What is sigfox

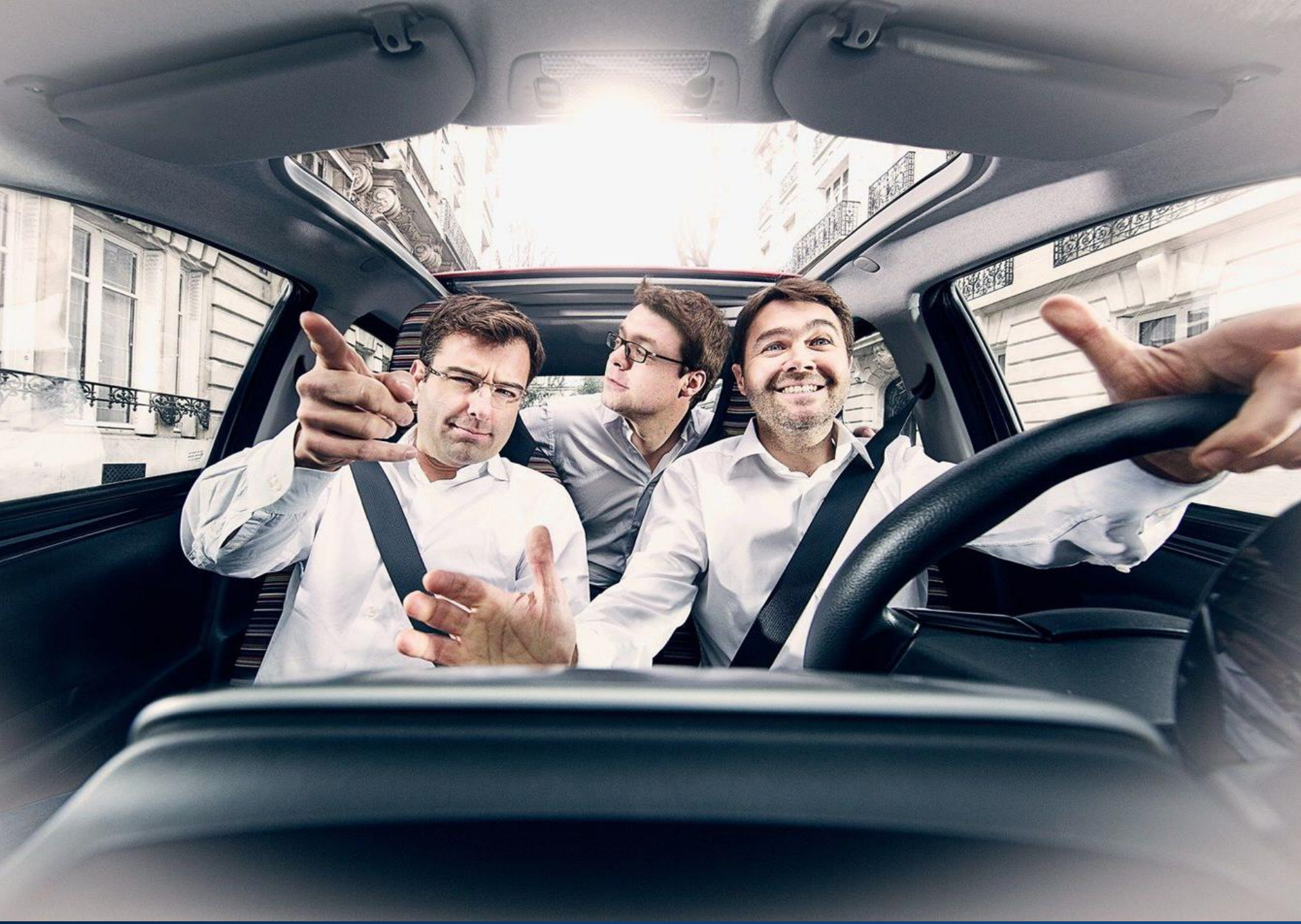
edp
IoT hackathon

Pedro Costa, NarrowNet

8 February 2017

What if?

