

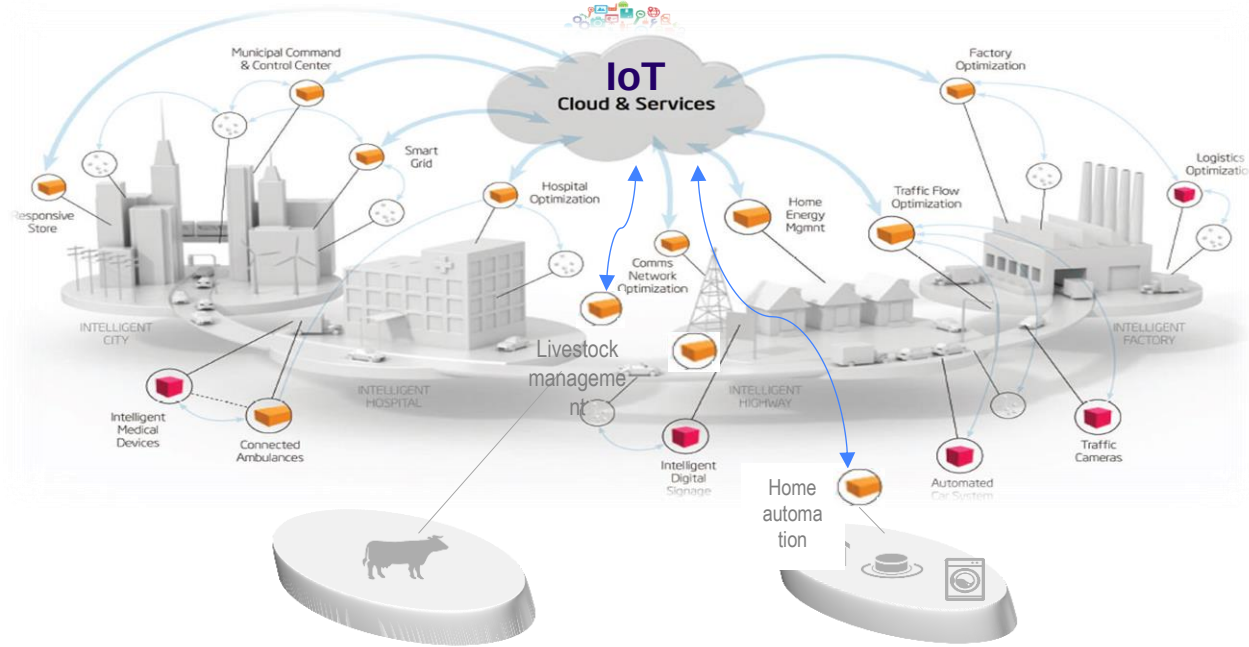


“A 1ª. Rede IoT Nacional: conectividade de baixo custo, alta cobertura e baixo consumo de bateria”

