

Smart Water Projects – Largest deployment EU

Birdz – Bruno Hamamlian



**Creating
Valuable**

IOT

Connections

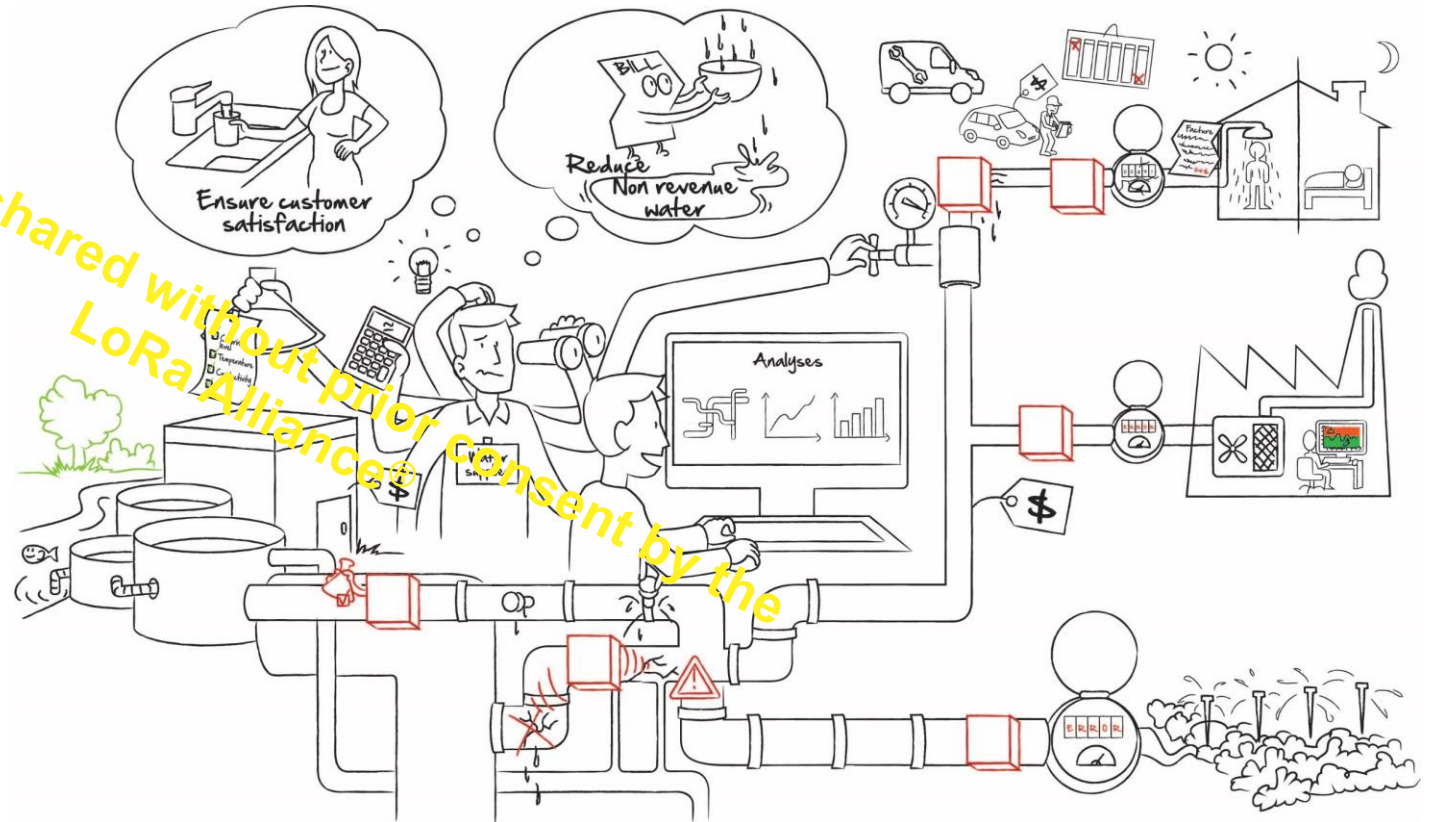


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FOCUS ON WATER INDUSTRY

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NON-REVENUE WATER : THE TOUGH REALITY