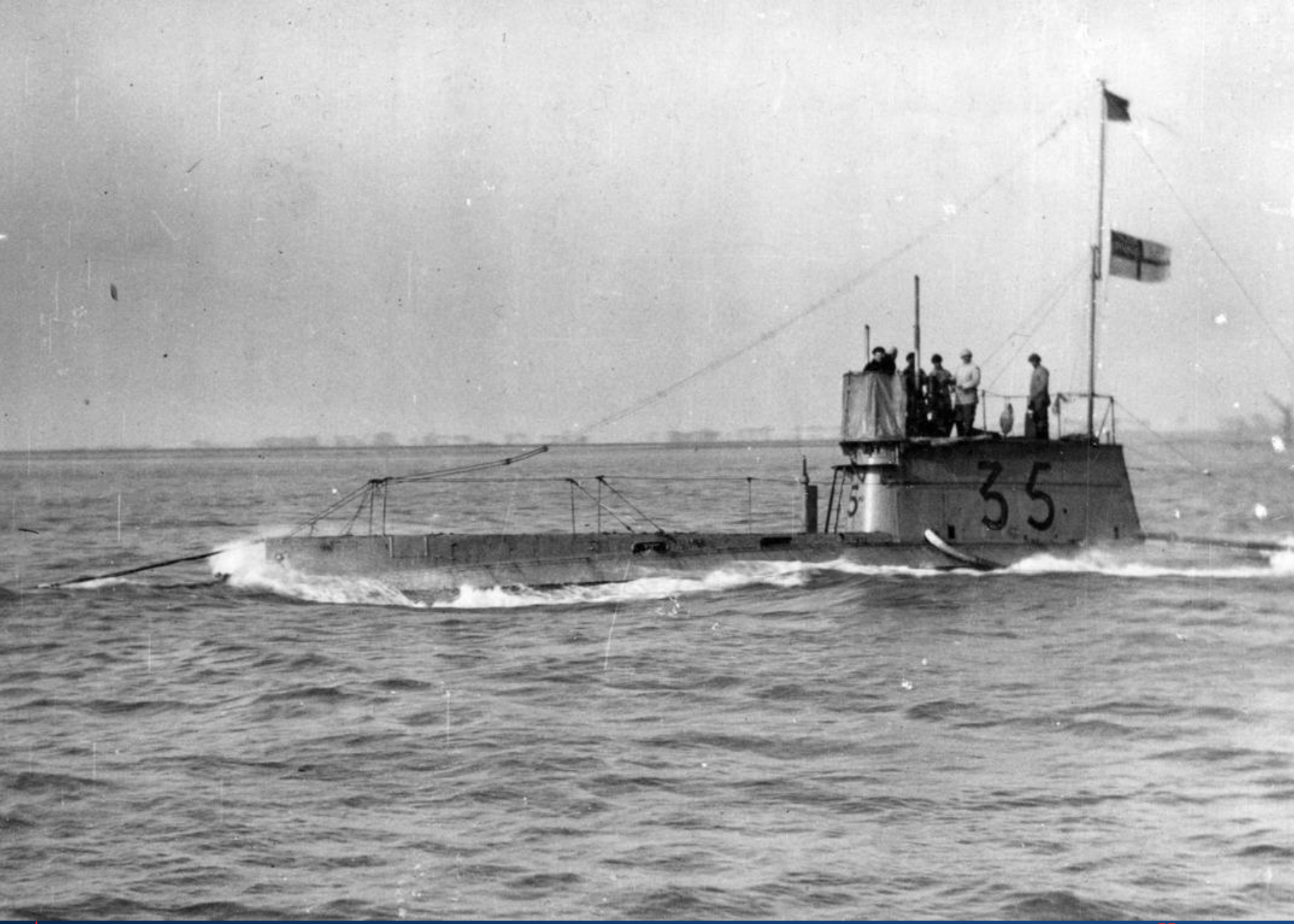
FOCUS FREE
28 mm LENS
GP HERO



MARMAC 304

TESLA

JUST
WALK
OUT
amazon go


35

sigfox
Christophe Fourtet
Sigfox CSO

What is sigfox

A new wireless network technology specifically invented for the Internet of Things.

Internet of Things

Things

Connectivity

Cloud

10101
01010
00100

Apps
Analytics
Control

Architecture

Sensor

Base station

Cloud

Apps

Architecture

Sensor

Base station

Cloud

Apps

Technology

868 MHz

Frequency
RCZ1 (Europe)

100 Hz

Bandwidth
(UNB)

