



WND

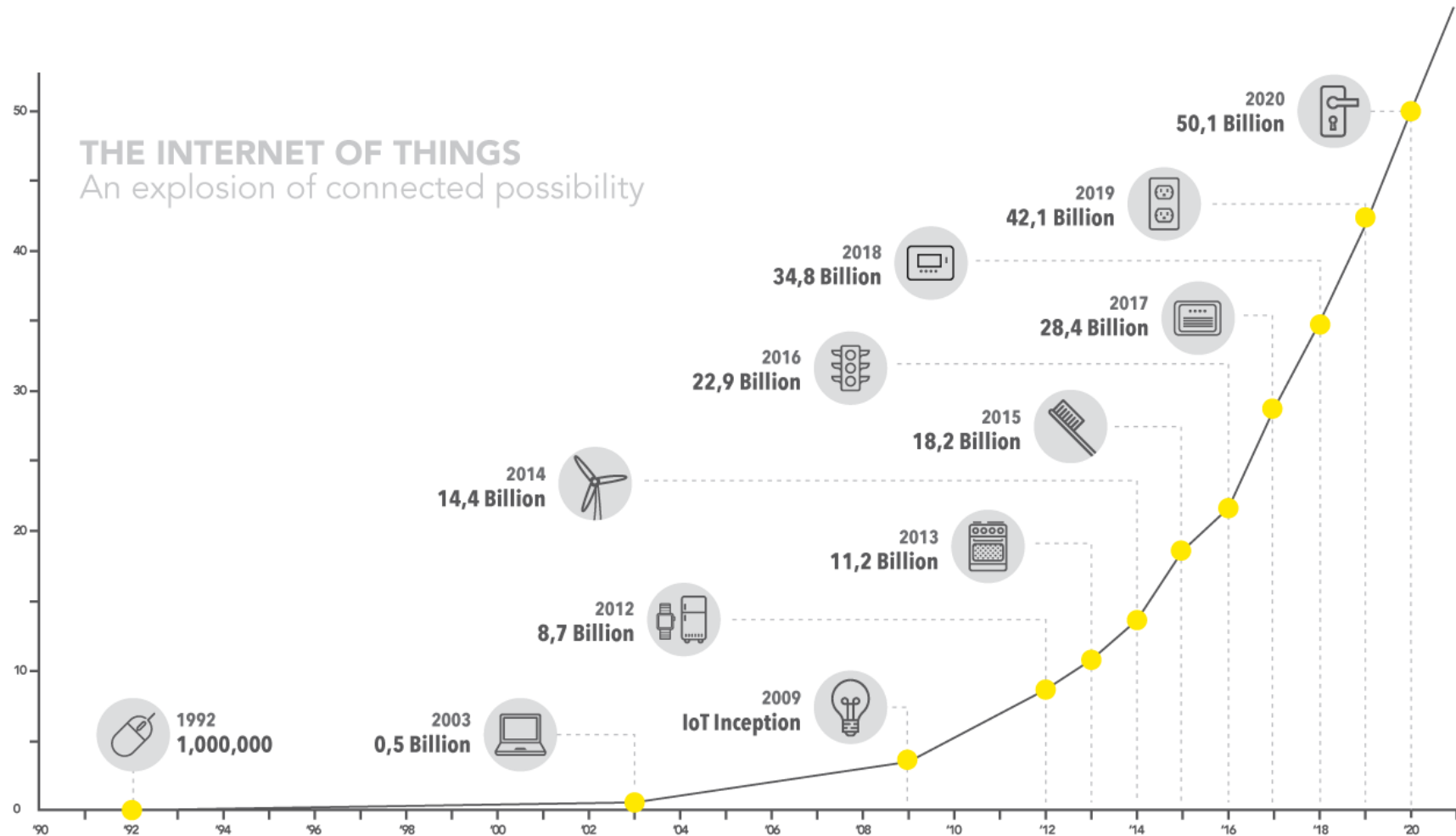
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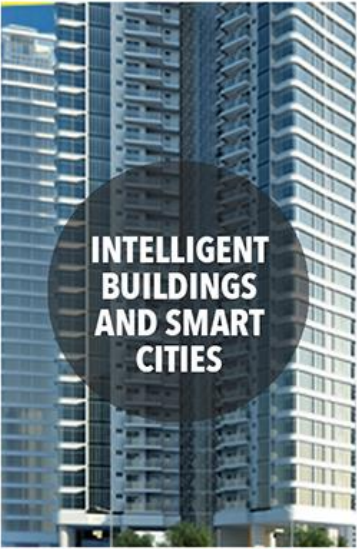