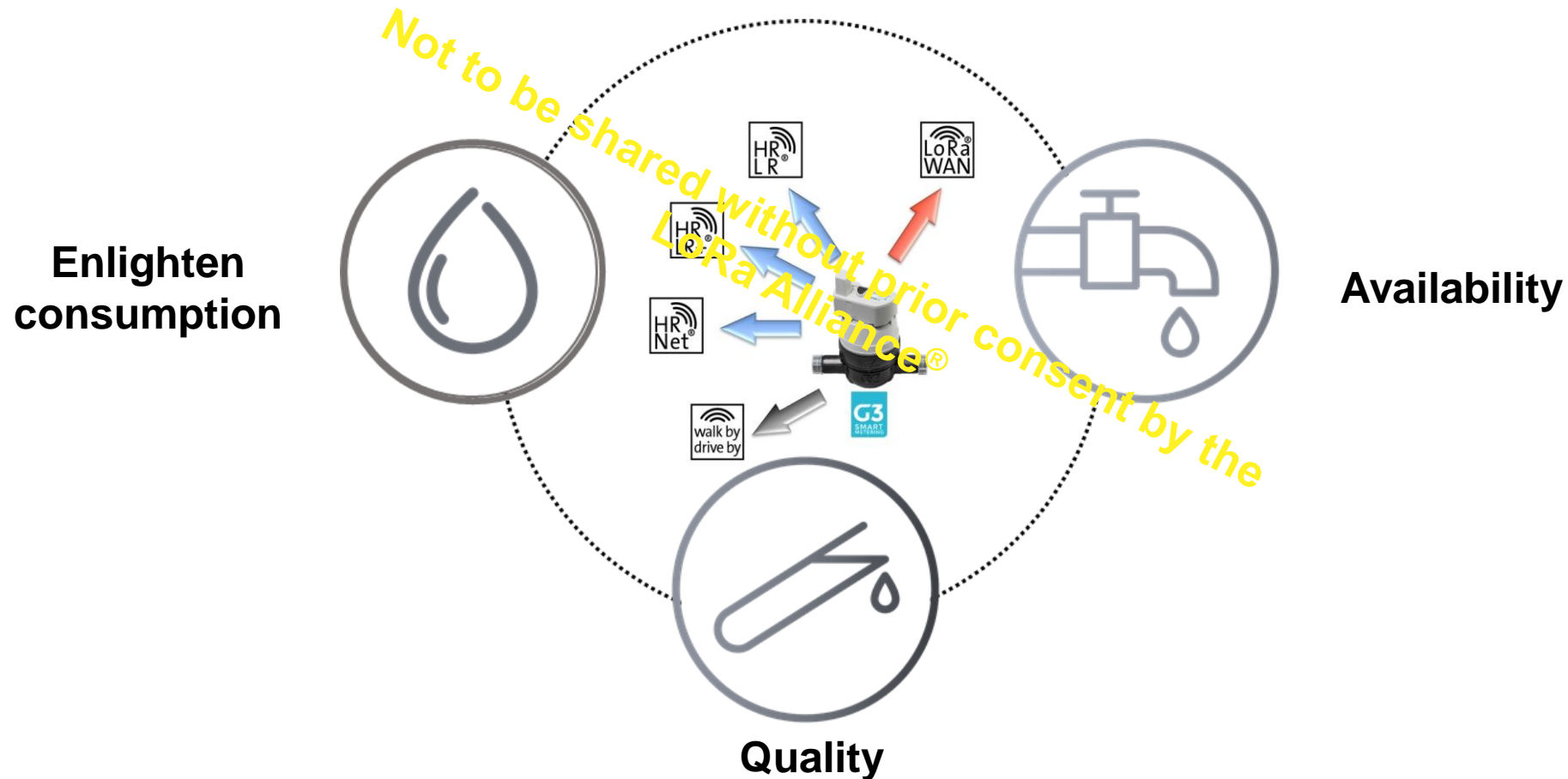


20-50% OF WATER IS LOST DUE TO

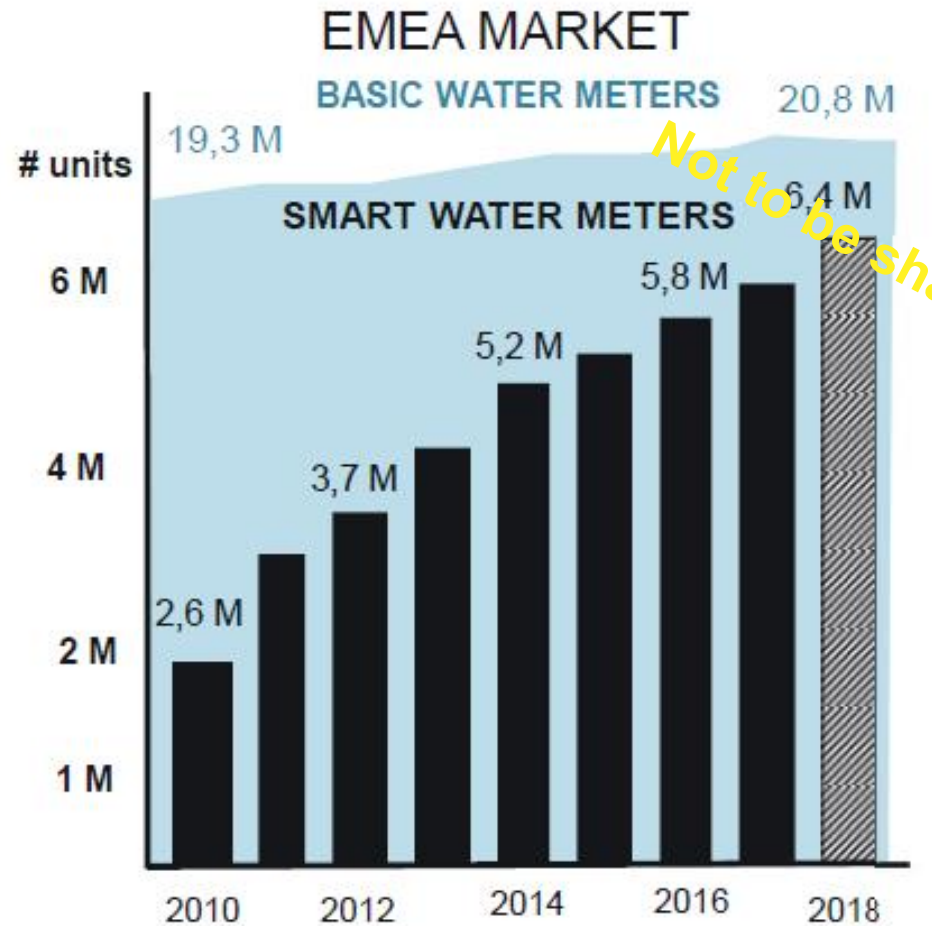


HELP CITIES AND WATER UTILITIES TO BETTER MANAGE WATER DISTRIBUTION AND IMPROVE WATER MANAGEMENT

Smart water meters provide a comprehensive digital water solutions to maximize balance with 3 water KPIs



IN EMEA, AMR DOMINATES AMI

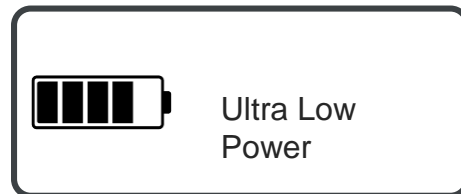
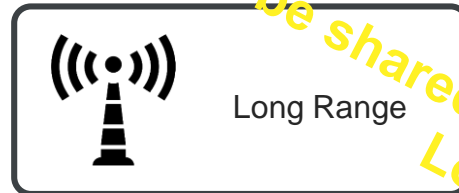


Source : IHS Markit 2017

- EMEA Market for water metering is stable
- Smart Water metering has grown continuously at fast pace (CAGR : +14%)
- AMR (Walk-by/Drive-by) is the dominant meter reading mode (>95% smart water meters)
- Public water sector requires long battery lifetime (12-15 years)

AMI AS A MASTER USE CASE...NOT A CONNECTION-ONLY PROBLEM

- No single connectivity solution will dominate as far as the operator's offers are still very dispersive



QoS*: Quality of Service
SLA**: Service Level Agreement



Source : Kurrant 2019 & estimation

LARGE SMART WATER PROJECTS

Starting Point : How do you define « Large »?