100 bps

Bitrate

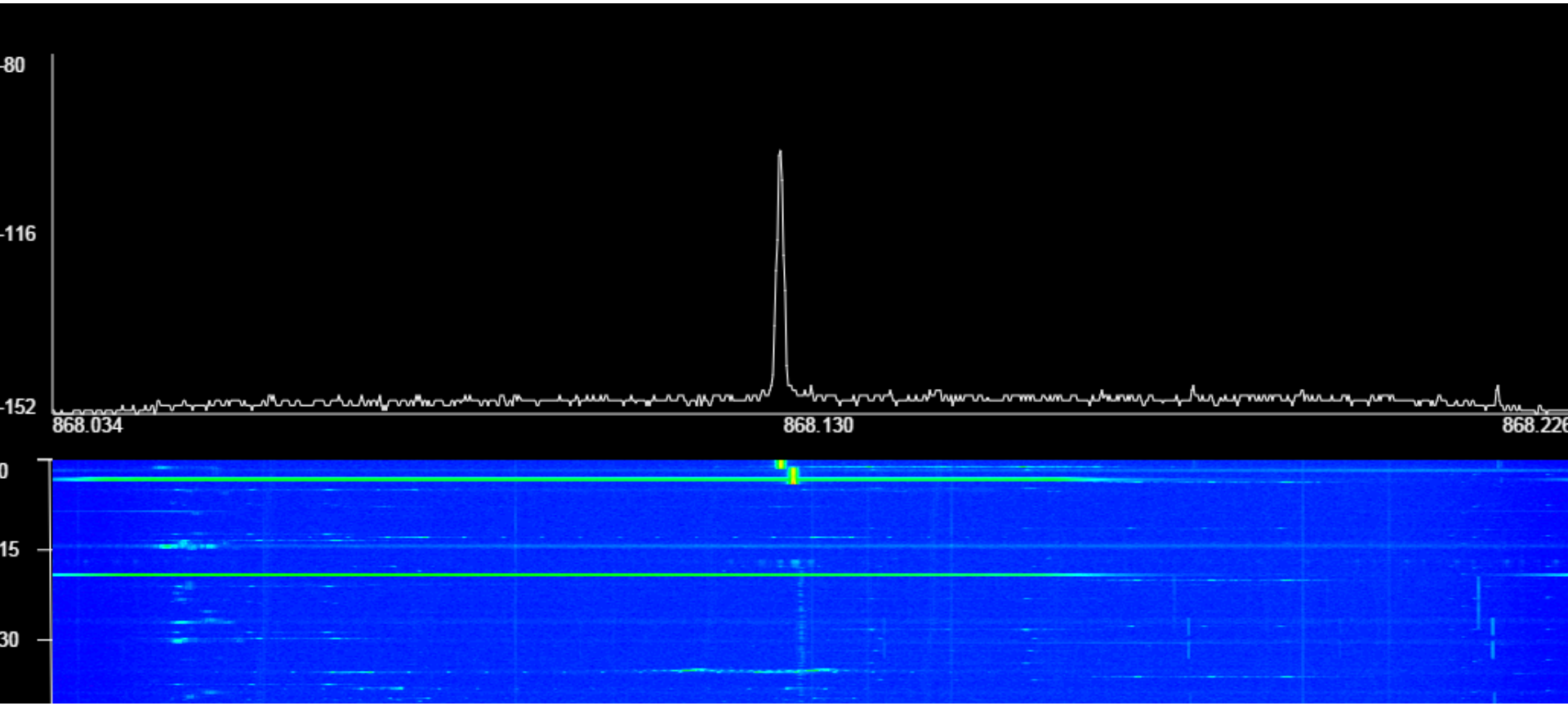
14 dBm

Max power of
devices

Technology

	Messages/Day		Bytes
Uplink	140	x	12
Downlink	4	x	8

Technology



Time, frequency and spatial redundancy

Components

Exterior

Interior

Characteristics

A new long distance wireless network technology optimized to send and receive small messages.

Characteristics

Independent
Global

A new long distance wireless network technology optimized to send and receive small messages.

Characteristics

kms

A new long distance wireless network technology optimized to send and receive small messages.

Characteristics

Energy
Costs

A new long distance wireless network technology optimized to send and receive small messages.

Characteristics

A new long distance wireless network technology optimized to send and receive small messages.

Two-way communication

Characteristics

A new long distance wireless network technology optimized to send and receive small messages.

12 bytes

Characteristics

Independent
Global

kms

Energy
Costs

A new long distance wireless network technology optimized to send and receive small messages.

