

Tech-enabled citizen science for urban futures: Lessons from Urban ReLeaf

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Critical data gaps

- **Undermine evidence-based policies for just and sustainable cities**

Accentuated inequalities

- **Disparities in access to greenspaces and health-related benefits**

Public participation

- **Progress remains slow, uneven, and inconsistent**



Urban ReLeaf empowers communities with **citizen-driven data to influence public policy and strengthen city resilience for all**



6 Cities

Athens, Cascais, Dundee,
Mannheim, Riga, Utrecht

4 Themes



Greenspace perception



Urban Trees



Air quality



Heat stress

Data collection & *engagement* metrics



330.000+ air quality
measurement hours



3.500+ citizens engaged
59% female participants



450.000+
temperature & relative
humidity observations



110+ parks, greenspaces,
neighbourhoods,
sites investigated



2.500+
surveys completed



350+ sensors
installed/deployed



1.000+ tree updates



600+ app
downloads/users

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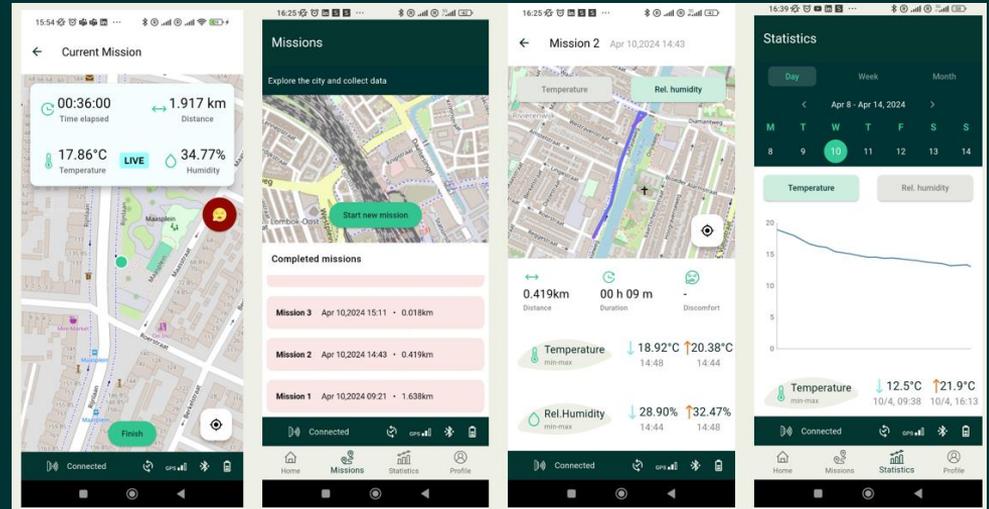


1.000+ tree updates



600+ app
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- **Portable TRH sensors**
- **Connected to mobile app or directly with LoRaWAN**



Utrecht ⁹

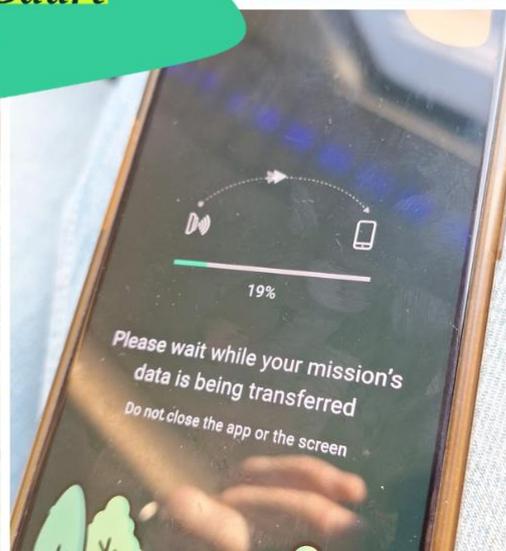
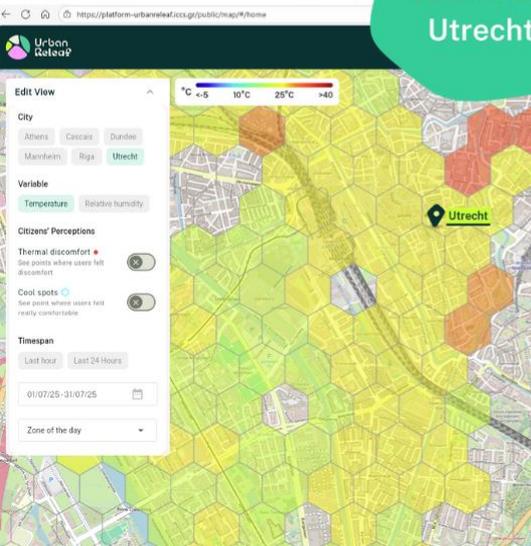
160 participants
residents across 4 neighborhoods

130k TRH observations
incl. perceived hot/cool spots

~3-4°C warmer
than local reference station



Groene Buurt
Koele Buurt
Utrecht



+ Audience was determined by the city partners

Alignment with city priorities, operational realities & trusted intermediaries

+ Routine-based sensing (LoRaWAN)

fits into existing routines, enabling repeat measurements and *representative coverage*

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- Onboarding friction

device/app setup and varying levels of *digital confidence can create drop-off*

- Demands on time & attention

even light-touch participation must compete with personal schedules

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