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CASE #1 : EAUX DU GRAND LYON (FR – 2014)

One the largest LoRaWAN® digital water network project in Europe



- 54 municipalities
- 1,3 million supplied customers
- 396 000 metering points
- 97,4 millions m³ distributed water per year
- 4 000 km distribution pipe network

Positive Outcomes:

- 1200 new water leaks found and repaired
- 1 million m³ of water saved annually in production
- increase of water network efficiency in four years, from 77% in 2014 to 85,2% in 2018

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CASE #1 : EAUX DU GRAND LYON

Description of the Smart Water Network program

Smart Instrumentation

- 396 000 Smart Water meters
- 6 000 Acoustic Correlators from Gutermann
- 100 Fire and Water Hydrants
- 50 KAPTAS quality sensors

A Tough program

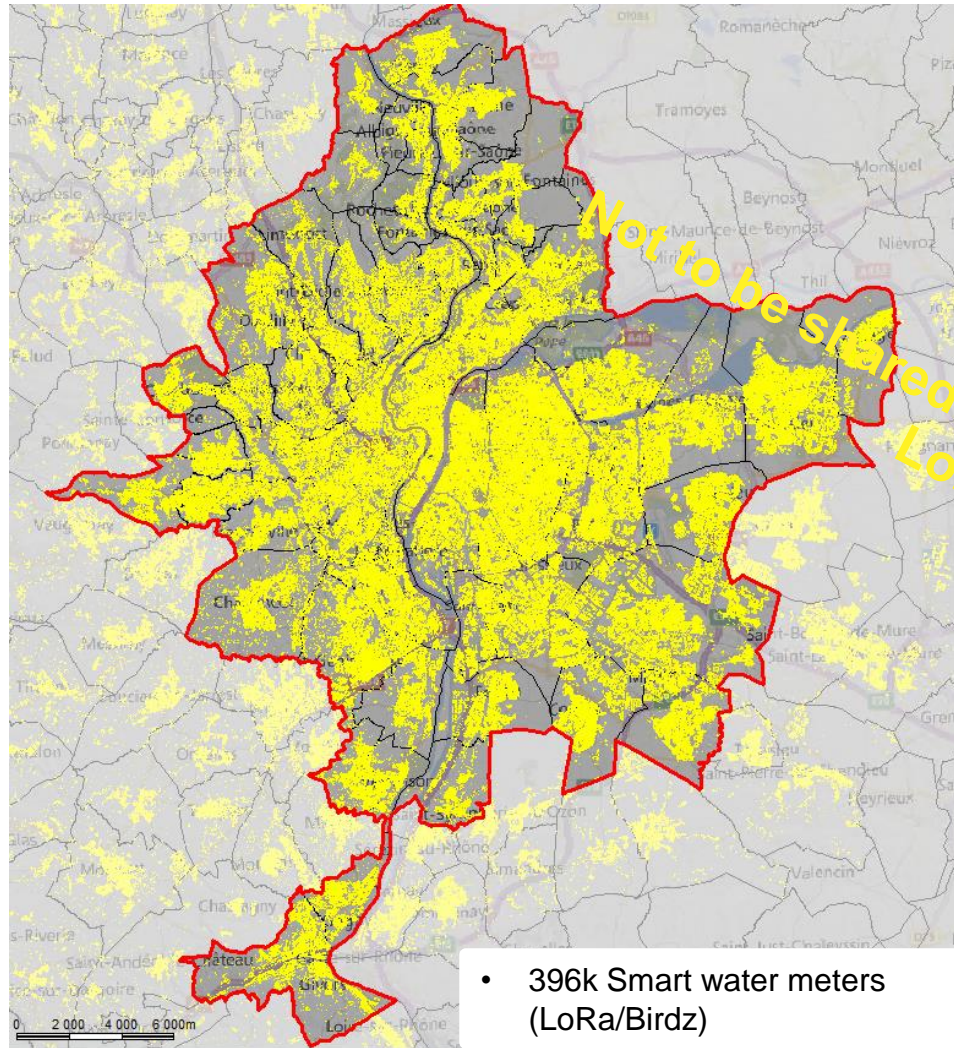
- Roll-out planned from Feb-2015 to Jan-2019
- O&M over 10 years duration
- Reference Project in terms of KPI and SLA for Water Conservation

Contractual SLA & KPI

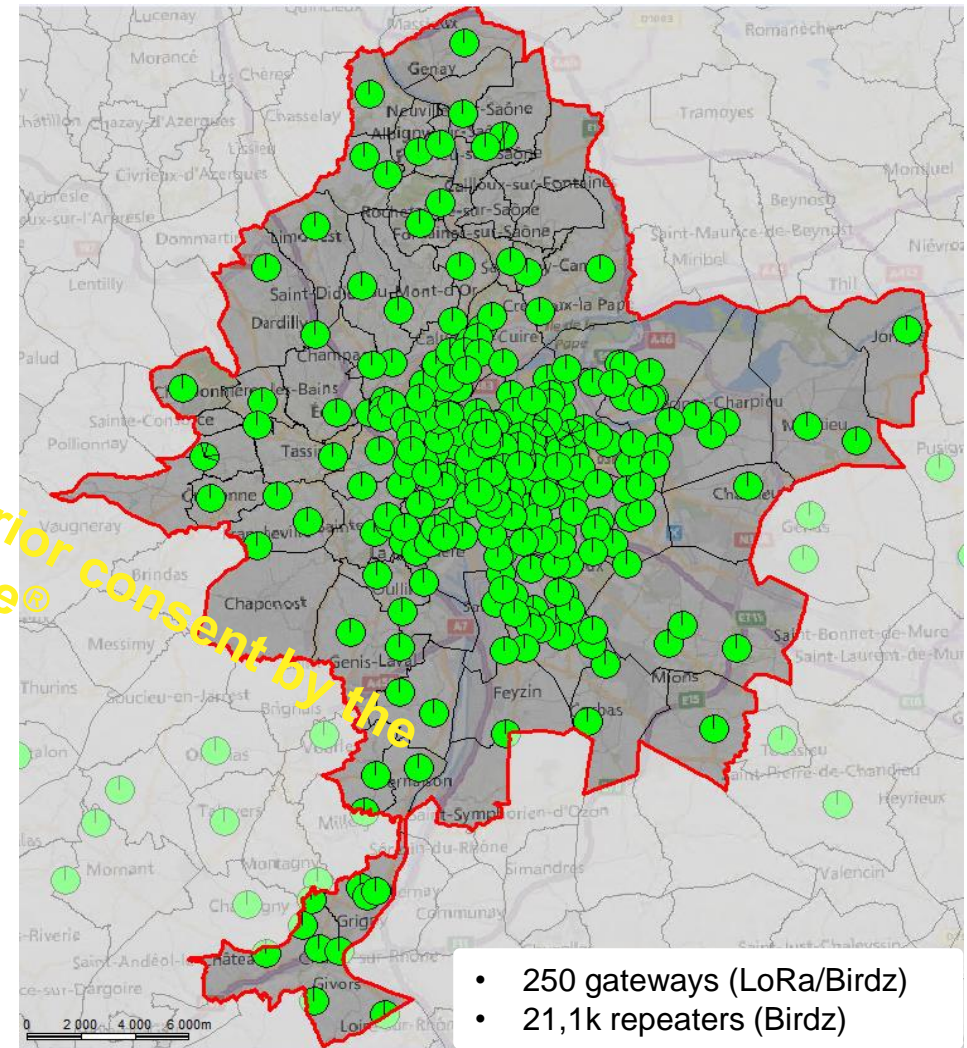
- **100% of smart water meters must be connected** to Eaux du Grand Lyon Business ERP (Public Service compliancy) and **service continuity is guaranteed for 10 years**
- Data Collection KPI : **98% of the smart meters must send all daily midnight index...** each day in a month
- If KPI are not satisfied, a **financial penalty is applied** if the client doesn't pay the monthly fee for faulty meters.
- Example :
97% Measured vs 98% KPI, means 7,9k faulty smart meters,
Financial penalty equal to -2,0% on monthly contract revenues for 1% deviation from KPIs