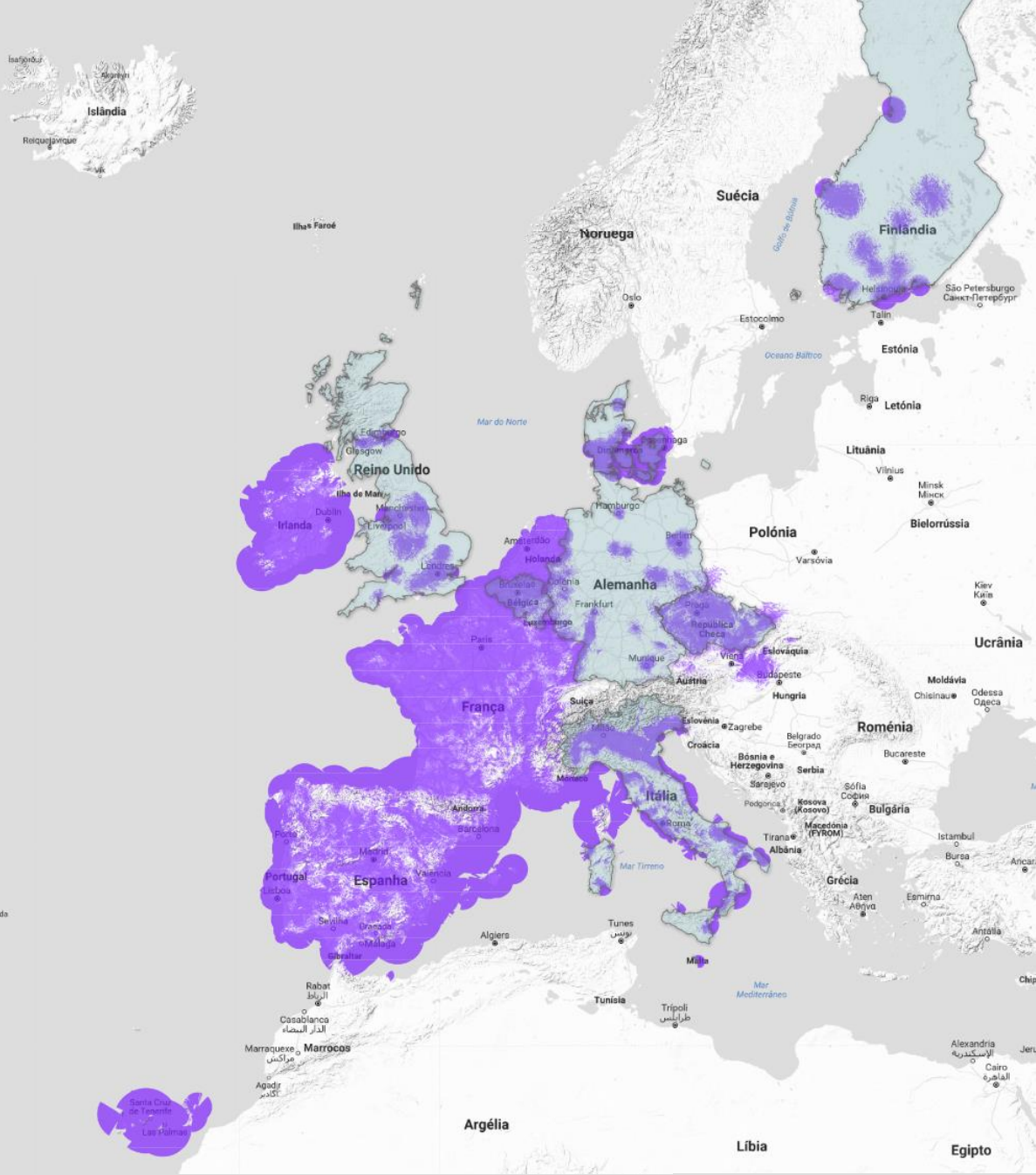
Two-way
communication

12 bytes

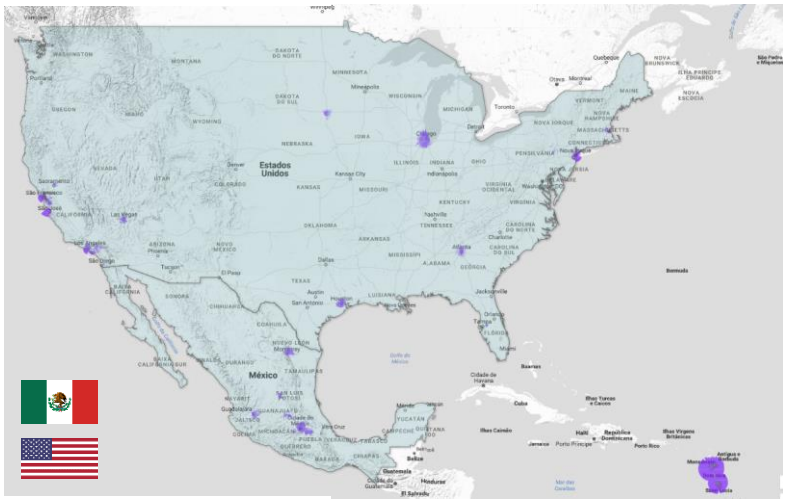
Out-of-the-box
No installation
No signalling
No configuration
Reduced maintenance
Good indoor propagation
Jammer resistant

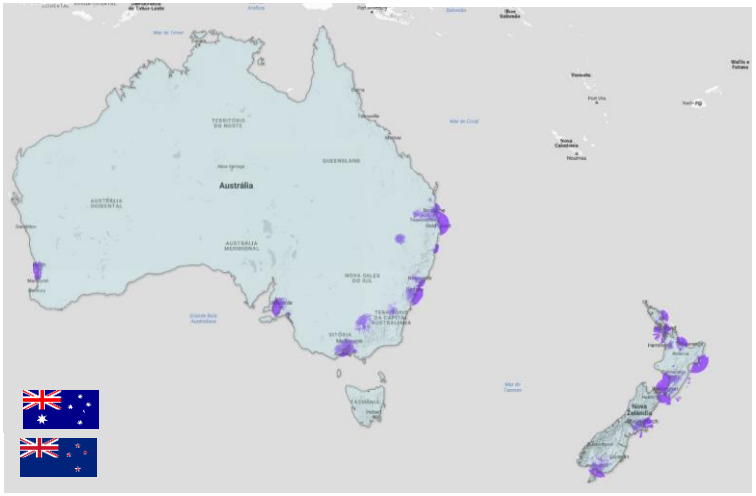
Coverage

2014
2015
2016
2016
2016
2016


Islândia
Reiquejavique
Ilhas Faroé
Noruega
Oslo
Suécia
Estocolmo
Finlândia
Helsínquia
São Petersburgo
Talin
Estónia
Oceano Báltico
Riga
Letónia
Lituânia
Vilnius
Minsk
Bielorrússia
Mar do Norte
Edimburgo
Glasgow
Reino Unido
Ilha de Man
Irlanda
Dublin
Manchester
Liverpool
Londres
Amesterdão
Holanda
Bruxelas
Bélgica
Hamburgo
Berlim
Alemanha
Frankfurt
Paris
França
Munique
Polónia
Varsóvia
Viena
Áustria
República Checa
Eslováquia
Budapeste
Hungria
Ucrânia
Kiev
Moldávia
Chisinau
Odessa
Suíça
Eslovénia
Zagreb
Croácia
Roménia
Bucareste
Belgrado
Bósnia e Herzegovina
Sarajevo
Serbia
Sófia
Bulgária
Pedgorica
Kosovo (Kosovo)
Macedónia (FYROM)
Tirana
Albânia
Itália
Roma
Andorra
Barcelona
Madrid
Valência
Portugal
Lisboa
Espanha
Mar Tirreno
Istambul
Burea
Grécia
Aten
Esmirna
Ponta Delgada
Sevilha
Granada
Málaga
Gibraltar
Algiers
Tunes
Malta
Mar Mediterrâneo
Rabat
Casablanca
Tunísia
Tripoli
Marraquexe
Marrocos
Agadir
Alexandria
Cairo
Santa Cruz de Tenerife
Las Palmas
Argélia
Líbia
Egipto