● **TOPIC 01.** IoT & Sigfox Basics

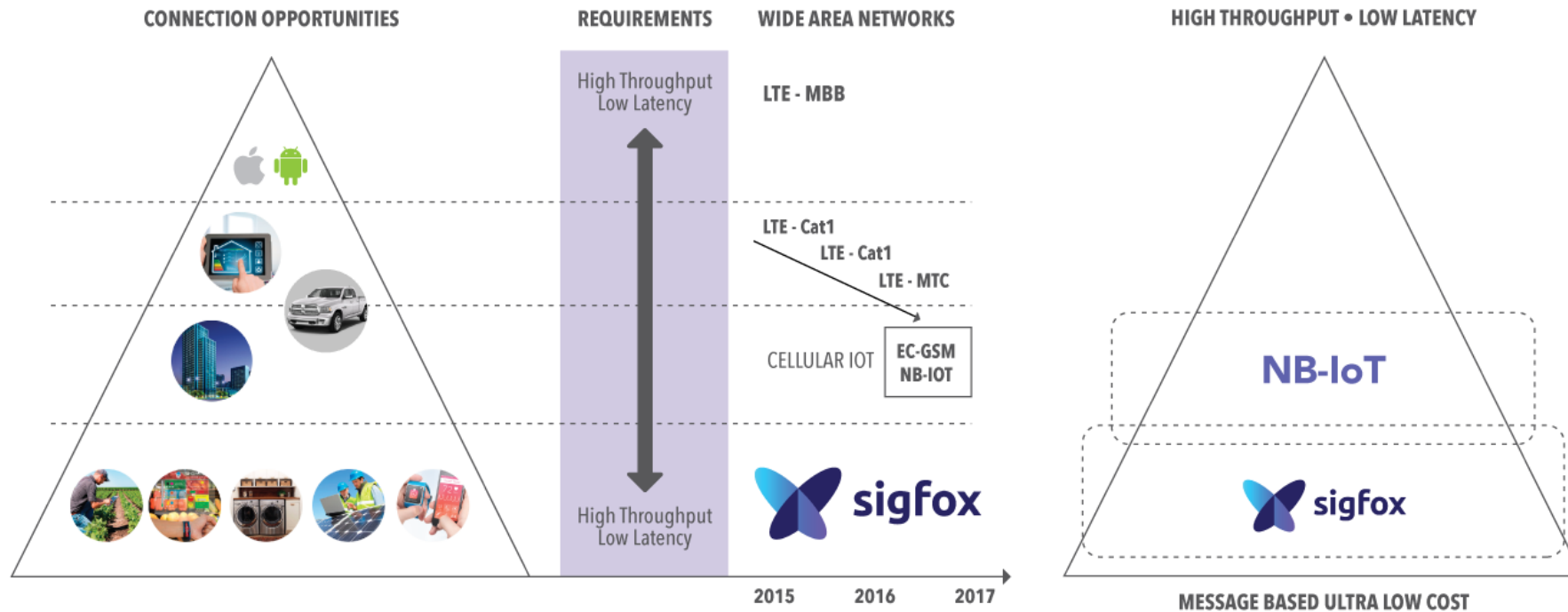
● IoT & Sigfox Basics | POTENTIAL



