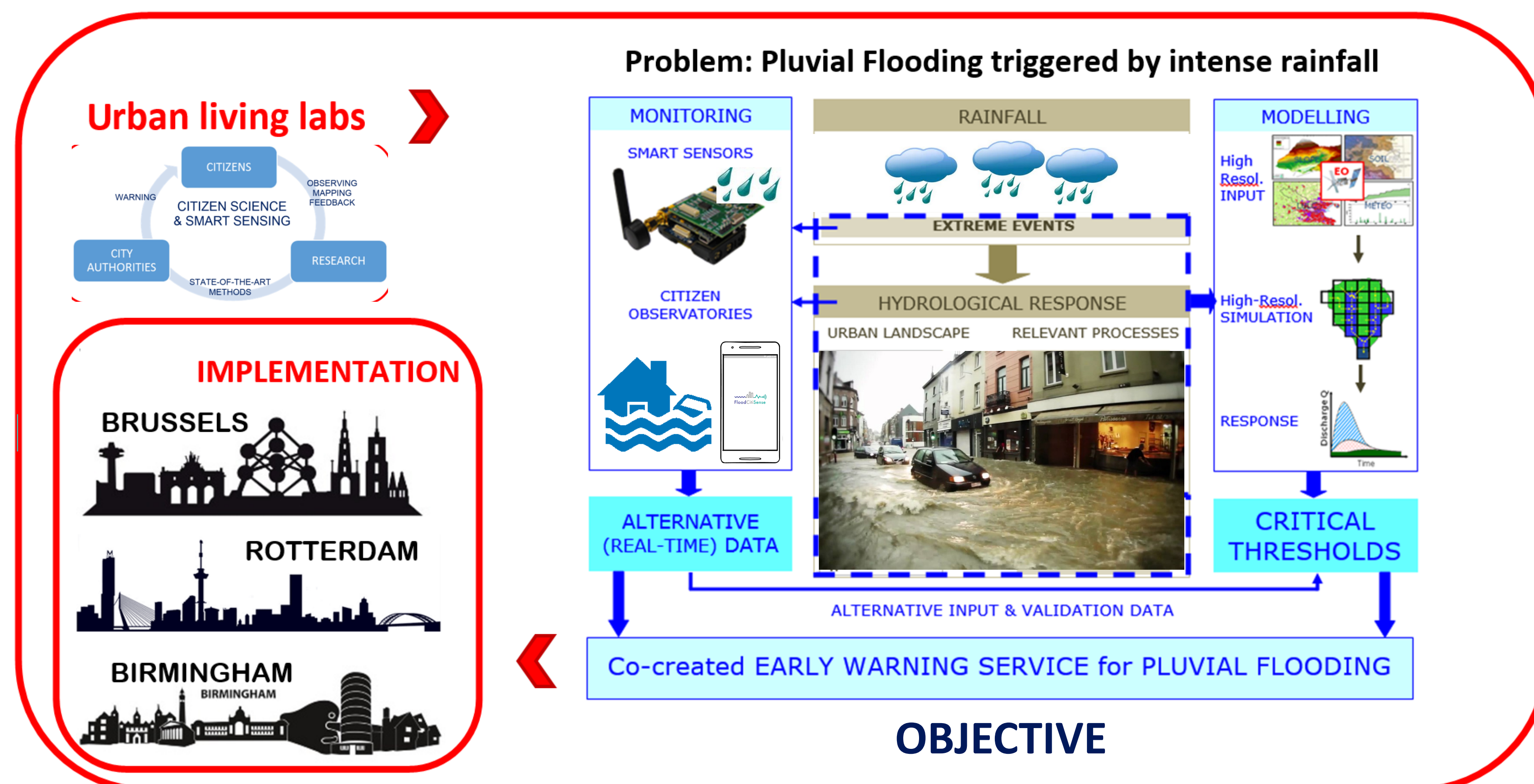


PROJECT

FloodCitiSense

Early warning service for urban pluvial floods for and by citizens and city authorities



CITIZENS

“victims” > “actors”