CASE #1 : EAUX DU GRAND LYON

LoRa[®] enabled AMI System from Birdz

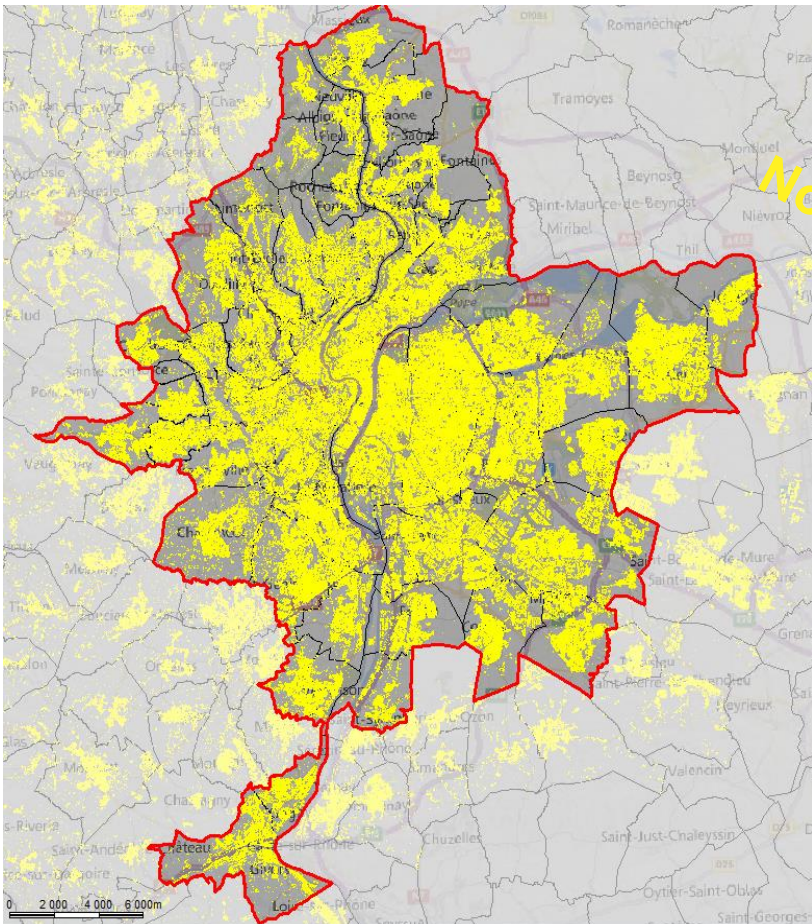


Geographical distribution of smart meters

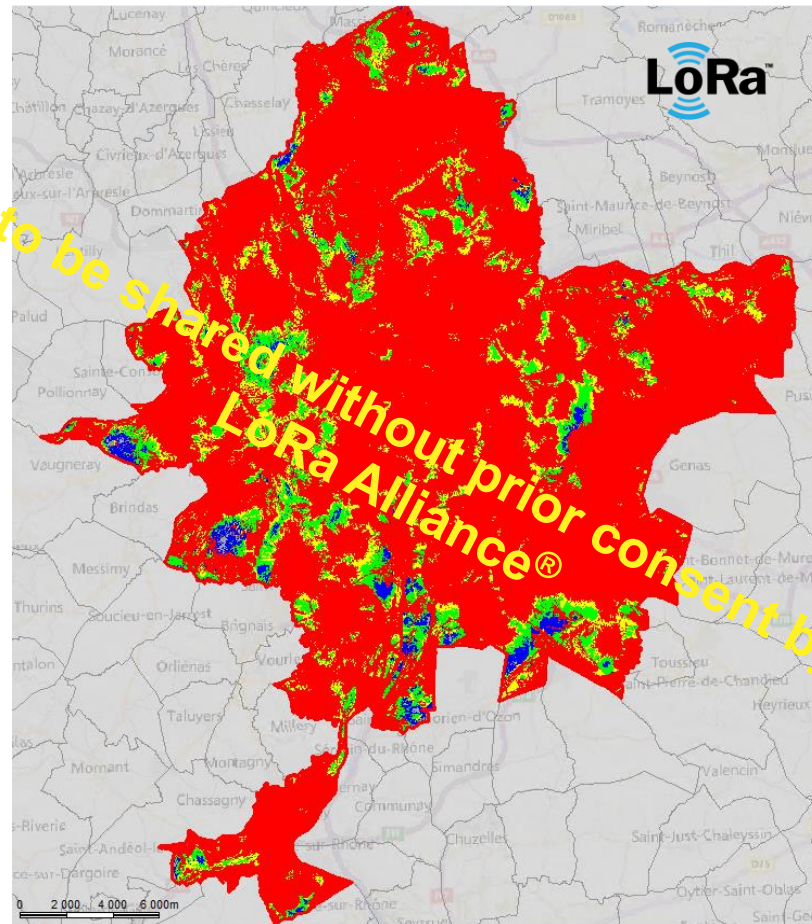


CASE #1 : EAUX DU GRAND LYON

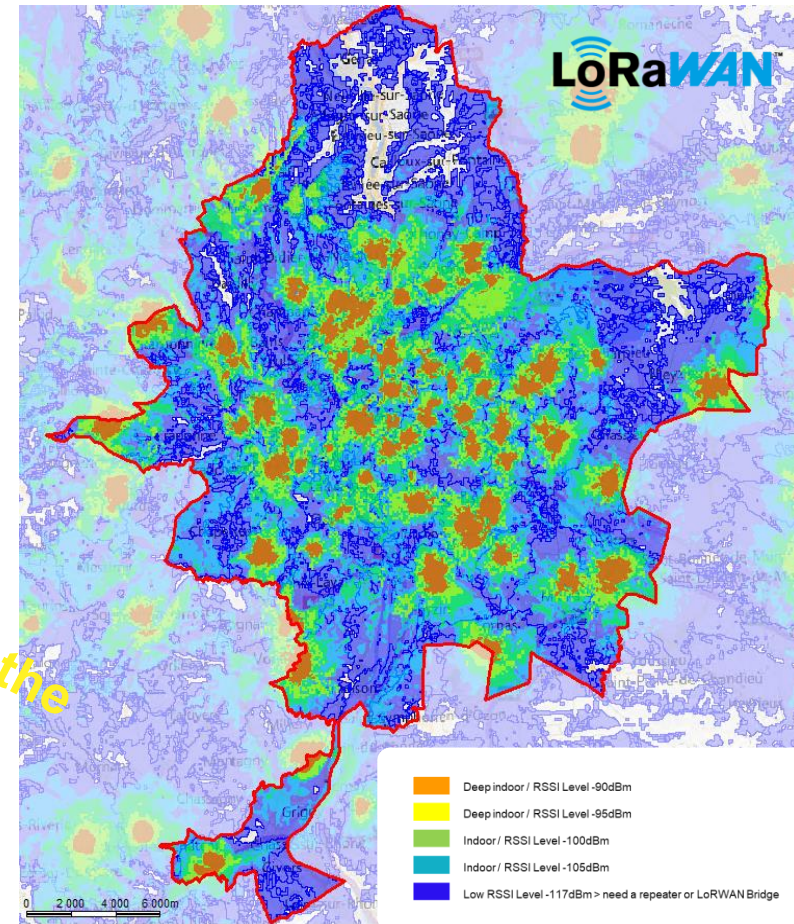
Proprietary LoRa AMI Network vs Public LoRaWAN® Network?



Geographical distribution of smart meters



LoRa enabled proprietary Network by Birdz



Public LoraWAN network