- IoT & Sigfox Basics | **USAGE**



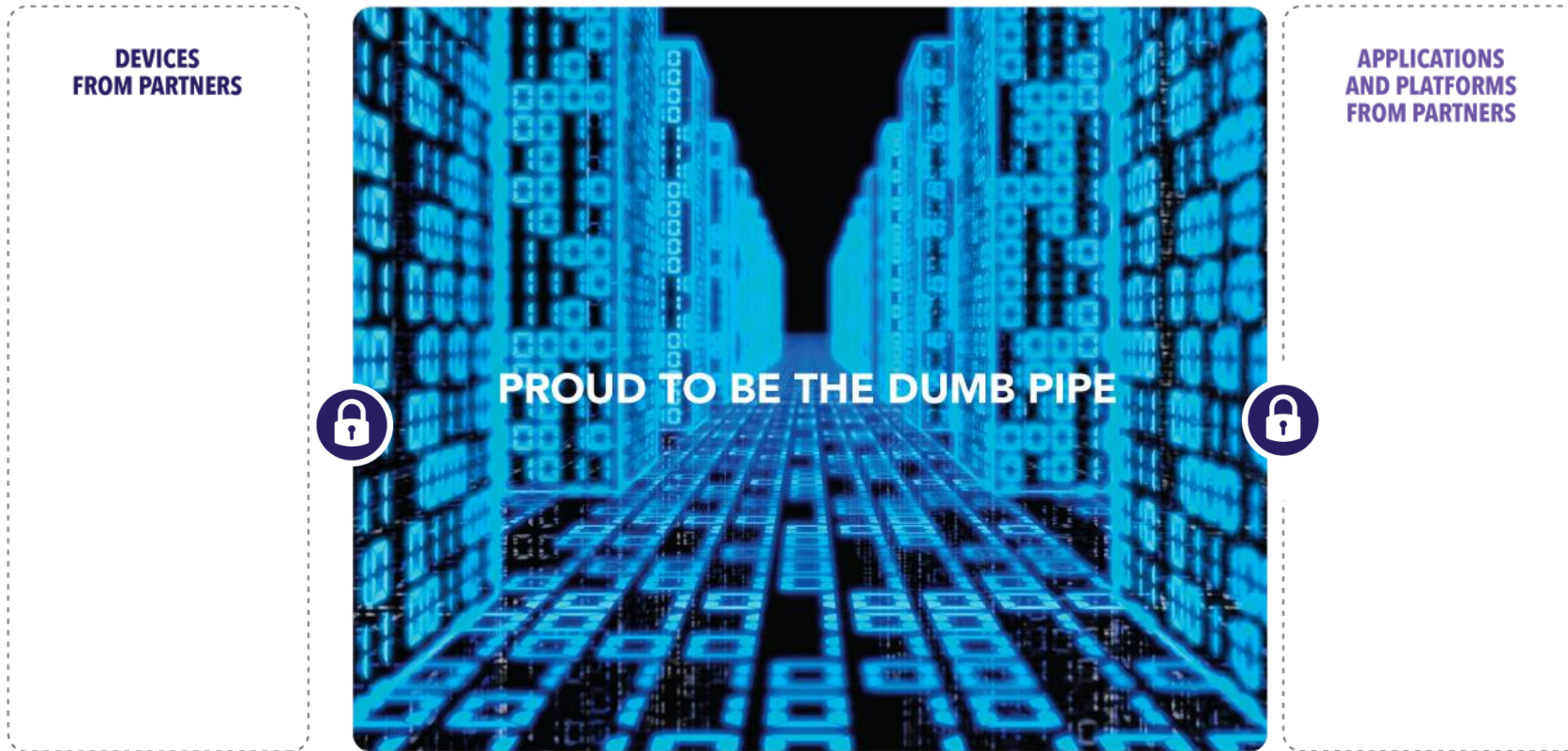
IoT & Sigfox Basics | **COMPLEMENTARY TECHNOLOGY**



