

3GPP TSG RAN WG1 Meeting #88-Bis  
Spokane, USA, 3/7 April 2017  
Document for: Information  
Source: Veolia



R1-1705199

**NB-IoT disruption because of non alignment with  
utilities time to market objectives**

# Smart city perspectives for utilities companies

Global Contracts over 50 countries for all SBU:

## Smart City:

- 📍 Smart Water Metering
- 📍 Smart Waste Management
- 📍 Energy Efficiency Solutions

Millions of devices await to be connected.



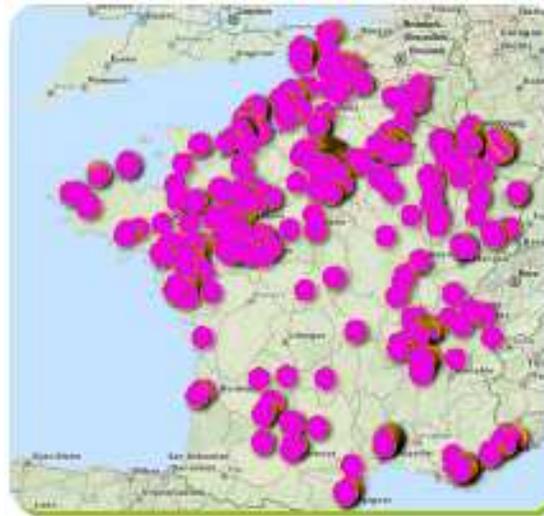
# Smart Water market opportunities

One example: Veolia in FRANCE

✓ Today + 2,000,000 automated water meters in service by VEOLIA

✓ 5,000,000 more automated water meters to connect in France

## Key AMI\* references – Smart Water Meters



Paris area 580 000

Le Havre 100 000

Vendée Eau 65 000

Metz 32 000

Lyon 400 000

Perpignan 40 000

Montauban 40 000

**Opportunity window for NB-IoT**

# Miscorrelation between business and standardisation

Veolia is evaluating NB-IoT for its use cases using modules implementing release 13.

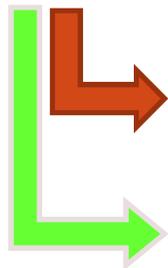
Current results are showing that NB-IoT consumes too much power for utilities use cases.

Further enhancements such as support of the new UE power class of 14dBm in Release 14 will improve the performances results of the power consumption.

However, the significant improvements will be only realised with what has been proposed for the scope of Release 15 (RP-170852)

**Many calls for tenders are coming now for long term contracts.**

**Major issue: Release 15 is too late to address NB-IoT power consumption issue for all current utilities use cases such as Smart water metering**



Consequence if not addressed: Smart city big players such as Veolia will favour other LPWA technologies for their businesses.

Solution proposal: backward implementation into release 14 of some release 15 features in order to make NB-IoT suitable for businesses current opportunities.



# Essential features for current market needs

## Features in Release 15 scope addressing power consumption issues:

- ⦿ Improved cell search and/or system information (at least MIB-NB) acquisition performance, for all operation modes.
- ⦿ Grant less transmission.
- ⦿ Further enhancement of quick release of RRC connection after the last data transmission.
- ⦿ Relaxed UE monitoring for cell (re)selection e.g. by (re)configuration.

This list is NOT exhaustive and any improvement regarding power consumption will reinforce NB-IoT position among LPWAN protocols. The power consumption issue has to be tackled quickly for NB-IoT to be in phase with utilities and smart cities markets.

## Complementary feature to include in Release 15 scope:

- ⦿ Support of NB-IoT as multi-hop relay [RAN2, RAN1]. Introduce L3 relay node having RRC layer and lower, which acts as a small cell to the next hop and a UE to the previous hop, and has no support of S1 and X2 interfaces.





**THANK YOU**