2019, FINETUNING THE LoRaWAN® USE CASE WITH PARTNERS

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CASE #2 : CAPA (Corsica – 2018)

First Veolia project with public LoRaWAN® operator

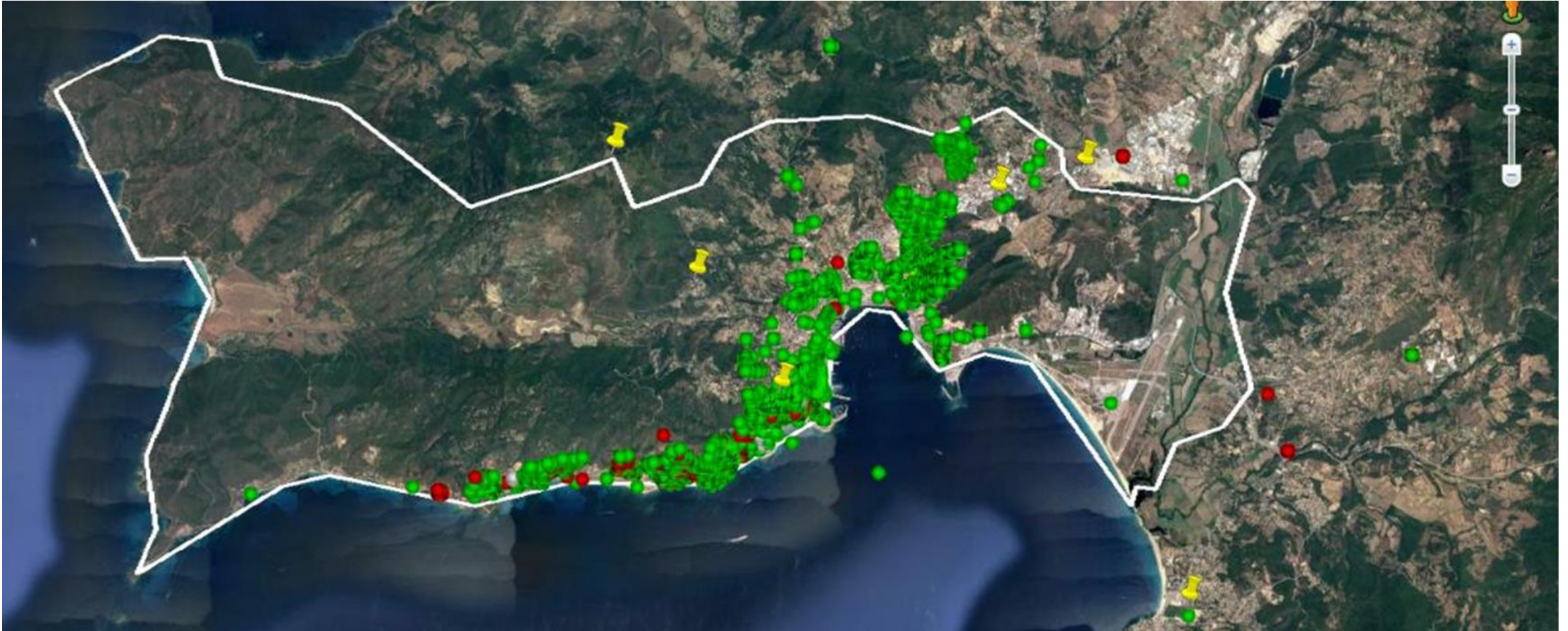


- 10 municipalities
- 85,104 supplied customers
- **30 000 metering points**
- 450 km distribution pipe network
- Most of cities are on the seaside, with hills
- Contract duration : 12 years