Coverage

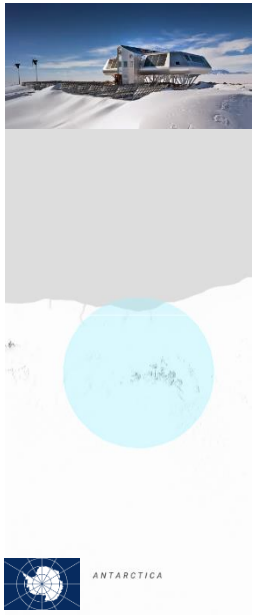

Estados Unidos
México


Austrália

Venezuela
Colômbia
Brasil
Peru
Bolívia
Paraguai
Chile
Argentina

Arábia Saudita
Sudão
Chade
Etiópia
Botswana
África do Sul

Coreia do Norte
Coreia do Sul
Japão


ANTARCTICA

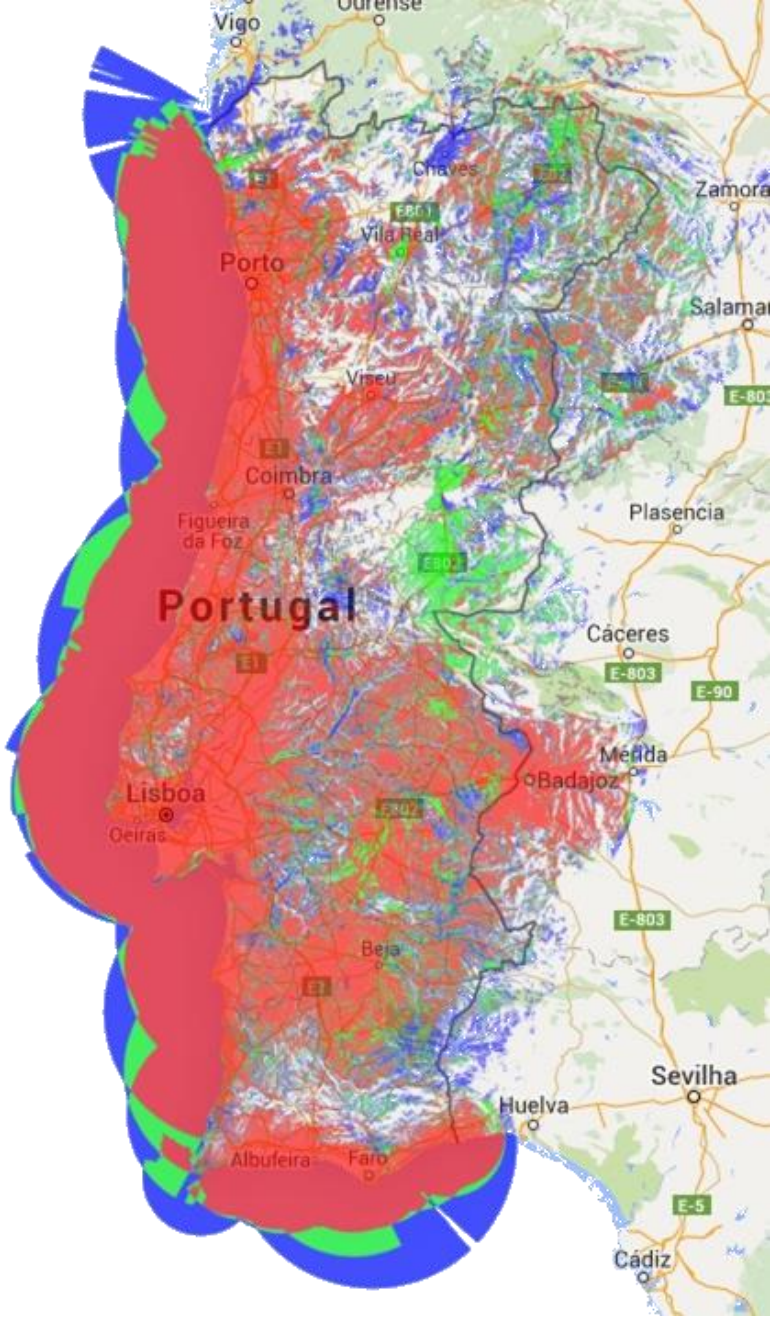
Coverage

92%

Population

75%

Area



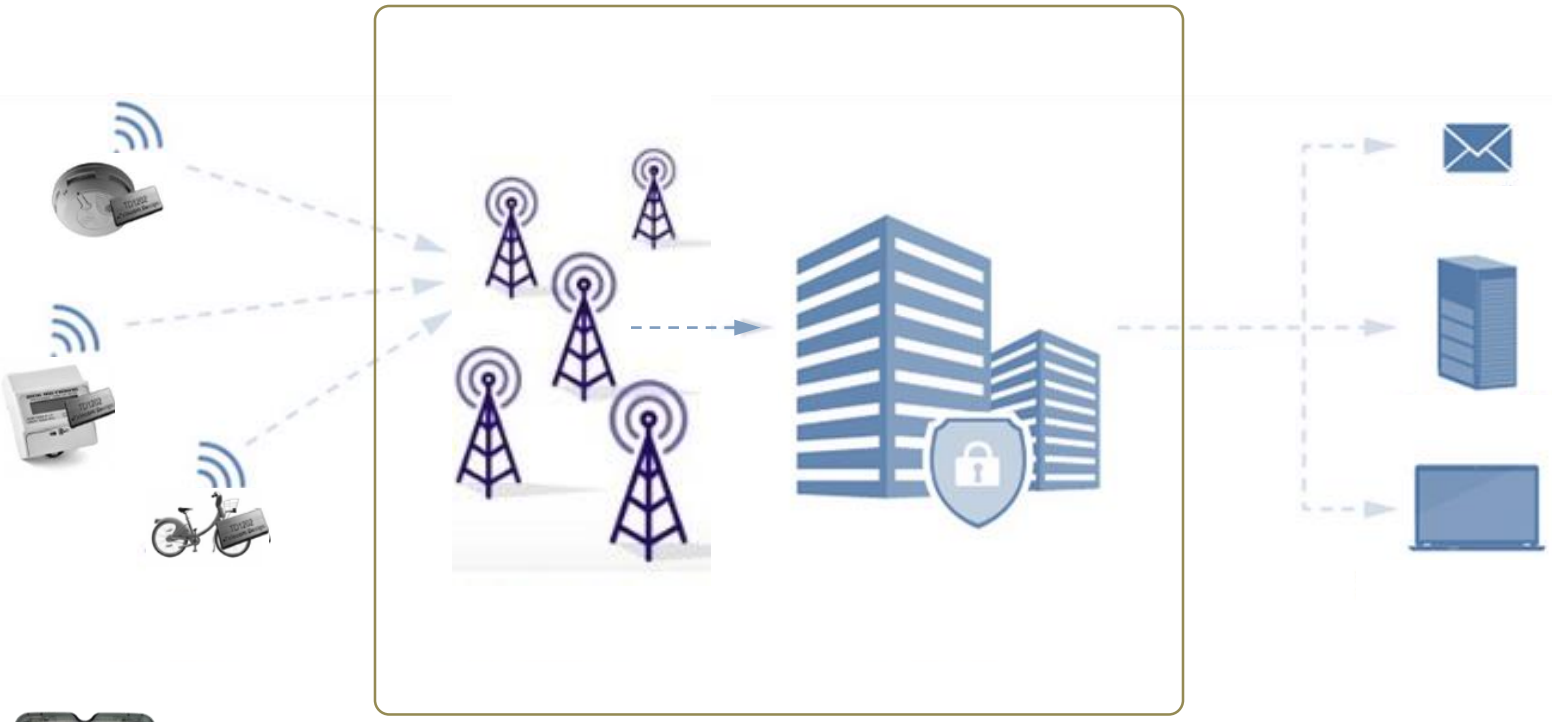
Coverage

Outdoor
Indoor
Underground
YOU ARE HERE
maat
Tv. Memória
Tv. Dom Vasco
R. Três
R. Nova do Calhariz
Calçada Ajuda
R. Diogo Cão
Tv. Giestal
R. Jau
Escola Secundária com 3.º Ciclo do Ensino...
R. Filipe Vaz
Tv. Conde Ribeira
Pte. 25 de Abril
R. Alexandre de Sá Pinto
Calçada Boa Hora
R. Giestal
R. Artur Lamas
R. Pinto Ferreira
Hospital de Egas Moniz
Tv. Galé
Rua Da Junqueira
Av. Brasília
Jardim Botânico Tropical
Tv. Zebras
Calçada Ajuda
Palácio de Belém
R. do Emb.
Universidade Lusíada de Lisboa
Rua Da Junqueira
Cordoaria Nacional
Belém
Museu Nacional dos Coches
Belém
N6
Porto Brandão - Belém

Coverage

Outdoor
YOU WILL BE HERE
EDP STARTER
Indoor
Underground
Av. das Escolas
A12
R. Palmira Bastos
Av. República
IC2
R. dos Escritores
Jardim Almeida Garrett
Av. dos Descobrimentos
R. do Brasil
Av. de Moscavide
R. Seminário
R. Dom João II
R. Príncipe Mónaco
R. Leme
Alameda dos Oceanos
Passeio Heróis do Mar
Passeio Levante
Jardim do Passeio dos Heróis do Mar