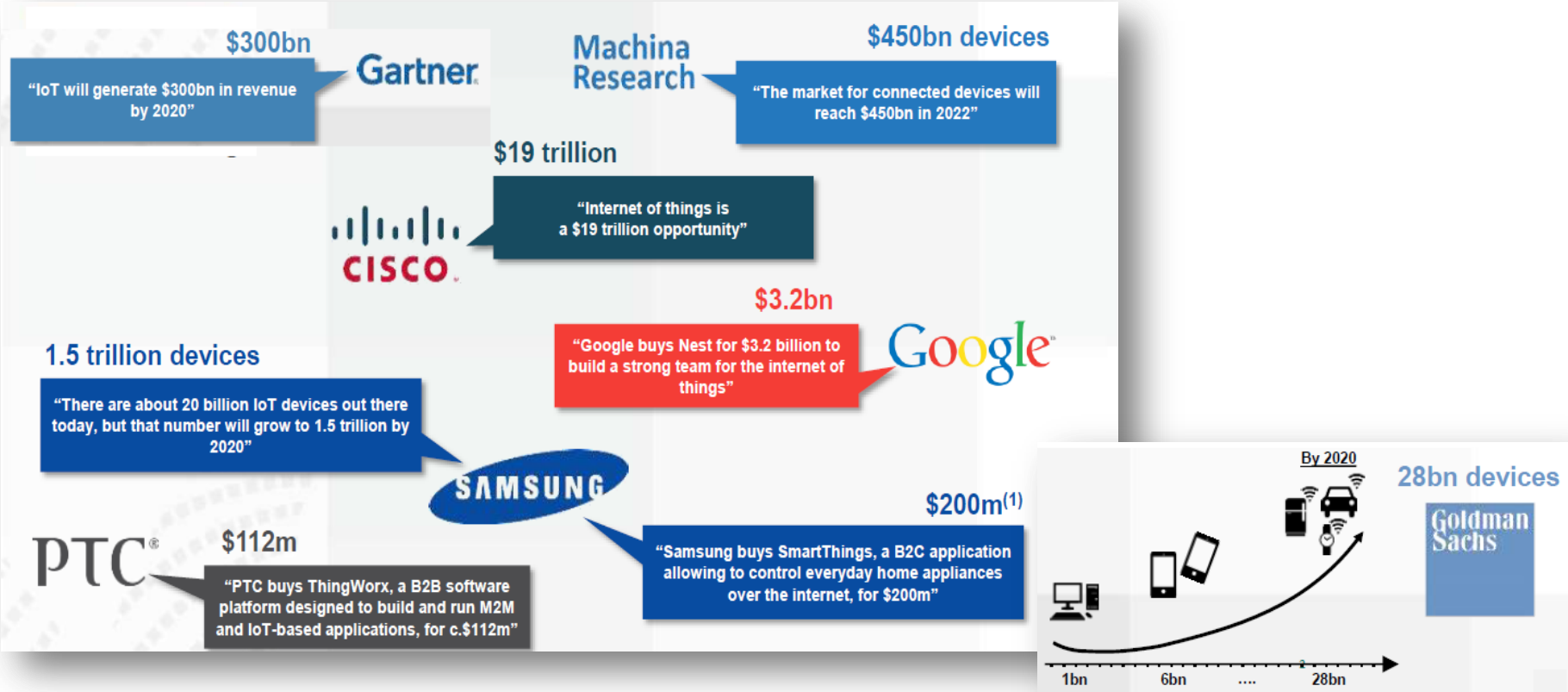
17 de Abril de 2018

Fabiano Costa – WND – Gerente de Vendas e Desenvolvimento de Negócios

IoT connects things to the Internet to **make them come alive**



IoT no Mundo



Mercados Verticais para IoT



Video bandwidth requirements are reaching beyond 200 Mbps



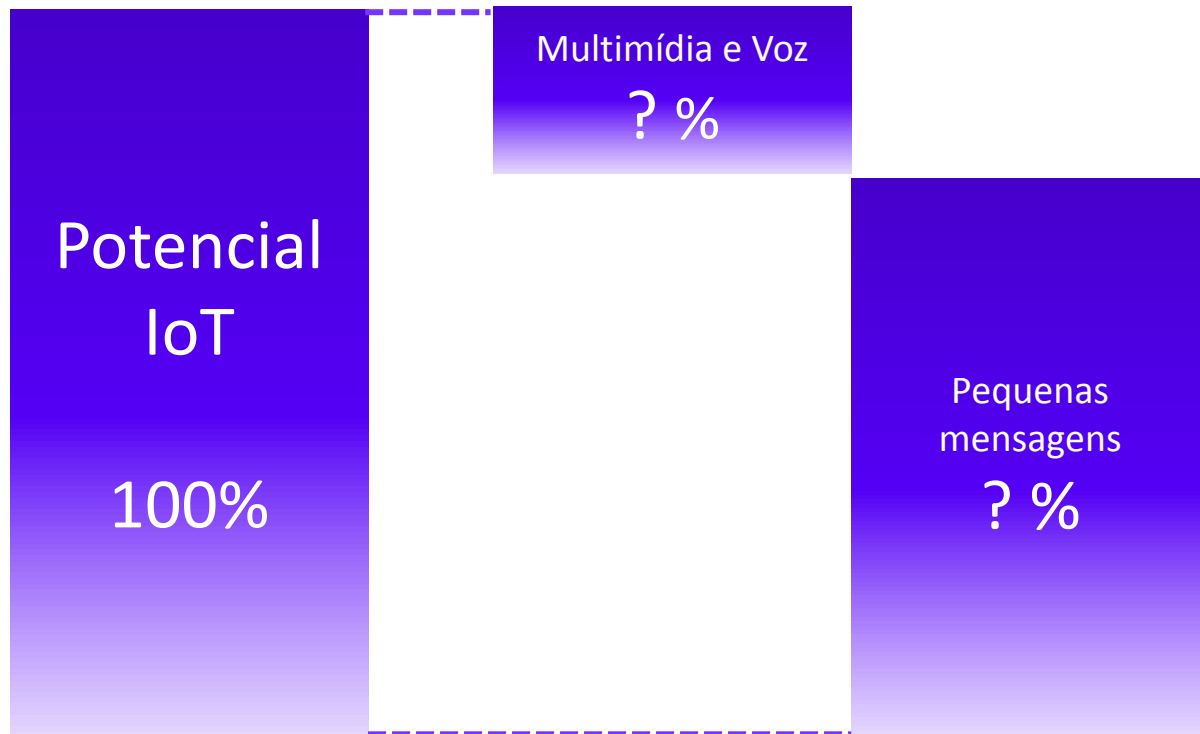
Mas é isto que precisamos para IoT?

The era of high quality video is coming. Bandwidth requirements will reach beyond 200 Mbps.

Quais as alternativas para
conectar os objetos?



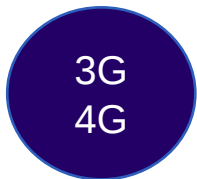
Nem tudo precisa de banda larga...



SMALL MESSAGES:

Meter Index (2 Bytes)
GPS Coordinate (6 Bytes)
Temperature (2 Bytes)
Door Opening (1 Byte)
Battery status (0 Byte),
Movement / Gyro (2 Bytes)
Part Status (1 Byte),
ON/OFF (1 Byte)...

E as redes atuais não foram criadas para IoT



Cobertura Ampla (Wide Area)

Altas taxas de transferência

Alto consumo de bateria

Alto custo

Necessidade de SIM card



Conectividade Local

Altas taxas de transferência

Alto consumo de bateria

Baixo custo

Necessidade de pareamento



Conectividade Local

Baixas taxas de transferência

Baixo consumo de bateria

Baixo custo

Necessidade pareamento



- Criada em 2010, na França, + 20 patentes
- Recebeu \$309.7M de aporte de 22 Investidores