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CASE #2 : CAPA (Corsica – 2018)

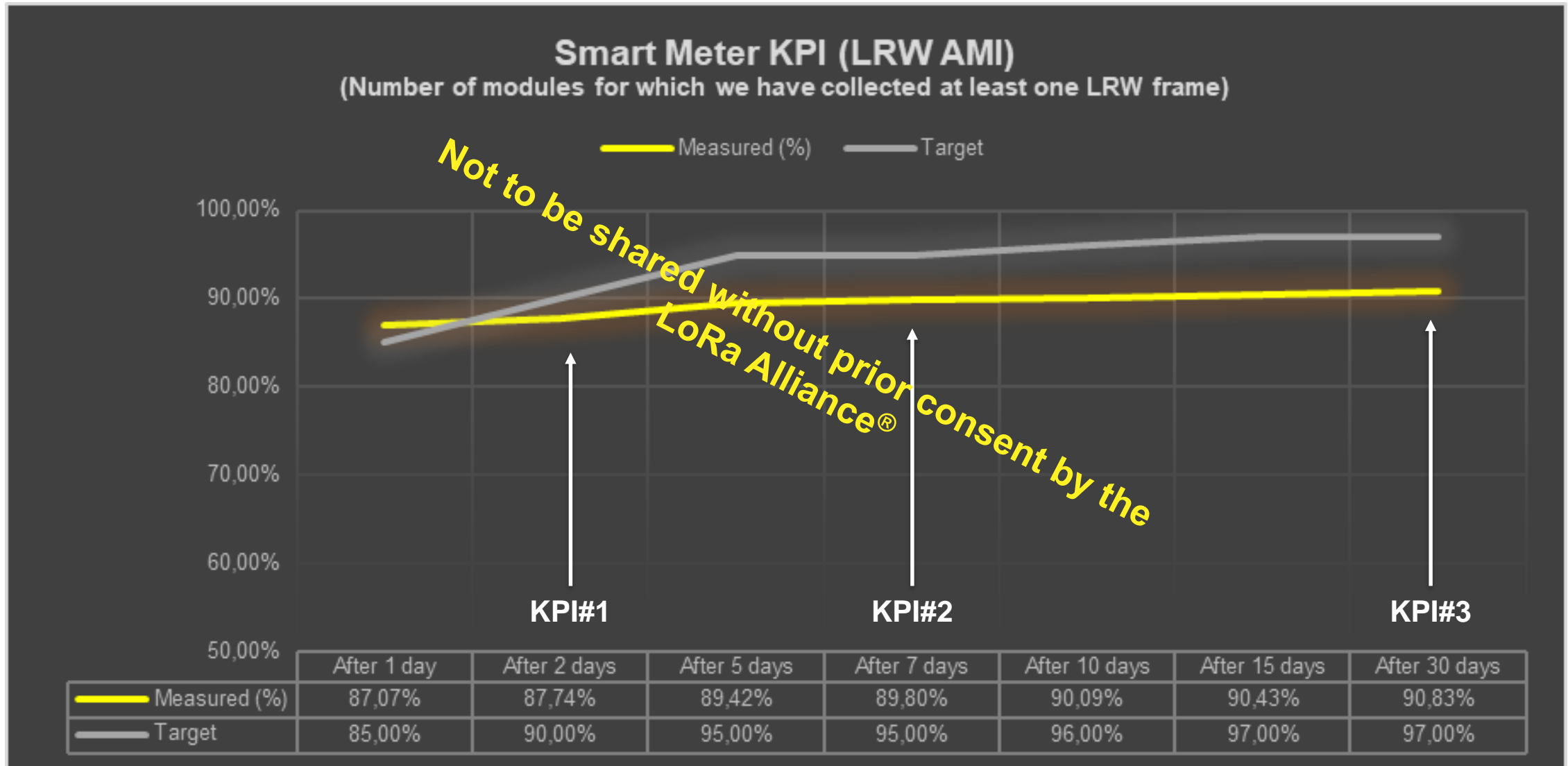
Project figures



Rollout status : 10,897 smart meters installed YTD (36%) - Target : 30,000 smart meters by Dec-2020

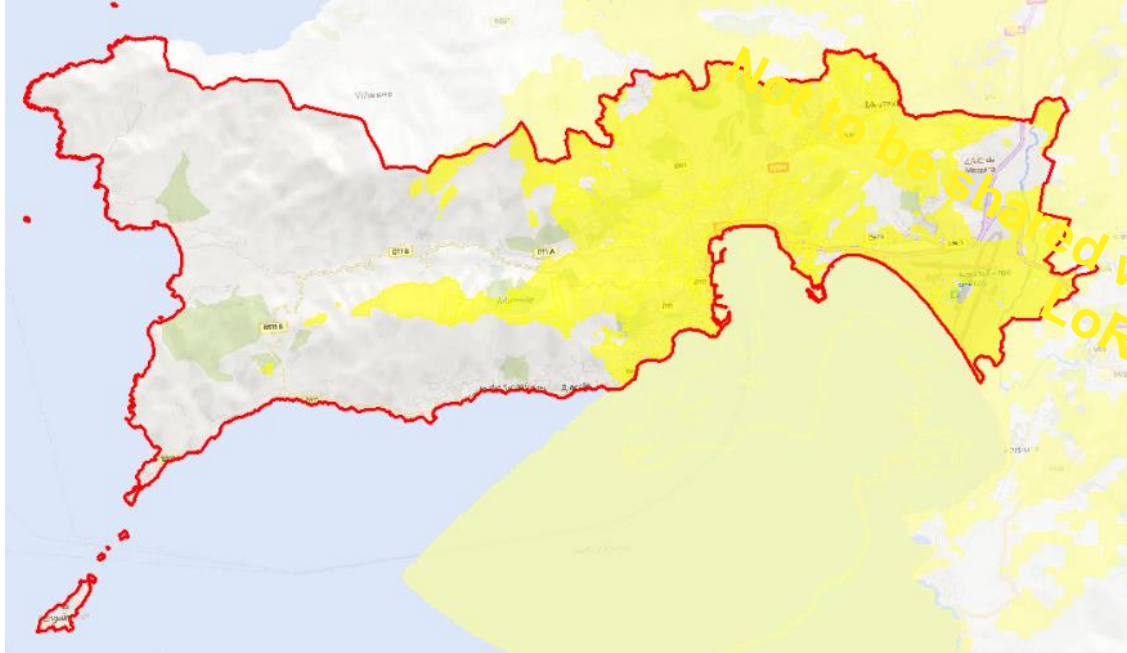
CASE #2 : CAPA (Corsica – 2018)

First results promising, but strong need for coverage densification



CASE #2 : CAPA (Corsica – 2018)

Still a long way to go...