R. Nilo
Passeio Garças
R. Ganges
R. do Congo
R. Ilha dos Amores
Alameda dos Oceanos
R. Infantaria Sete
R. Bento de Jesus Caraça
R. Gonçalo Braga
R. Alm. Gago
Moscavide
R. Zambeze
R. Galés
R. Cmte. Cousteau
Av. Cap. Salgueiro Maia
Estrada da Circunvalação

Architecture



NARROW NET
LINKING THINGS

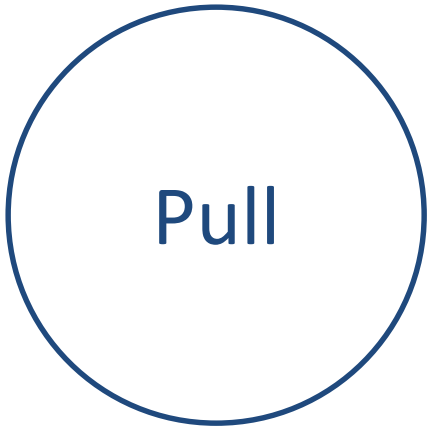
Microsoft

Get your data

View messages

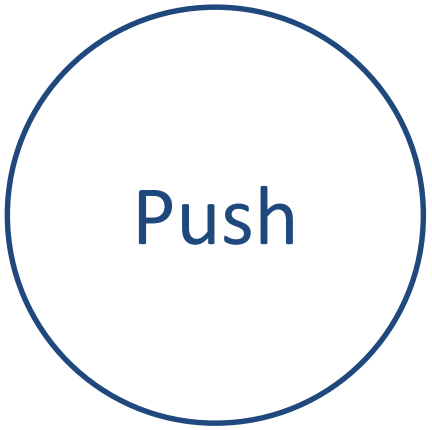
For human access, development phases and admin

Get messages



REST API for scripted admin access

Get new messages



HTTP Callback: automatic data push for server-to-server connections

Web Portal

Device 882A - Messages

Time	Delay (s)	Header	Data / Decoding	Location	TAP	RSSI (dBm)	SNR (dB)	Freq (MHz)	Rep	Callbacks
					1CE9	-119.50	24.05	868.1137	3	
					1CE8	-93.50	24.97	868.1135	3	
2015-05-12 15:11:09	< 1	0000	00000000000000000170c62		0BF4	-119.50	23.83	868.1203	2	
					1CCC	-131.50	21.48	868.1201	3	
					1CCF	-121.50	24.66	868.1227	3	

Repetition

Time	Delay (s)	Sequence Number	RSSI (dBm)	Signal (dB)	Freq (MHz)	Rep
			-118.50	23.77	868.1229	1
2015-05-12 15:11:09	< 1	89	-119.50	24.05	868.1137	2
			-119.50	19.19	868.1201	3

What if’s

What if

Tender 200k
16 year contract
4tx/day + 1 valve op/month

What if

Remotely monitor boiler performance and optimize required and preventive maintenance