Telefonica

^{NTT}
docomo

SK telecom Ventures

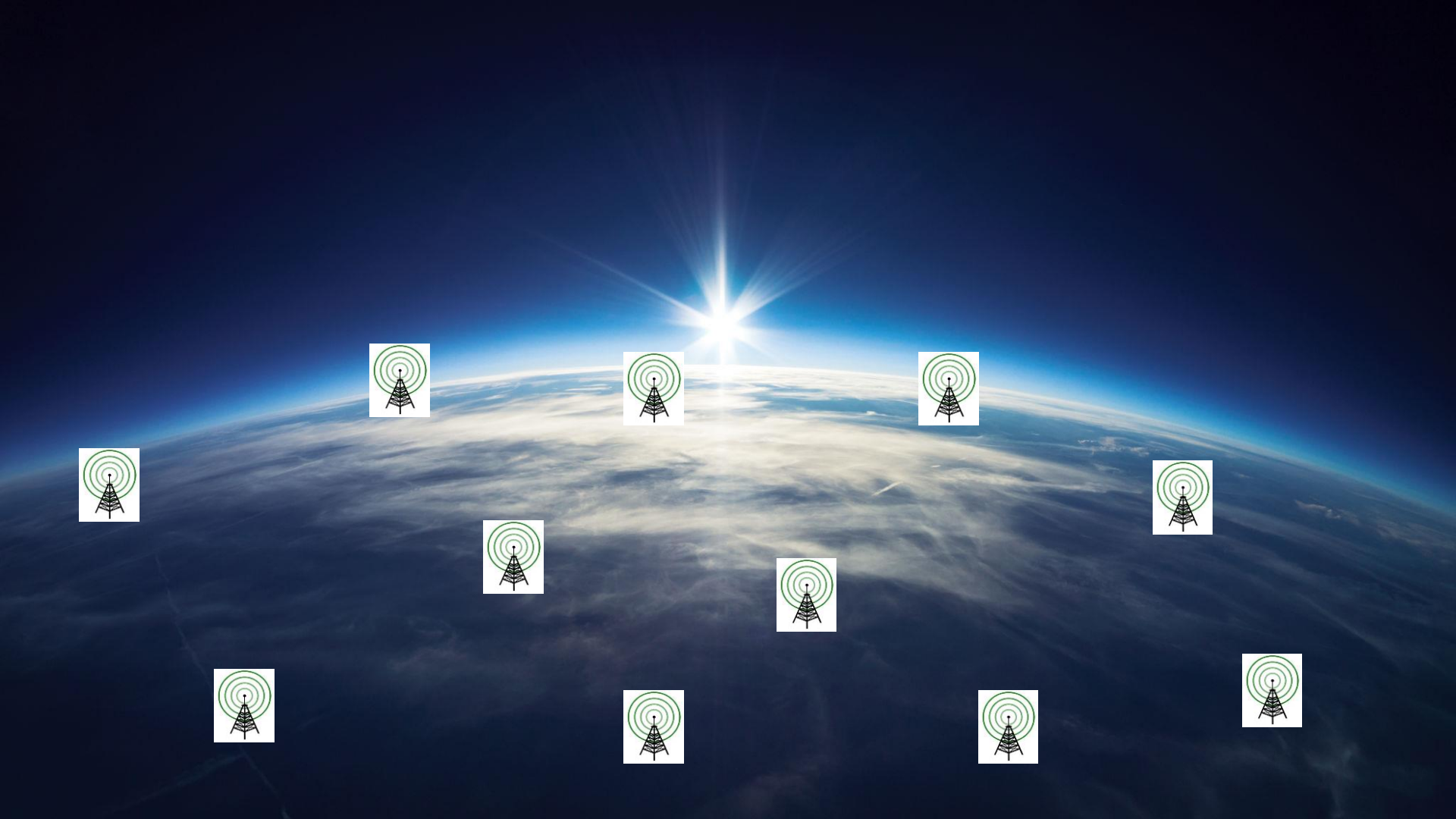


ENGIE



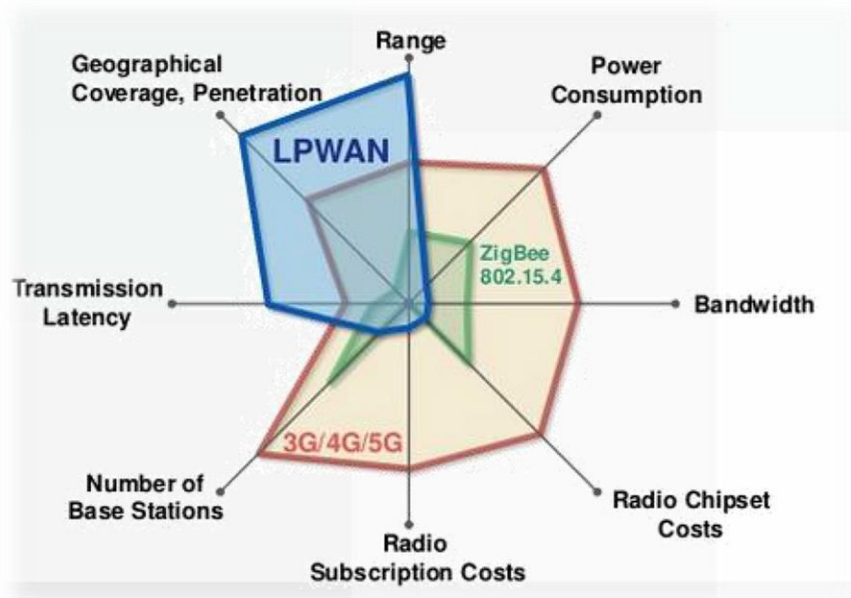
idinvest
PARTNERS





LPWA surge como uma rede complementar

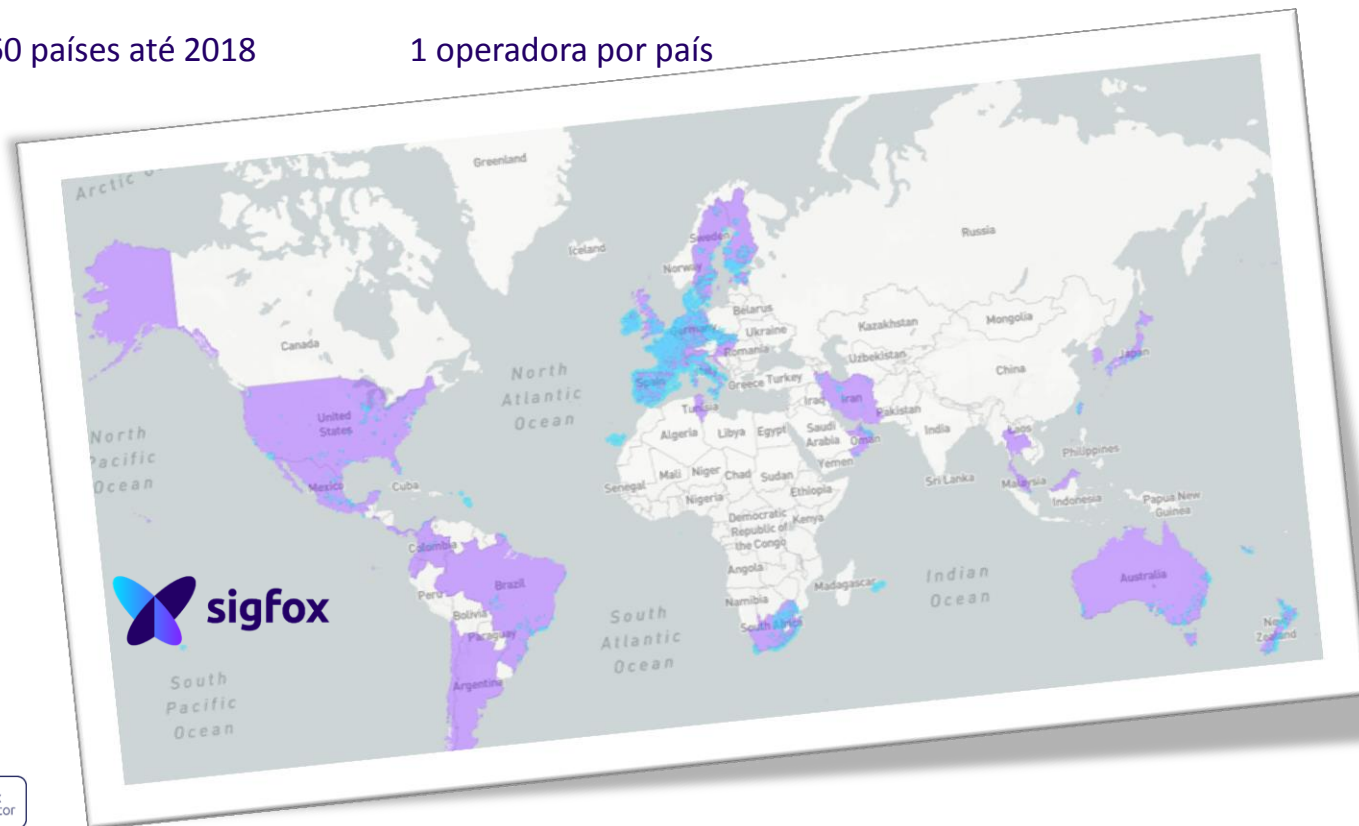
- Grande Cobertura
- Baixo Consumo de energia
- Baixo Custo de dispositivo / conectividade
- Normalmente em Frequência não licenciada



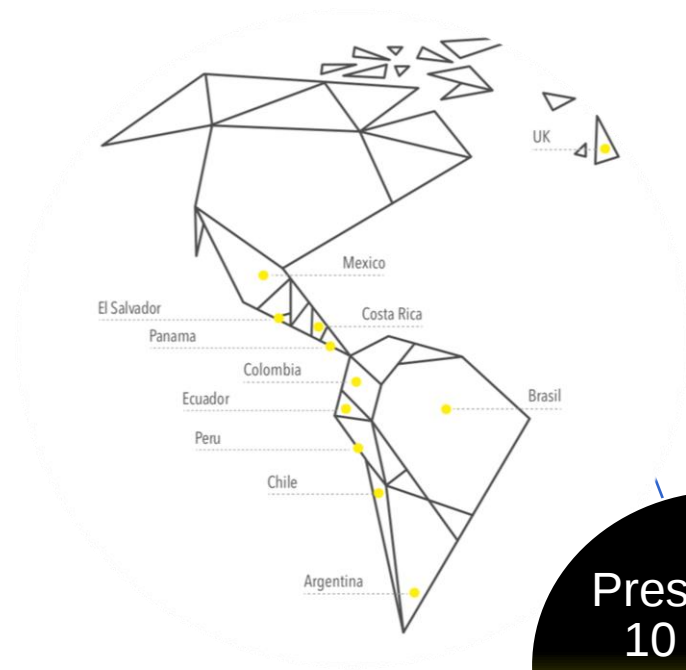
Sigfox: uma única rede presente em 45 países