Projected coverage : Projected Coverage Map of Public LoRaWAN® Operator (in yellow)



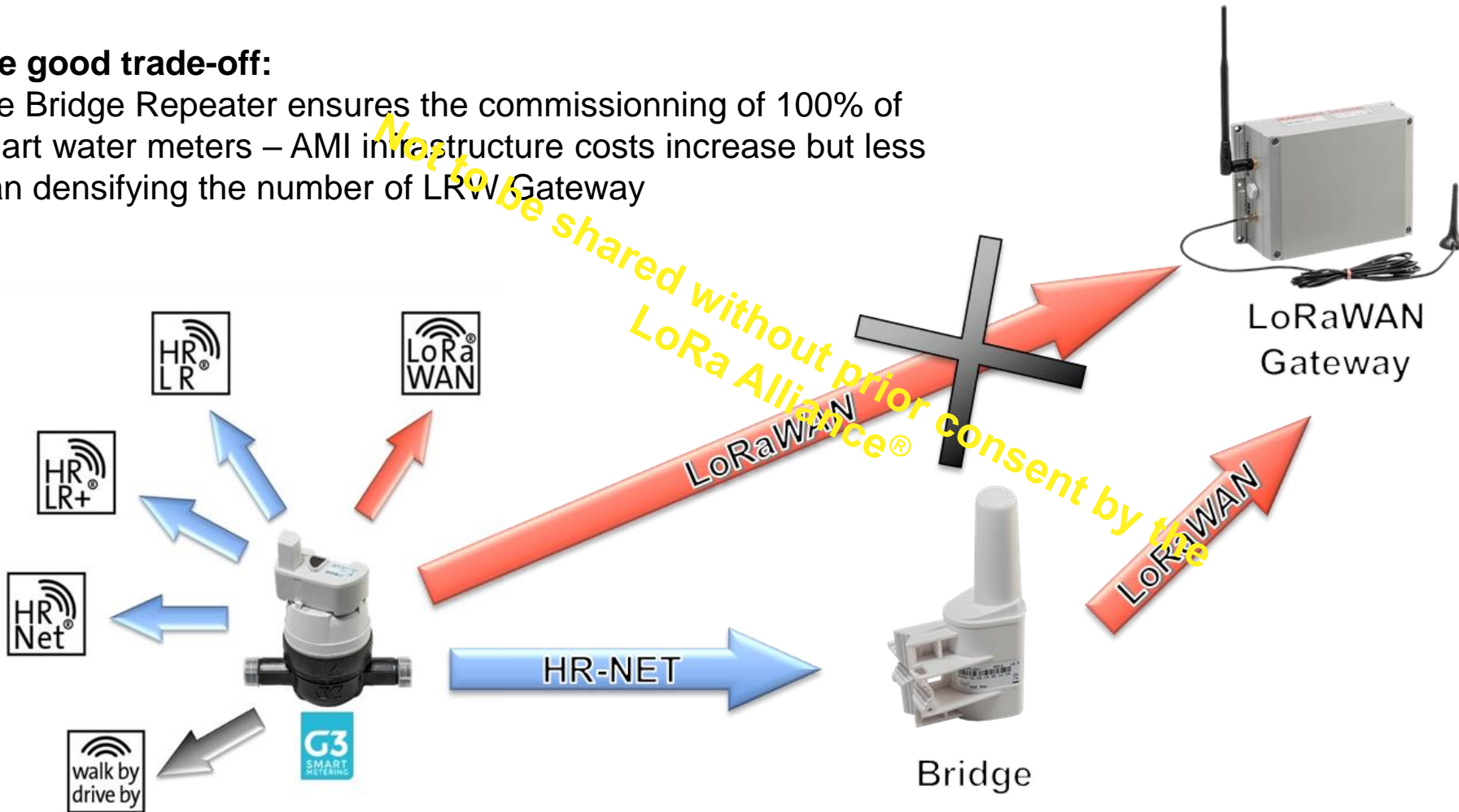
Reality : Geographical distribution of smart water meters with no communication.
(9,17%; 999 smart water meters out of 10,897 installed YTD)

CASE #2 : CAPA (Corsica – 2018)

How to deal with Deep Indoor – The Bridge

The good trade-off:

The Bridge Repeater ensures the commissioning of 100% of smart water meters – AMI infrastructure costs increase but less than densifying the number of LRW Gateway



CASE #3 : TOULOUSE (FR – 2019)