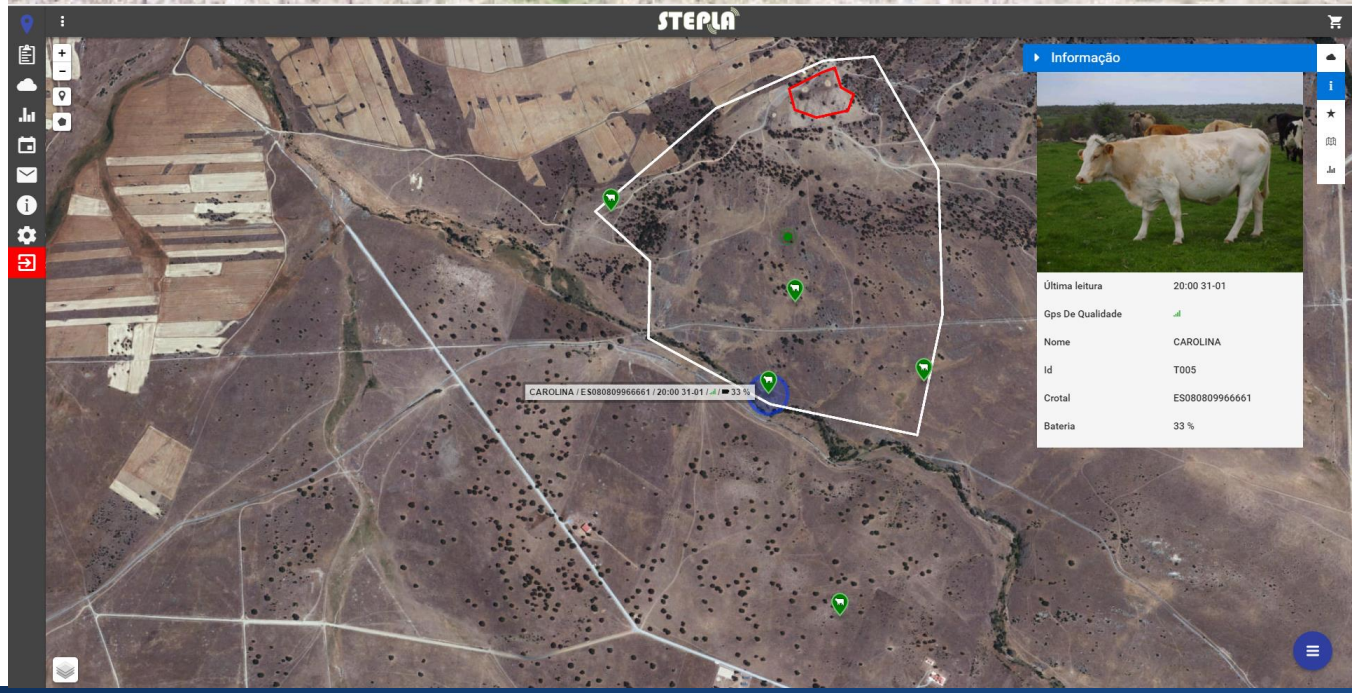
+100k Boilers (France)