Plano de cobrir 60 países até 2018

1 operadora por país



WND: a operadora Sigfox na América Latina e Reino Unido

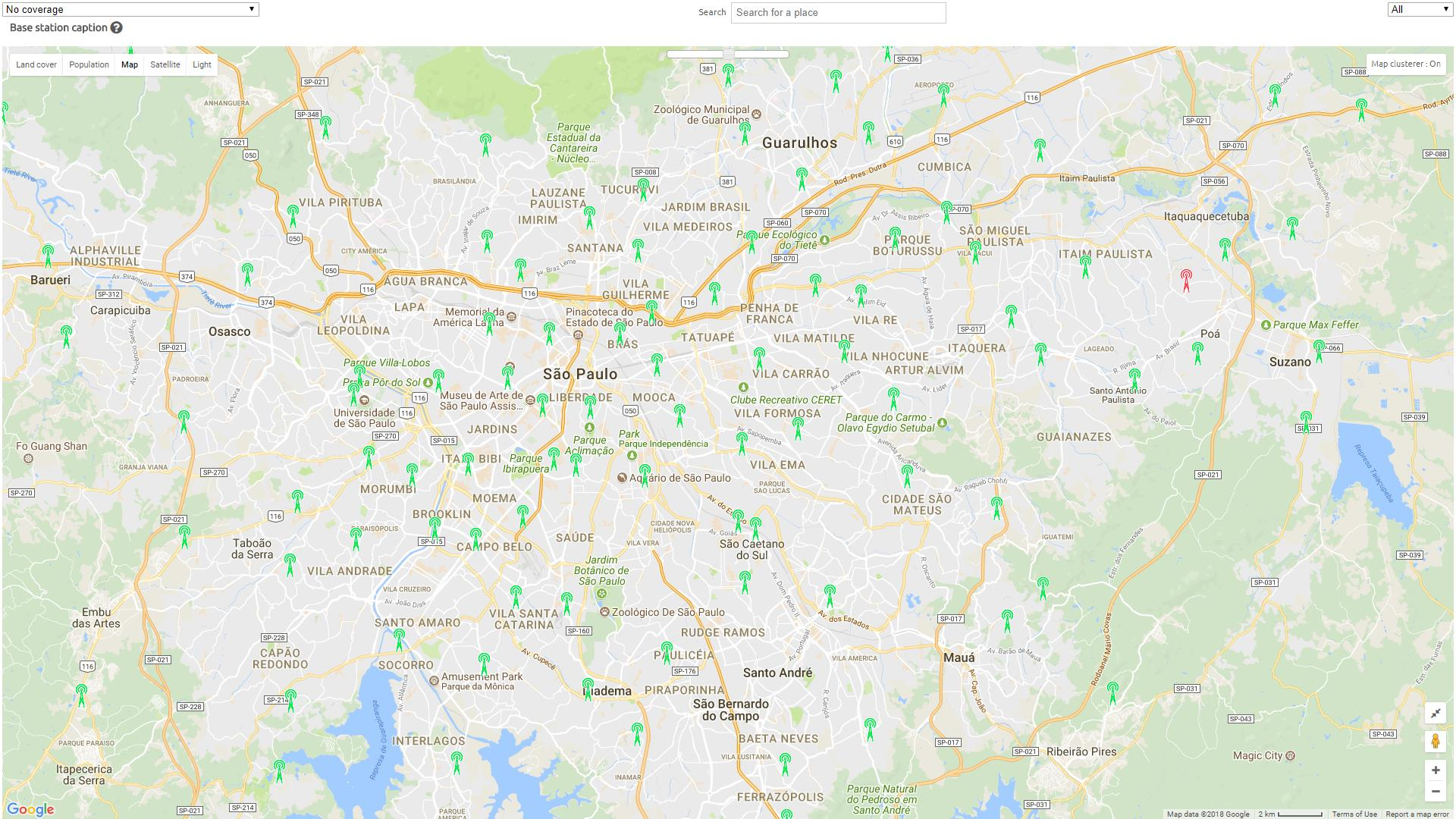


120
milhões de
pessoas
atendidas

100%
capitais de
estados
cobertas

Presente em
10 países
(14 até final
de 2018)

Presente em
70% das
capitais com
mais de 200
mil habitantes



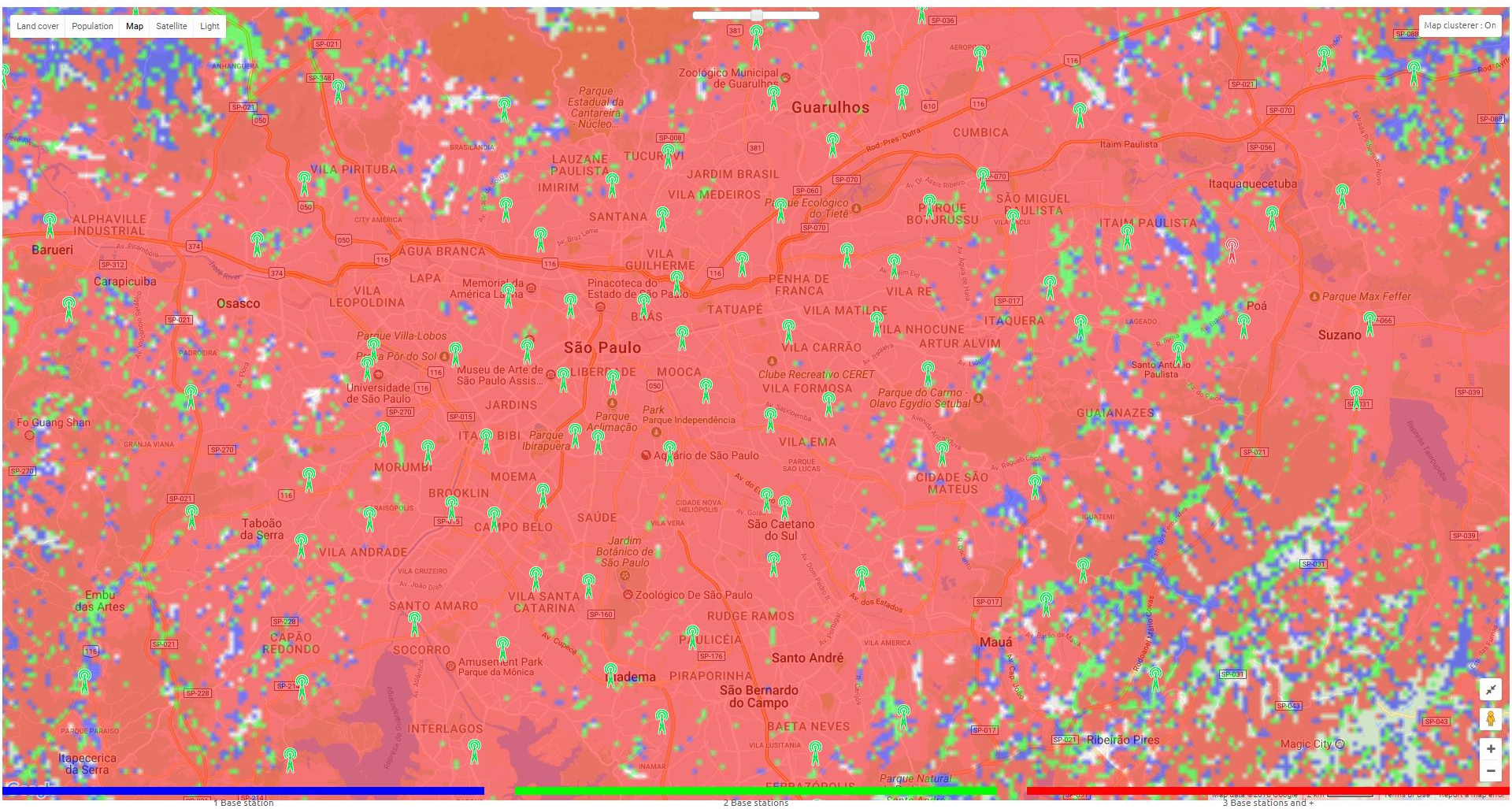
Base station overlap for max link budget

Link Budget offset 0

Search for a place

All

Base station caption ?