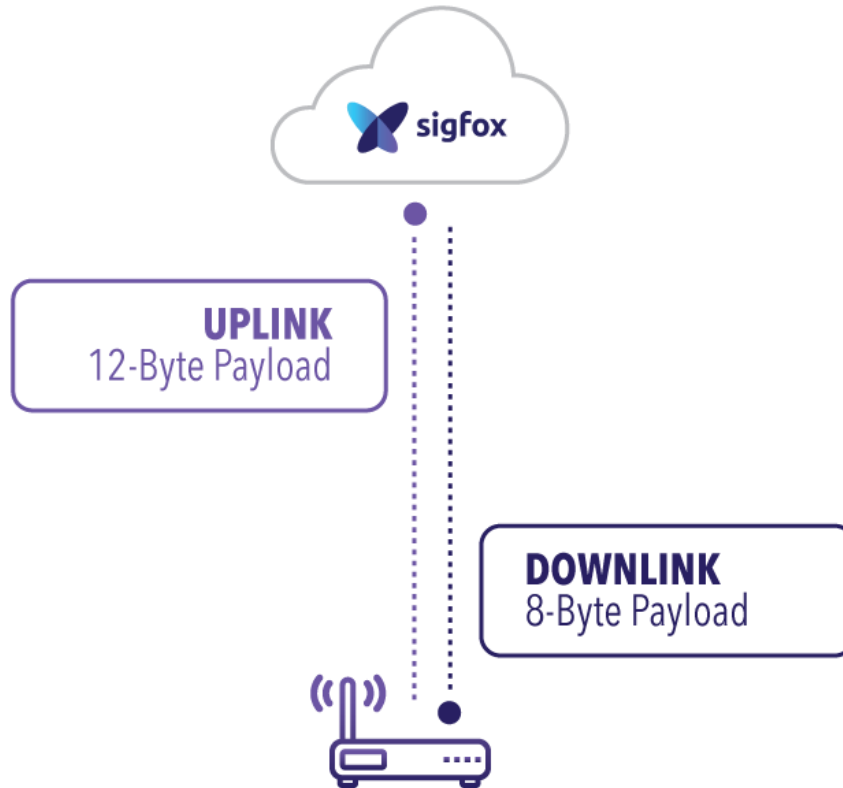
IoT & Sigfox Basics | SIGFOX IS A GLOBAL TECHNOLOGY








- IoT & Sigfox Basics | **SIGFOX IS A GLOBAL TECHNOLOGY**



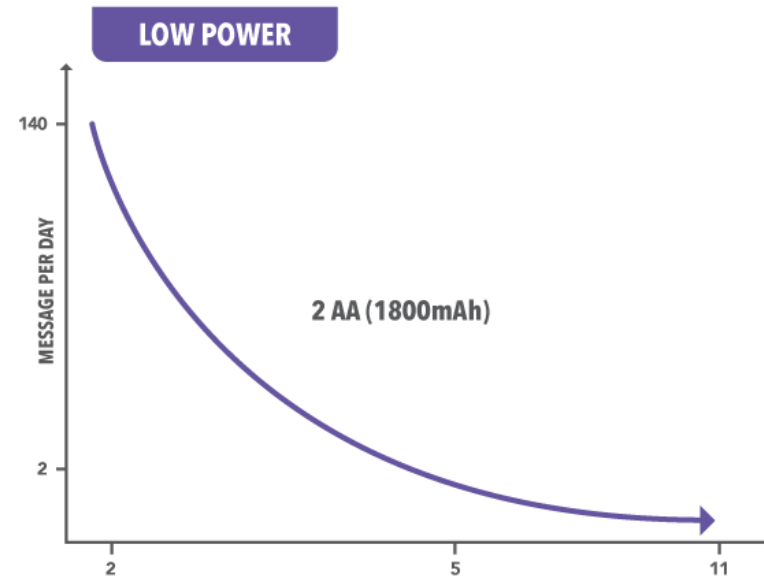
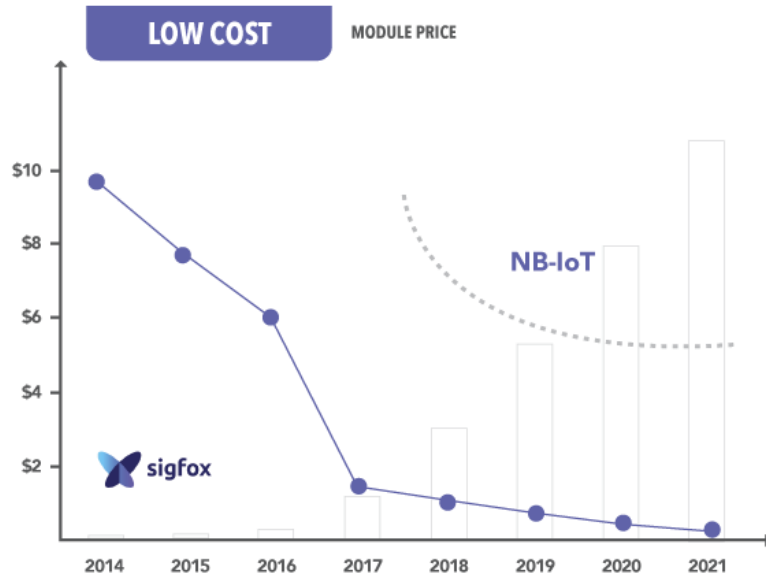
● IoT & Sigfox Basics | **SHORT MESSAGES**