First Big project with public LoRaWAN® operator

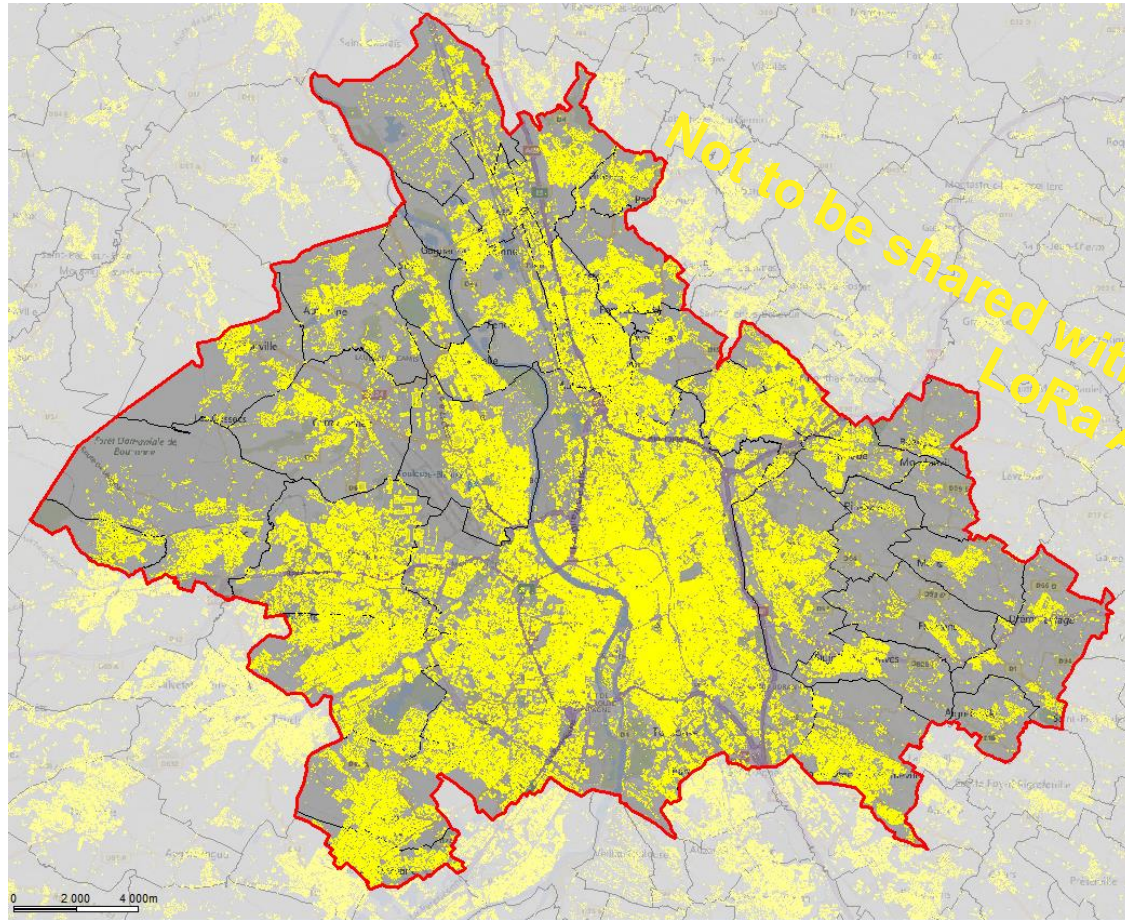
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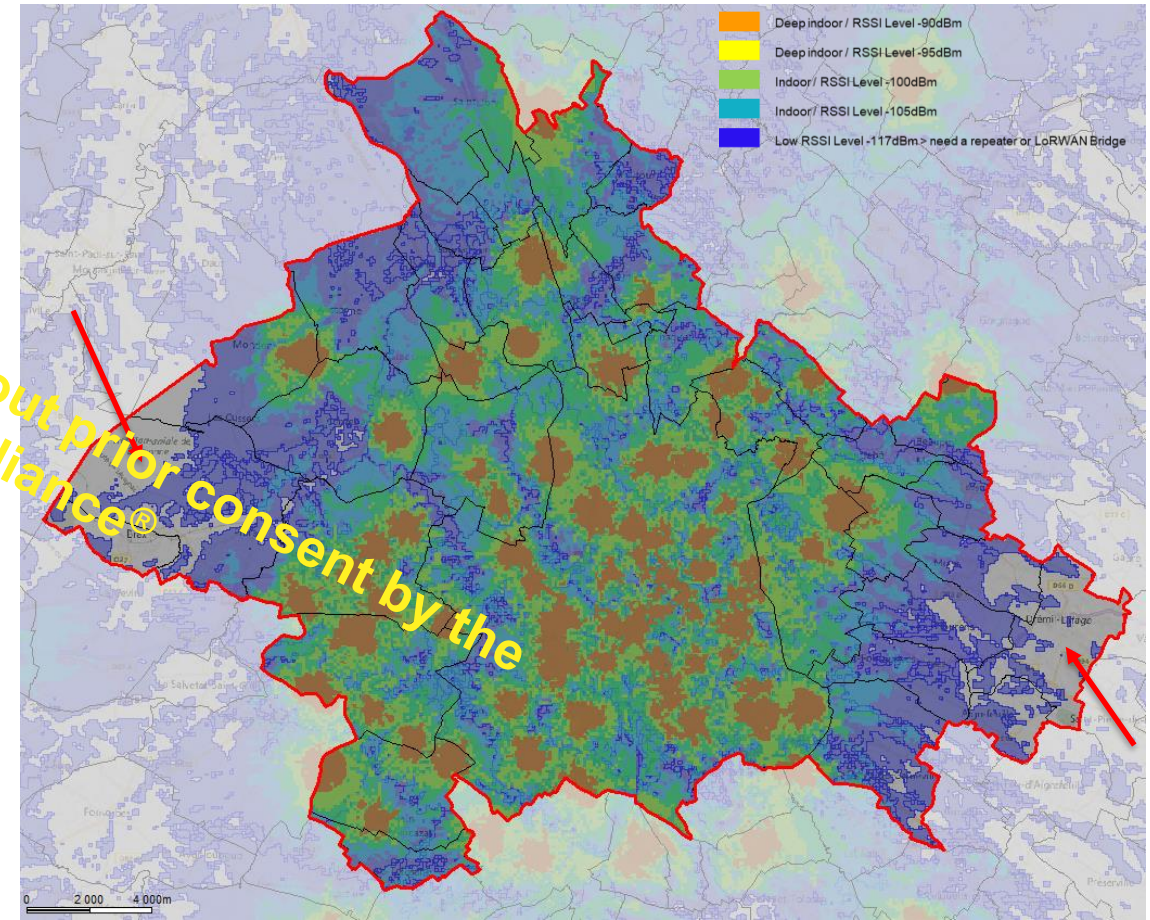
- 37 municipalities
- 756,000 supplied customers
- **466km²** area to cover
- **200,000 metering points** (end of contract)
- 3,340 km distribution pipe network
- 56 reservoirs
- Contract duration : 12 years
- KPIs are tough, as always!

CASE #3 : TOULOUSE (FR – 2019)

LPWAN coverage : the perfect match?



Geographical distribution of the smart water meters



Projected LoRaWAN coverage of the public operator

ON THE ROAD TO 3 MILLION LoRaWAN® SMART WATER METERS



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