Base station overlap for max link budget

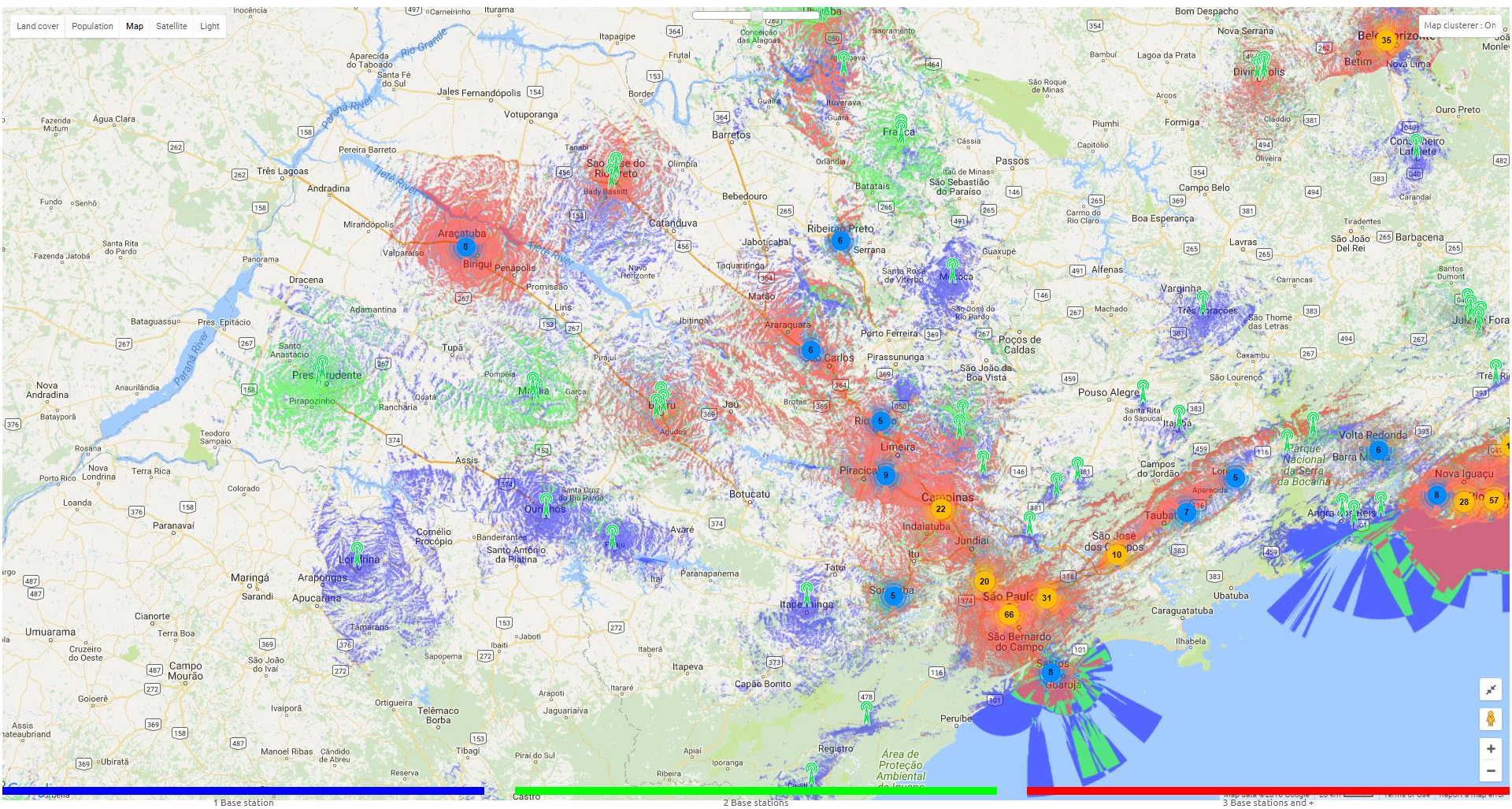
Link Budget offset 0

Search Search for a place

All

Base station caption ?

Land cover Population Map Satellite Light





Base station overlap for max link budget

Link Budget offset 0

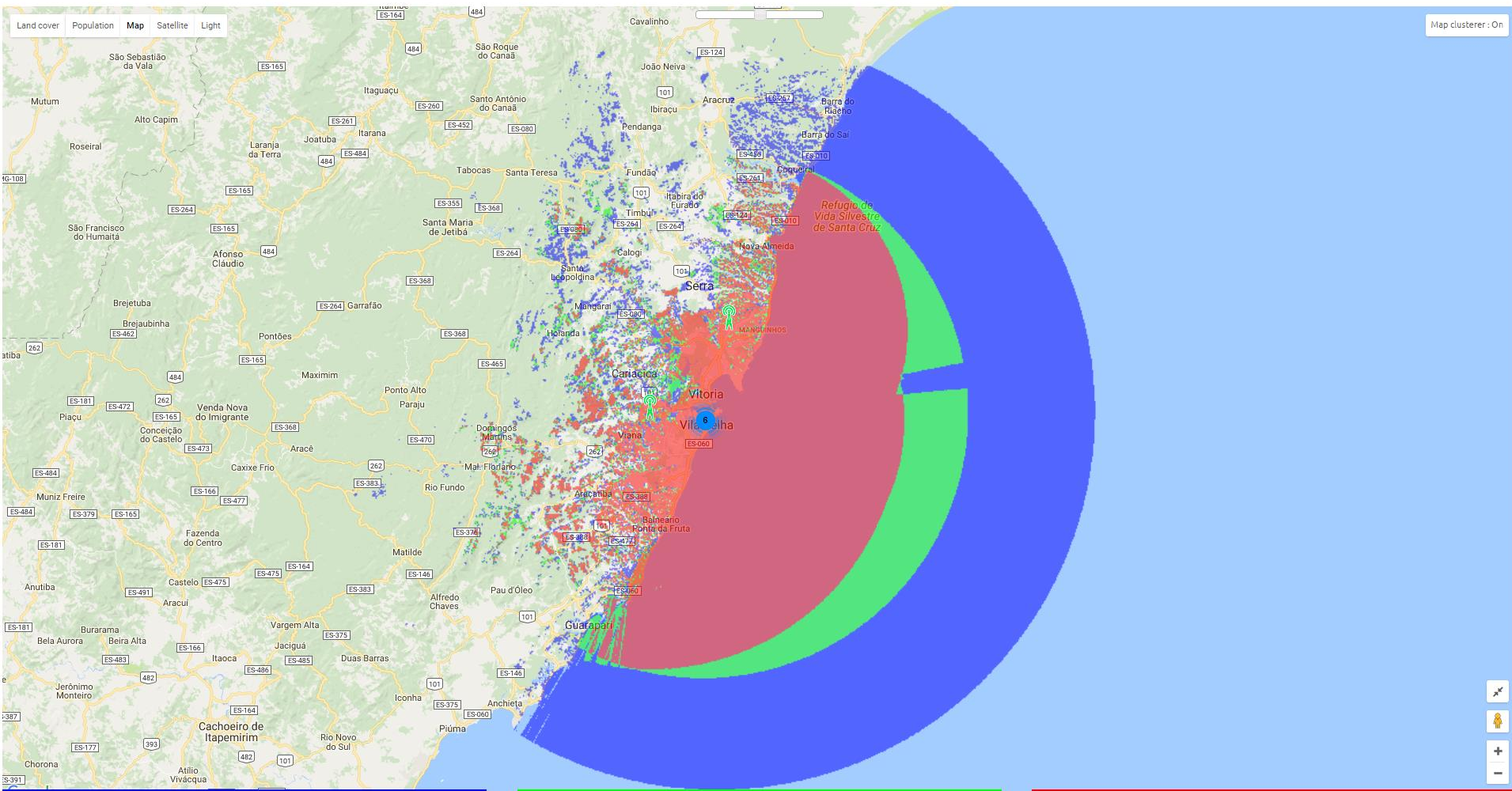
Search Search for a place

All

Base station caption ?