What if

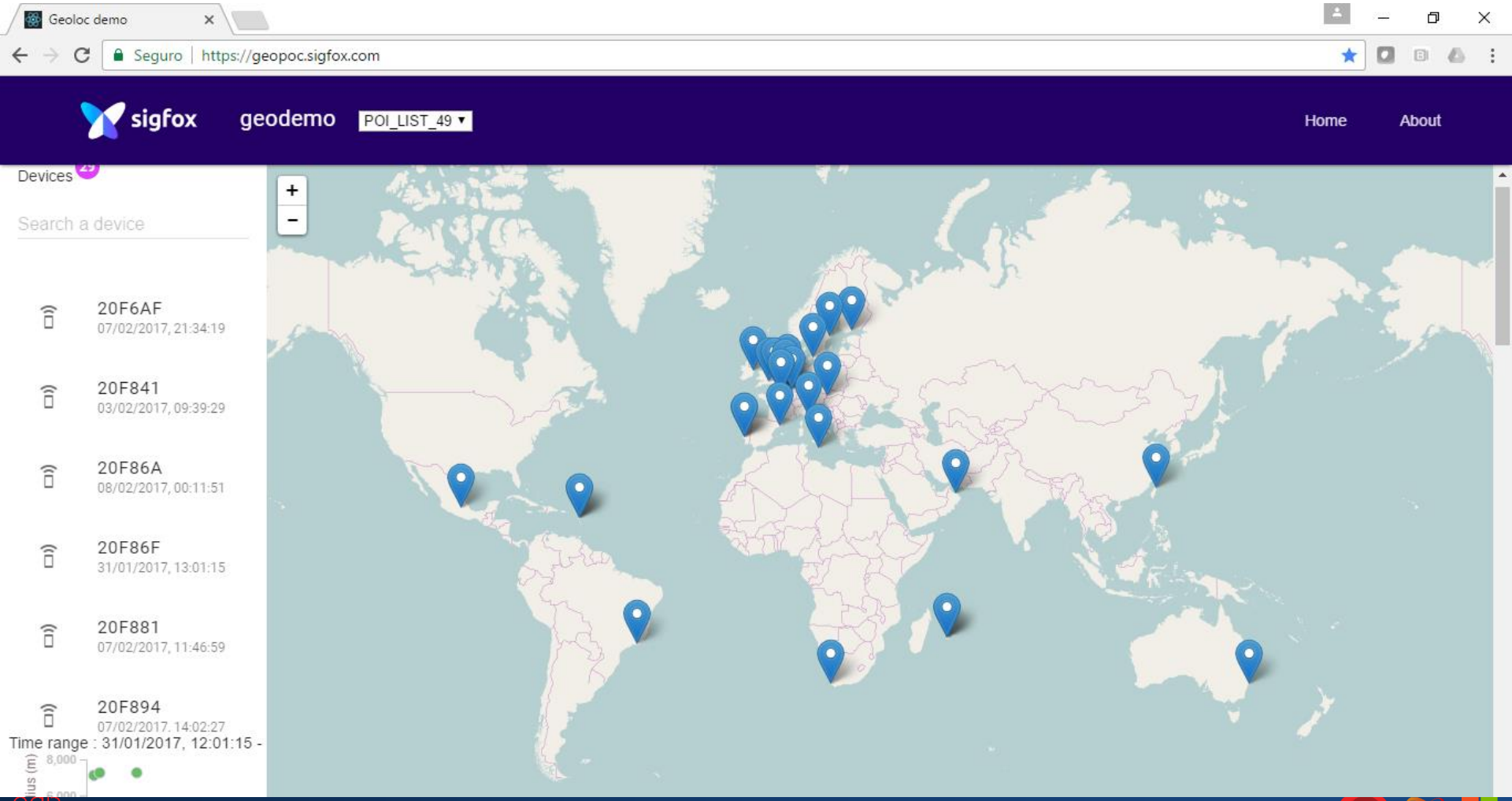
[Commitment](#) 1M units

What if

digitanimal


STEPLA
Informação
Última leitura 20:00 31-01
Gps De Qualidade
Nome CAROLINA
Id T005
Crotal ES080809966661
Bateria 33 %
CAROLINA / ES080809966661 / 20:00 31-01 / 33 %

What if


Geoloc demo
Seguro | https://geopoc.sigfox.com
sigfox
geodemo
POI_LIST_49
Home
About
Devices
Search a device
20F6AF
07/02/2017, 21:34:19
20F841
03/02/2017, 09:39:29
20F86A
08/02/2017, 00:11:51
20F86F
31/01/2017, 13:01:15
20F881
07/02/2017, 11:46:59
20F894
07/02/2017, 14:02:27
Time range : 31/01/2017, 12:01:15 -

What if Enablers

2012

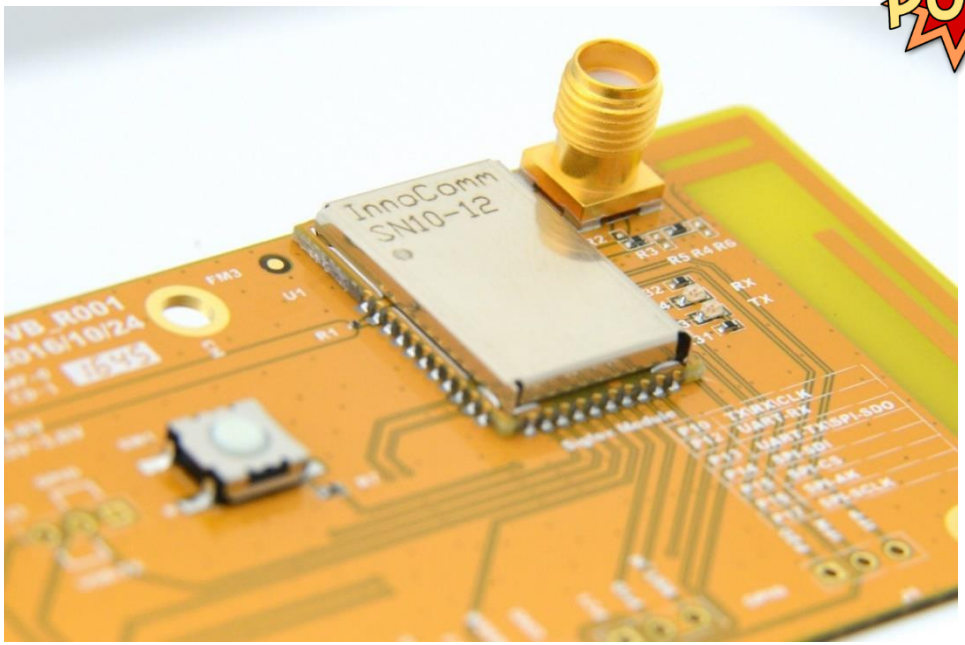
2014

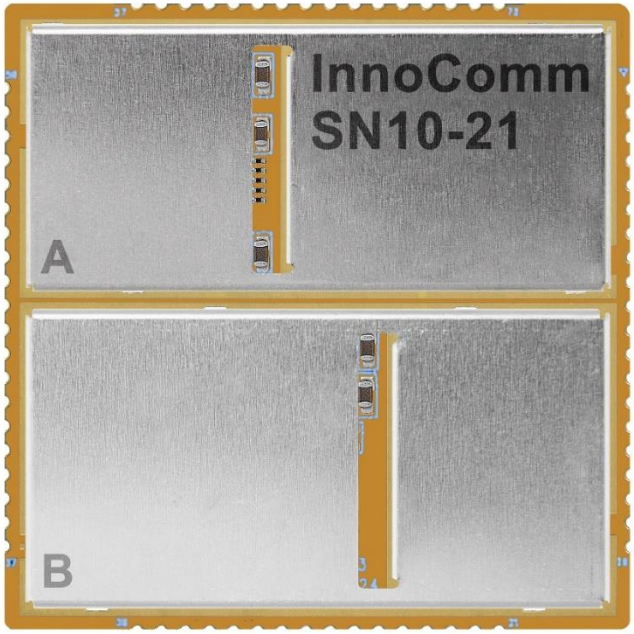
20$

2016

< 4$

What if Enablers





< 2$

sigfox

< 20$

sigfox + GPS + WIFI + BLE

What if

What if

Have fun.
Good luck.

Keep in touch.

p.costa@narrownet.pt