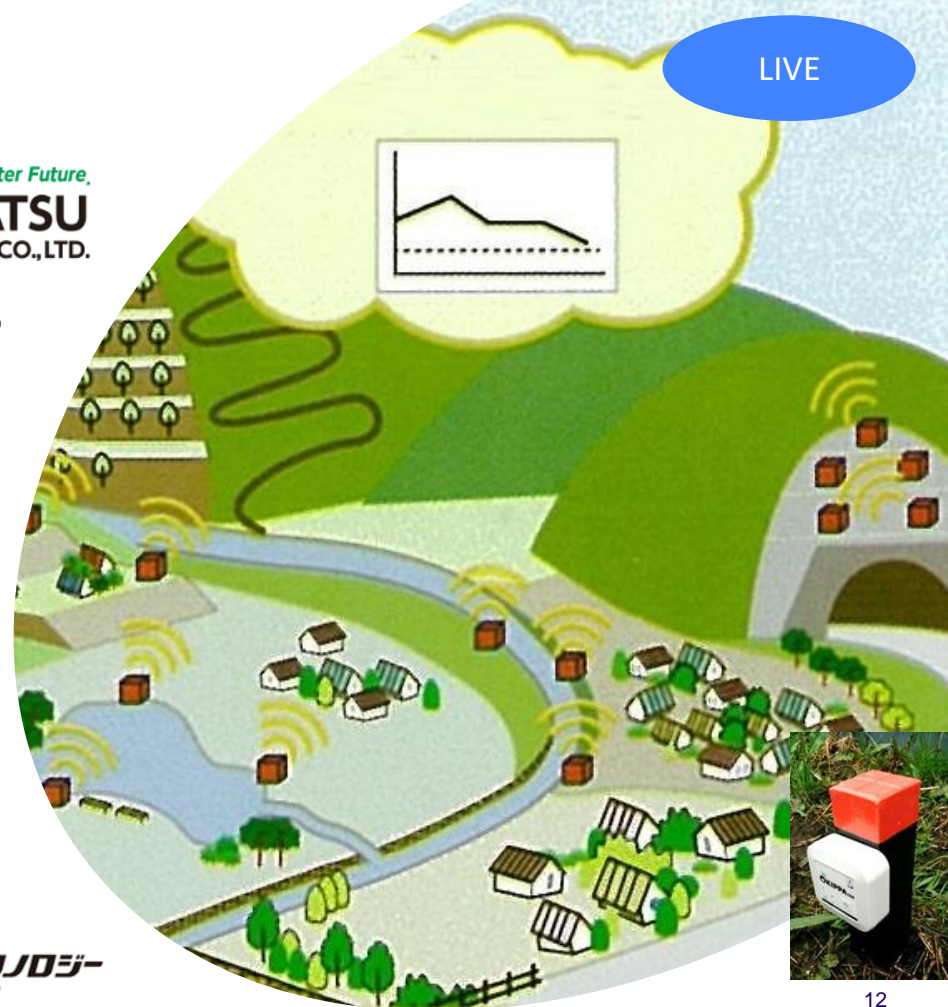
OKIPPA104 Sensor box with:

- Tilt sensor (inclination angle; precision of 0.1 ~ 0.2 degree)
- Shock detection (2G to 16G)
- Temperature sensor
- Magnetometer
- GPS location

Combined with Infra Monitoring Cloud Platform, to monitor deformation or inclination change of slopes of infrastructure facilities, pylons, retaining walls, ponds and reservoirs, etc.

Benefits

- ✈ Easy to deploy with magnet fixation and long battery life
- ✈ Safety policy enforcement
- ✈ Cost reduction & detection of non visible deformation, compared to visual inspection (on-site patrol)
- ✈ Real time monitoring & alerting from SP, tablet, PC
- ✈ Maintenance operations planning





Simple. Reliable. Global.