Land cover Population Map Satellite Light

Map clusterer : On



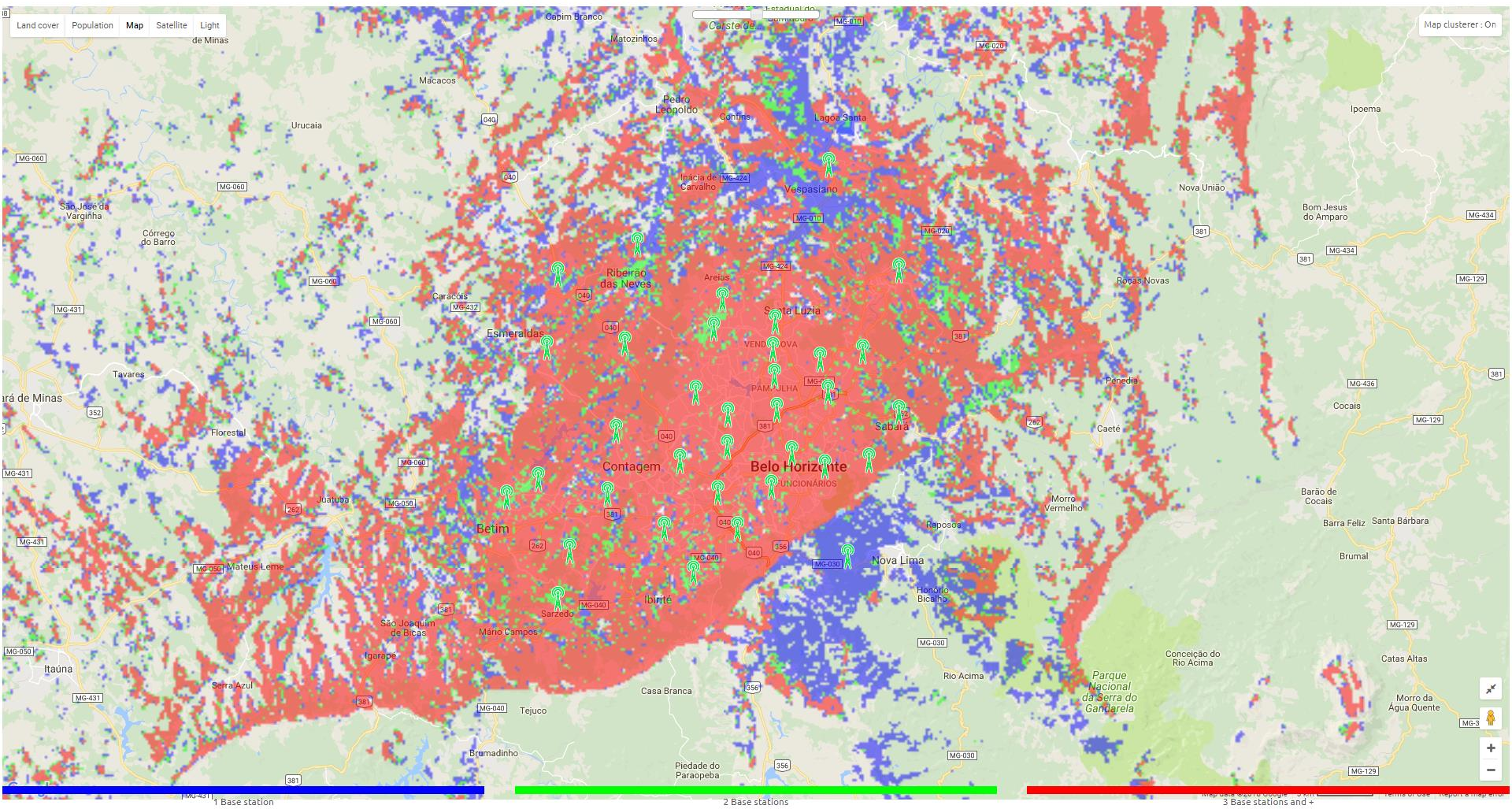
Base station overlap for max link budget

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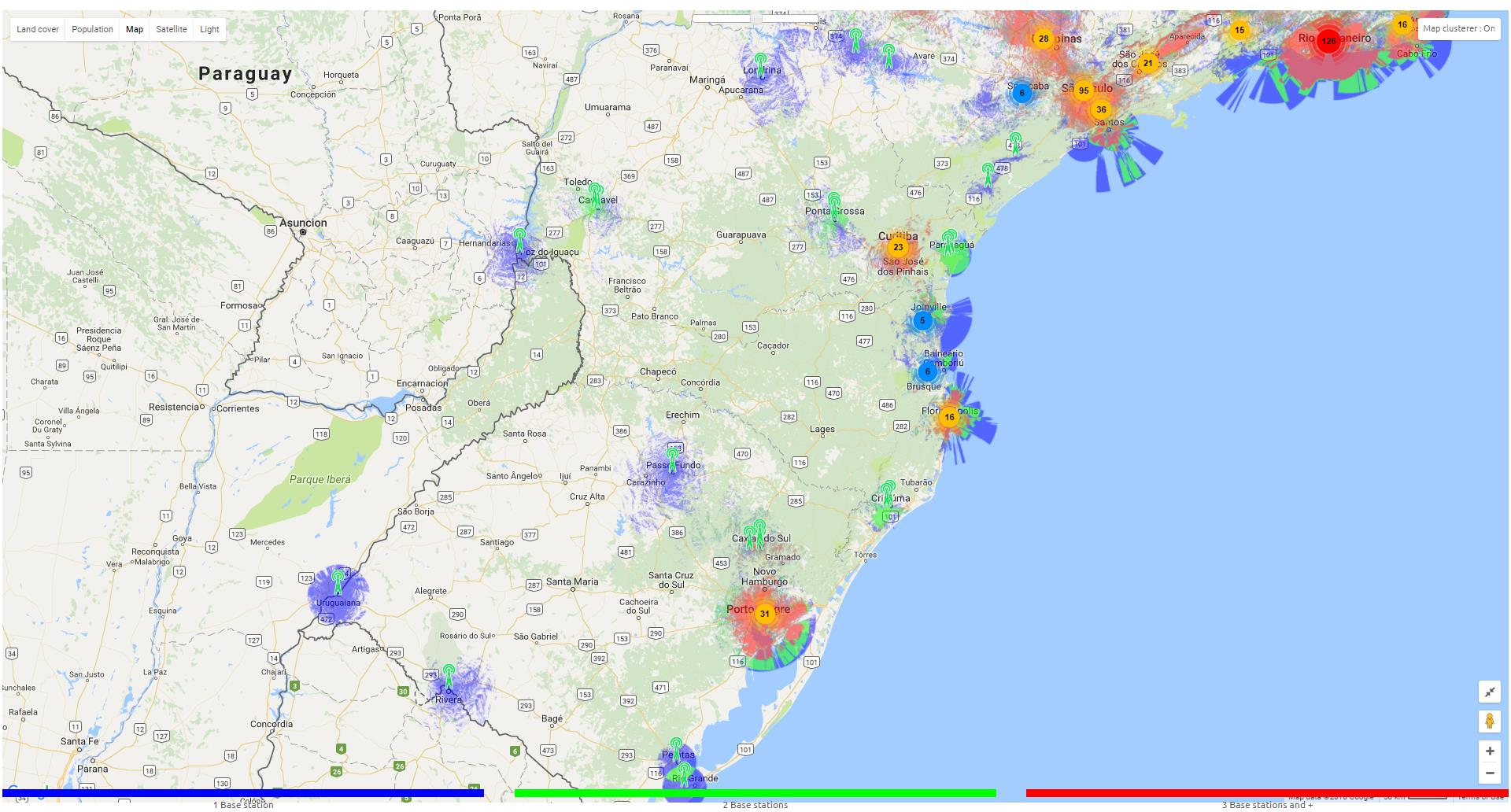
Base station overlap for max link budget

Link Budget offset 0

Search Search for a place

All

Base station caption ?