CONSORTIUM



DATA COLLECTION RAINFALL AND PLUVIAL FLOODING VIA CITIZEN SCIENCE - THE BRUSSELS PILOT

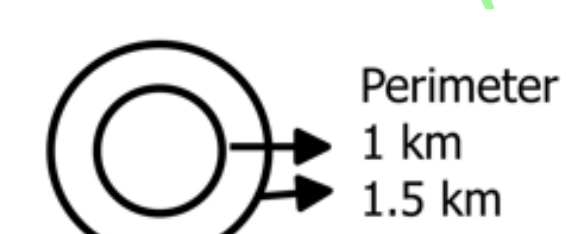
Whether an **intense and localized rainfall** event triggers a **pluvial flood**, highly depends on the **precise location** and **intensity of rainfall** at the local scale. In the **Brussels pilot** a relatively dense **professional network of 16 rain gauges** (**Flowbru.be**) – in green-yellow on map – provides **open data in real-time**. The specific topography of the Brussels Region can have a strong influence on the spatial distribution of the rainfall. Therefore **FloodCitiSense** explores the potential of **alternative data sources** for **near real-time peak rainfall observation at ground level in urban areas** via **low-cost sensors and citizen science**.

Monitoring Network

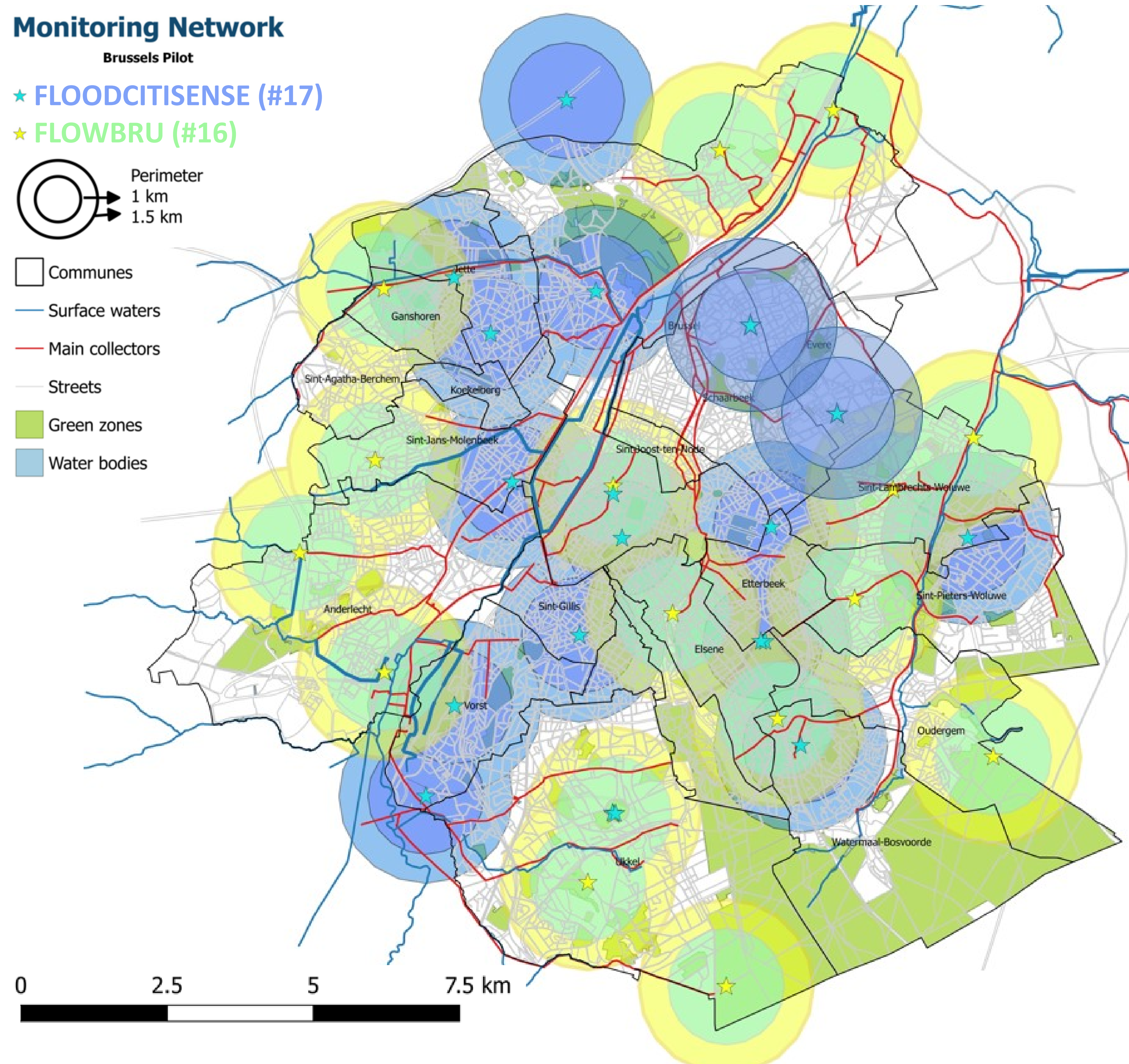
Brussels Pilot

★ FLOODCITISENSE (#17)