PAYLOAD SIZE EXAMPLES

-  **6 BYTES:** GPS Coordinates
-  **2 BYTES:** Temperature Reporting
-  **1 BYTE:** Speed Reporting
-  **1 BYTE:** Object Reporting
-  **0 BYTE:** Heartbeat
Demonstrate when an object is alive

● IoT & Sigfox Basics | POWER OF LOW



- Based on WiSOL Modem
- For FCC mode
- Considers only the energy used for the transmission and not from the application (depends from app to app)



- **TOPIC 2. Use Cases**

Battery management (From Sites up to Vehicles)

by Batteries Moura (BR)

Challenge

The battery discharge is usually an enormous problem. The customer needs to monitor the battery state from the distance as site visits are normally not a viable option.

Solution

The connected Battery management solution limits the service failure of critical assets. The maintenance operator is instantly notified via SMS or Mail of any detected event on the backup power supply, 4 types of alerts sent via the platform: loss of power supply, loss of service, profound discharge, disconnection of the battery or the device.

Benefits

- ✈ Intervention before service interruption
- ✈ Increase the service availability
- ✈ Optimization of battery maintenance and working lifetime



<http://www.moura.com.br/en/produtos/>

Home Alarm System

by Verisure (BR)



Challenge

Alarms are traditionally connected through GSM to central system and burglar intrusion can be facilitated by GSM jammers. There is a need for effective backup connectivity to ensure more robust alarm transmissions.

Solution

Sigfox has upgraded Securitas Direct's alarm systems to provide a back-up connectivity in case jamming is detected.

The upgrade was possible over the air as a Sub-GHz chip was already inside.



RCZ 2

Benefits

- ✦ Robustness of solution is a commercial differentiator
- ✦ Continuity of service
- ✦ Soft deployment via over the air update - no HW swap. No user impact
- ✦ Network available to handle millions of devices

<https://www.verisure.com.br/alarme-residencial>



Digital Rain Gauge by Agrosmart (BR)

Challenge

The rainfall information is used to plan important activities in the farm operations, from seedling to harvest. At the farm, most commonly the control is done in a notebook, through manual measurements. This Low quality of data, affect important decisions in the farm

Solution

The Agrosmart Digital Rain Gauge End-to-end solution was implemented on the farm, recording automatically the rainfall with high accuracy and sending the data to the cloud. The end to end solution include Installation, establish connectivity via Sigfox and 24h support online to the farm.