Base station overlap for max link budget

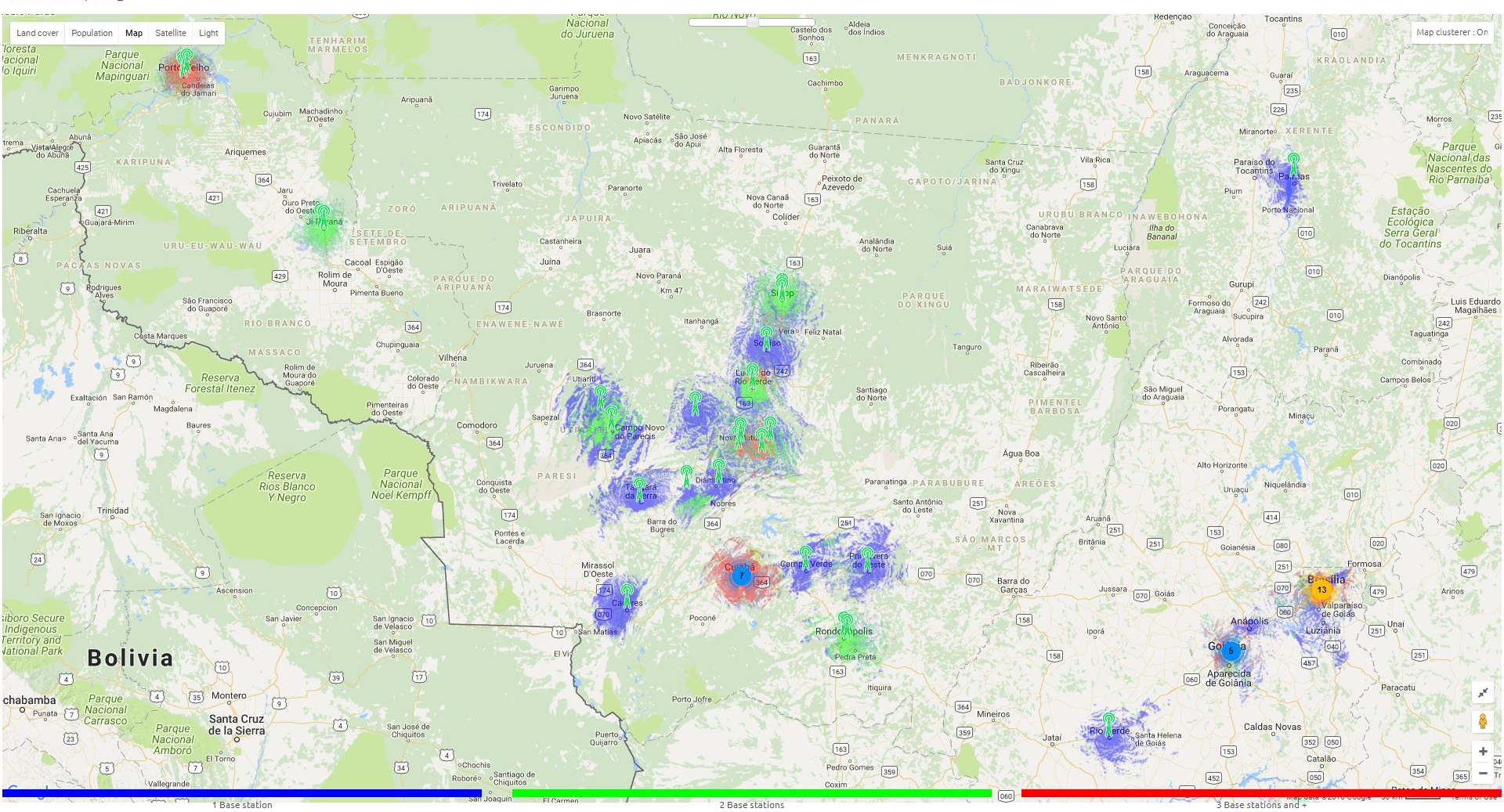
Link Budget offset: 0

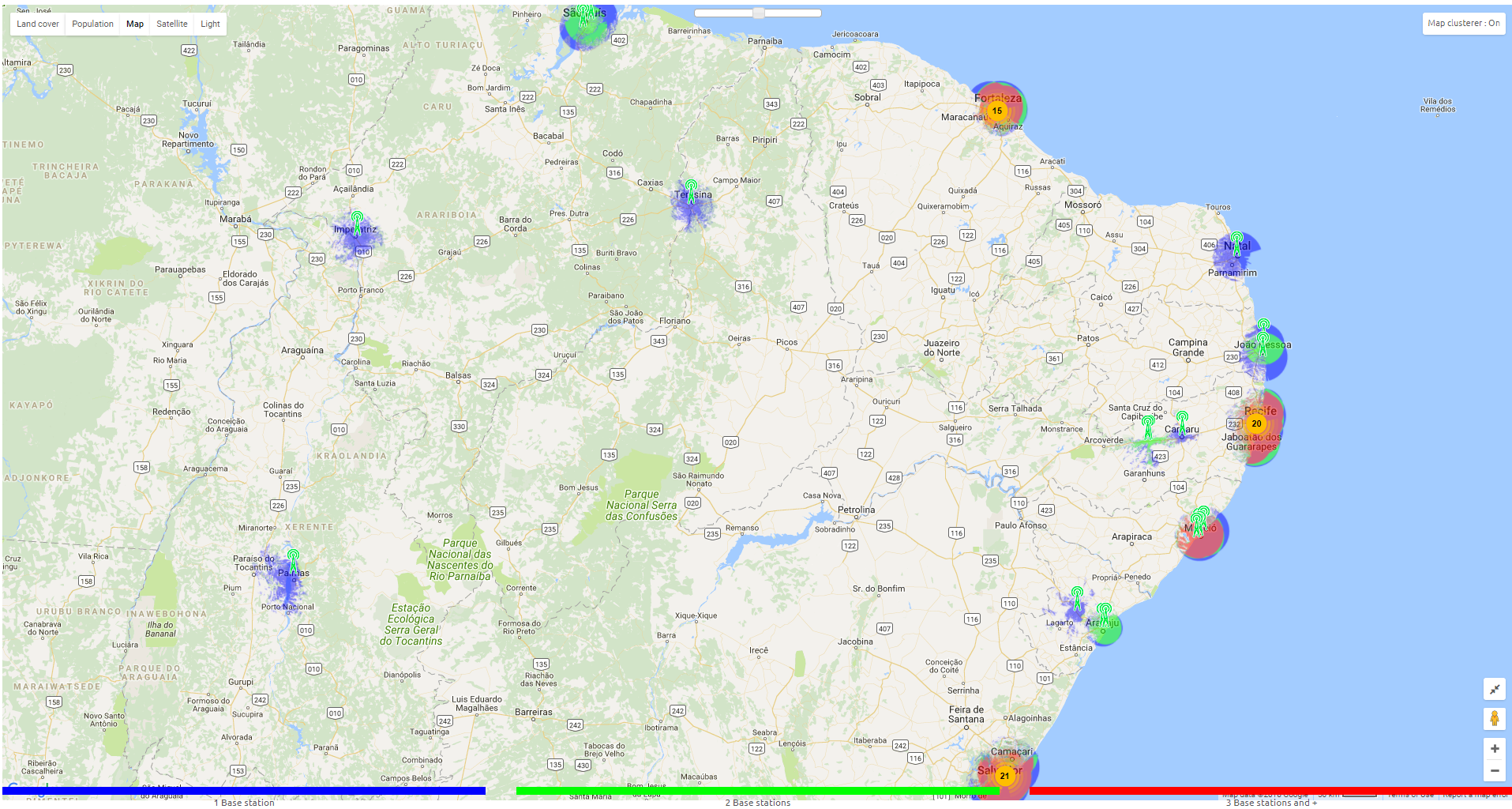
Search

Search for a place

All

Base station caption ?