★ FLOWBRU (#16)



Comunes
Surface waters
Main collectors
Streets
Green zones
Water bodies

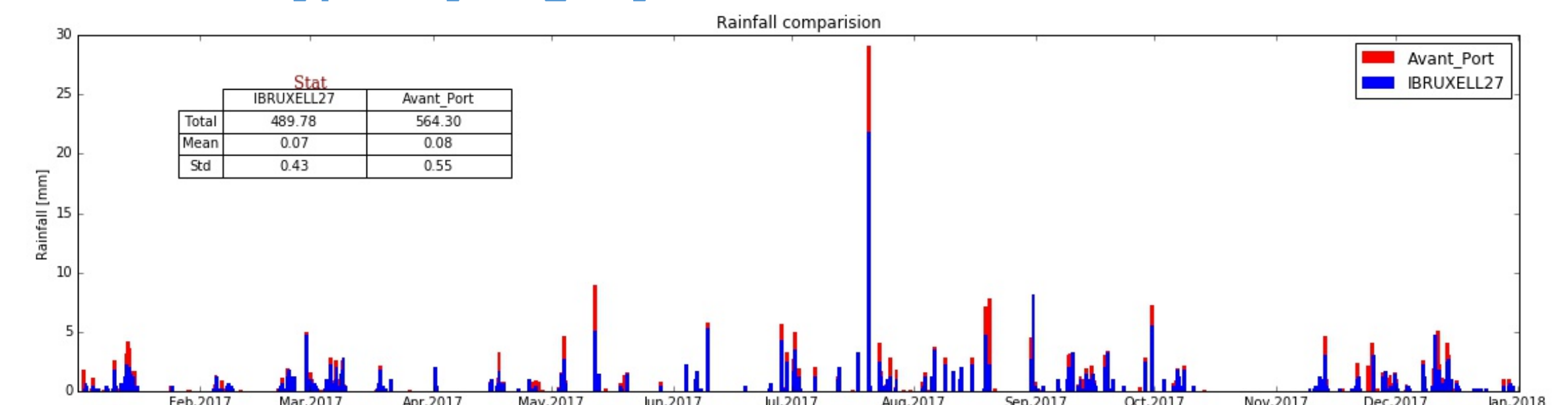


CONCLUSION: DENSER PEAK RAINFALL DATA? POTENTIAL = YES, OPERATIONAL = NOT YET

NetAtmo: commercial rain gauges

Comparison **NetAtmo** vs **Flowbru** (radius: 2 km - 1 year data = 2017)

- NetAtmo station unevenly distributed
- NetAtmo often has missing data (30-35%)
- NetAtmo shows high correlation with Flowbru (average: 0.7)
- NetAtmo typically slightly underestimates rainfall

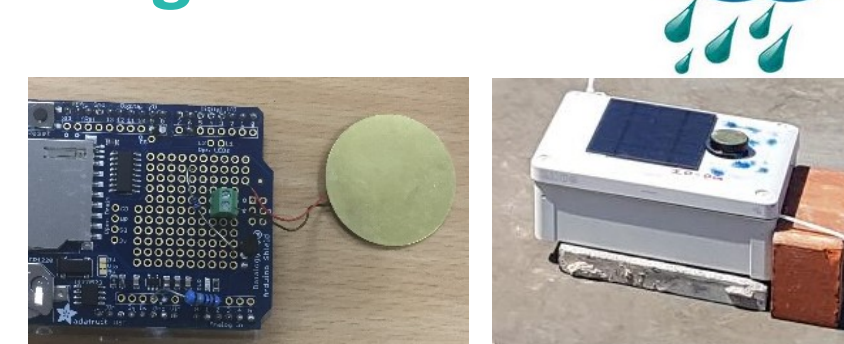


Low-cost raindrop counters

Measuring rainfall by simple counting drops hitting a piezo element

- Citizen Science workshops #50 participants
- Better spatial coverage achieved (blue on map) complementing professional (green/yellow)
- Issues 1st generation: batteries, leaking, huge counts & software!
- 2nd generation will be launched in June 2019