Benefits

- ✦ Improvement of Farm operation and management
- ✦ Cost reduction with water and defensives
- ✦ Cost reduction with labor
- ✦ Online reports and specialist support to the farmer

<http://www.agrosmart.com.br/en/>



Racks/Pallet Tracking

by Reciclapac (BR)

Reciclapac

Challenges

How to recover lost pallets balancing cost of the solution & power saving

Solution

Track and trace a fleet of racks/pallets

- GPS-FREE location services
- combine data analytics & machine learning
- low cost and ruggedized device

Overall low TCO from devices to connectivity based on Sigfox

Benefits

- ✦ Saving costs and time
- ✦ Affordable solution for all types of racks/pallets
- ✦ Avoid expensive and power consuming GPS-based solution
- ✦ Offer additional services to customers



Electricity Meter connectivity plug in by M2M Telemetry (BR)



Challenges

Real-time measurement of energy consumption and moderate it according to cost at the time of use.

Solution

- The solution allows the remote control of the valve in case of over-usage.
- The solution can adapt the electric power according to parameters (price, time of day, etc.).
- It is also in line with current and new regulations like pay per use.


Benefits

- ✦ Productivity gains
- ✦ Reduced loss due to not allowed usage
- ✦ Reduced number of customer visits
- ✦ Enable prepayment plans
- ✦ The NIC can be connected to a number of smart meters



Network Interface Card





● **TOPIC 3. WND Group**

- WND Group | **OUR GOALS FOR 2019**

COUNTRIES

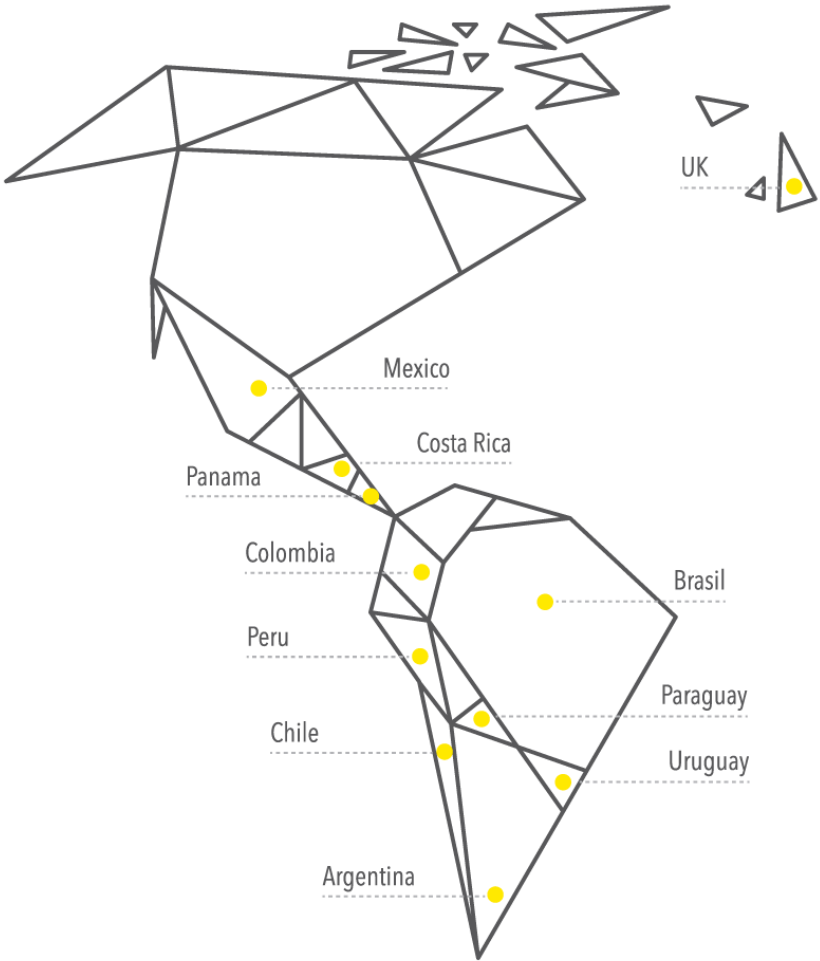
20

% POPULATION

85%

PEOPLE COVERED

500 MILLION



● WND Group | ARGENTINA: COVERAGE 2018

PEOPLE COVERED

23 MILLION

POPULATION DATA