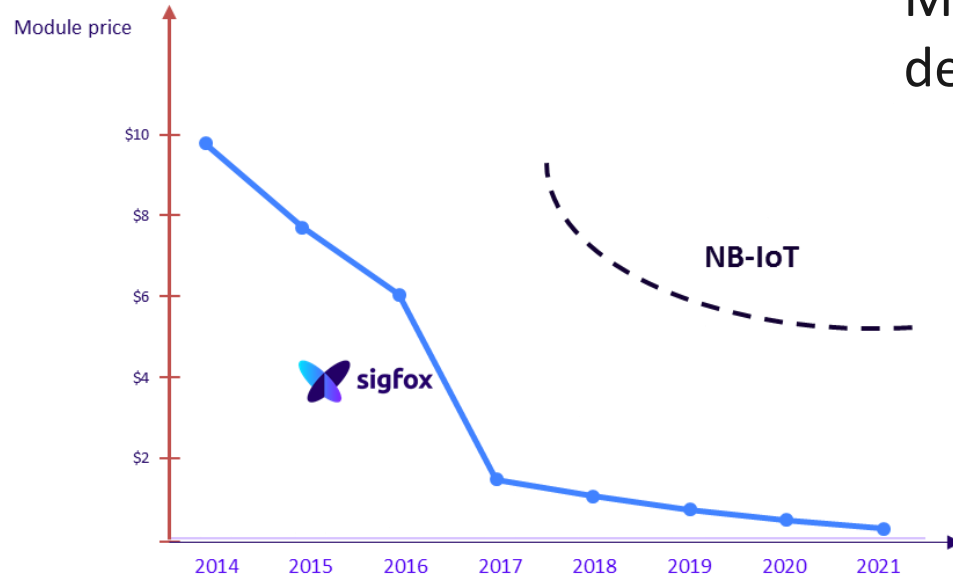
A proposta Sigfox



Preço dos modems

Módulos NB-IoT foram lançados a \$15 e se espera alcancem \$5.00 com o tempo

Módulos Sigfox hoje já custam \$2.60 e devem chegar a \$1.00 com o tempo.



Wisol Modem



Innocomm Modem

Source: www.huawei.com/minisite/iot/img/nb_iot_whitepaper_en.pdf

Preço da conectividade

Estrutura de preços simples:

Única para todos os canais

2 dimensões:

Número de dispositivos

Número de mensagens

Preços estruturados em Planos:

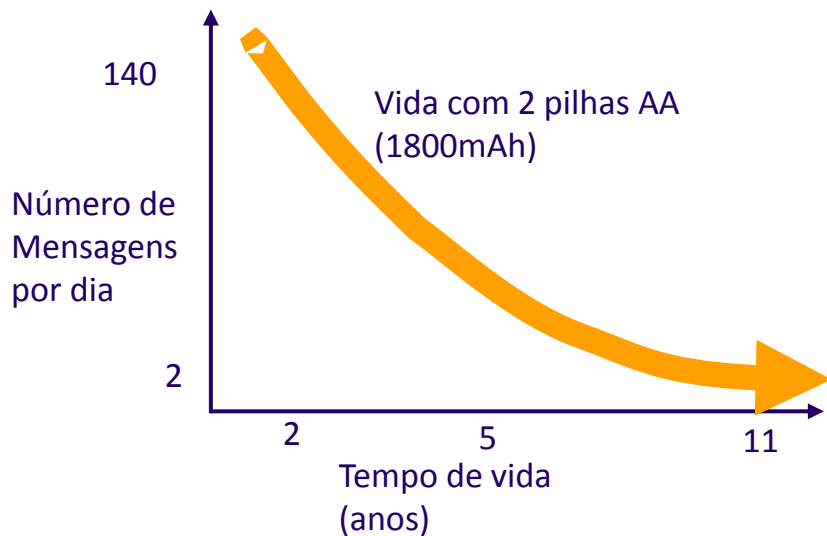
Plano	Mensagens Upload	Mensagens Download
Platinum	140	4
Gold	100	2
Silver	50	1
One	2	0



Número de
Mensagens
por dia



Baixo consumo de energia



Baseado no Modem WISOL

Calculado para o modo
“FCC/ANATEL”

Considera apenas a energia
usada na comunicação

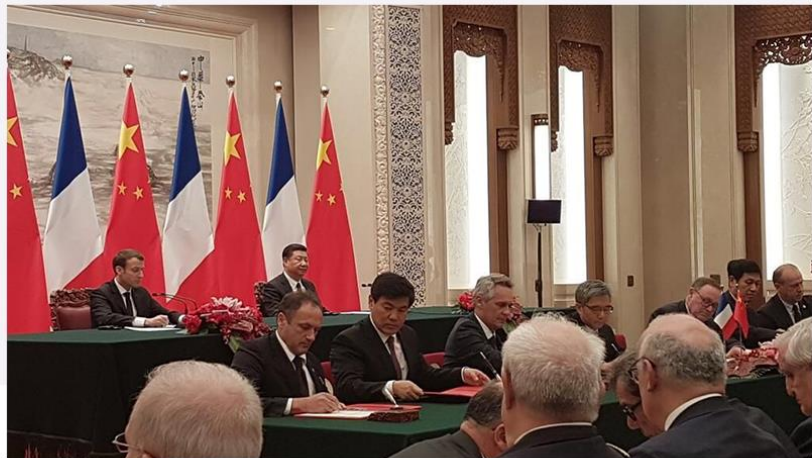


You can now buy a \$370 luggage tracker to look after your \$2,800 Louis Vuitton suitcase

Lucy Handley | Published 10:29 AM ET Fri, 6 April 2018



Senioradom & Sigfox sign new partnership to be developed in Chengdu, China



An innovative and revolutionary solution

Senioradom and Sigfox have developed a telecare solution made up of different movement sensors and door opening detection, as well as an alert and geo-localisation necklace. The solution has been designed to automatically detect any potential behavioural anomalies due to a fall, a person feeling faint or a deteriorating mental condition such as Alzheimer's. Thanks to the autolearning algorithms developed by Senioradom, which have been operating successfully in France for the past 3 years, together with Sigfox's technology that allows the transmission of data at a very low cost and with minimum energy use, this innovative solution will allow different cities in China to better protect their elderly populations by anticipating risks and acting faster in emergencies.

Smart Parking

by Sigmais

PoC

Problems solved

Optimize the management of parking spaces
Builds statistics to optimize the usage of the parking
Monitors specific permits for parking places

Solutions

The device detects the presence of a car through magnetic sensing and reports it through the Sigfox network, creating a callback message or a visual output available on a cloud management platform.

It can be used to minimize traffic congestion and all related drawbacks



Benefits

- Reduction of driving time
- Reduction of parking congestion
- Less pollution (CO2)
- Optimization of city resources
- Operations cost reduction
- Enhanced mobility
- Increase in safety
- New revenues from fining



A Rede Sigfox já está presente no Brasil

- Ampla Cobertura de Rede
- Robustez contra ação de Jammers
- Baixo preço de dispositivos (<10USD)
- Baixo preço de conectividade (<1USD / Ano)
- Baixo Consumo de energia (Anos de vida usando baterias normais)
- Ecossistema de dispositivos – específicos para cada aplicação

Obrigado!



A Operadora das
Coisas!

Fabiano Debastiani Costa

WND – Gerente de Negócios