1st generation



2nd generation sensor

- LoRa technology
- Efficient solar panel for battery
- waterproof

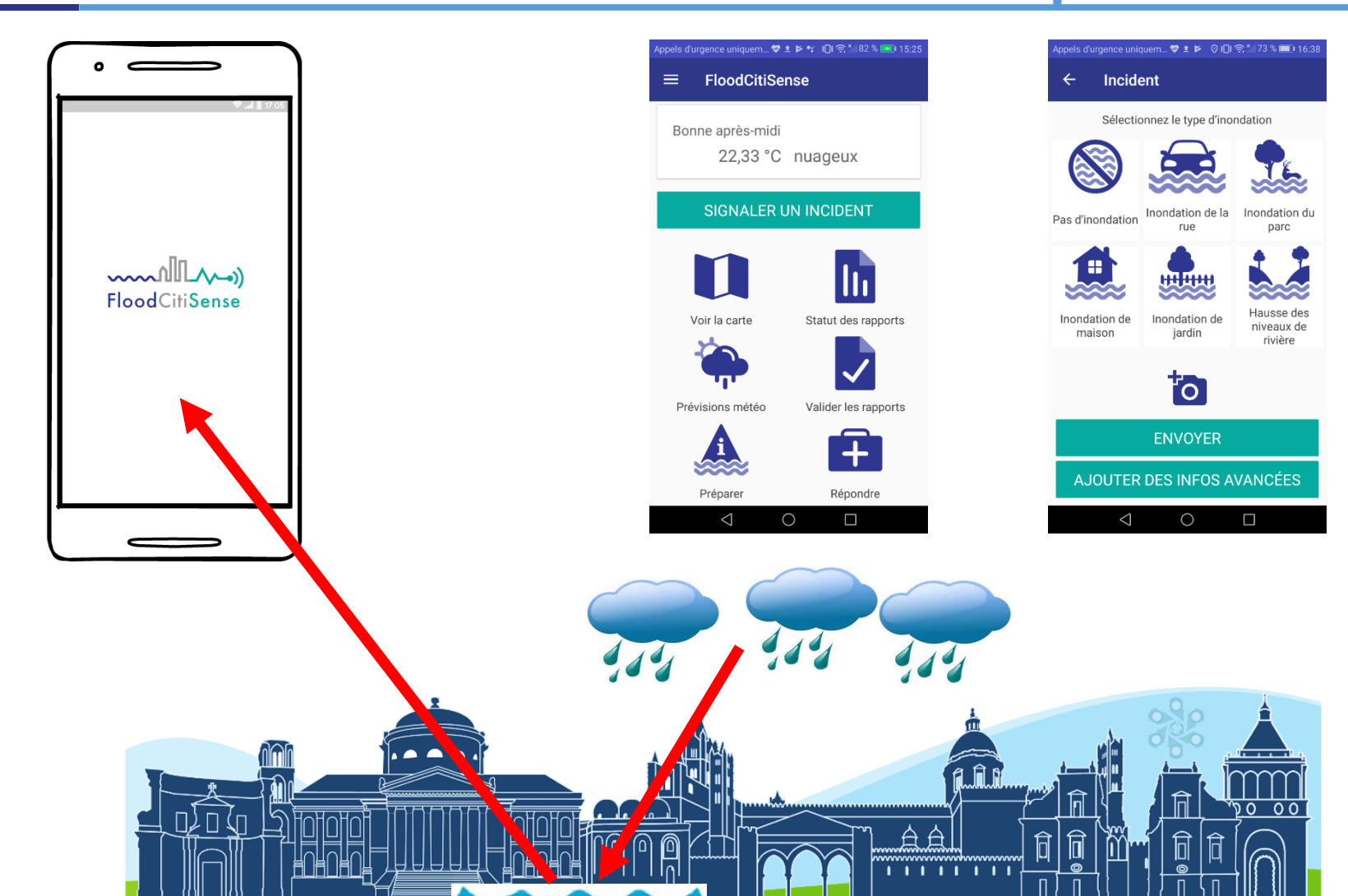


Citizen observations via Mobile & Web App

Result of co-creation with various stakeholders in the pilot cities

- Notifications
- Reporting
- Consulting
- Maps & data

CONTRIBUTE AS WELL?
Available on the App Store
Get it on Google play
CONTACT US!



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