

Urban ReLeaf

Citizen Science in and with Organisations: Insights from Urban ReLeaf

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6

Pilot cities

15

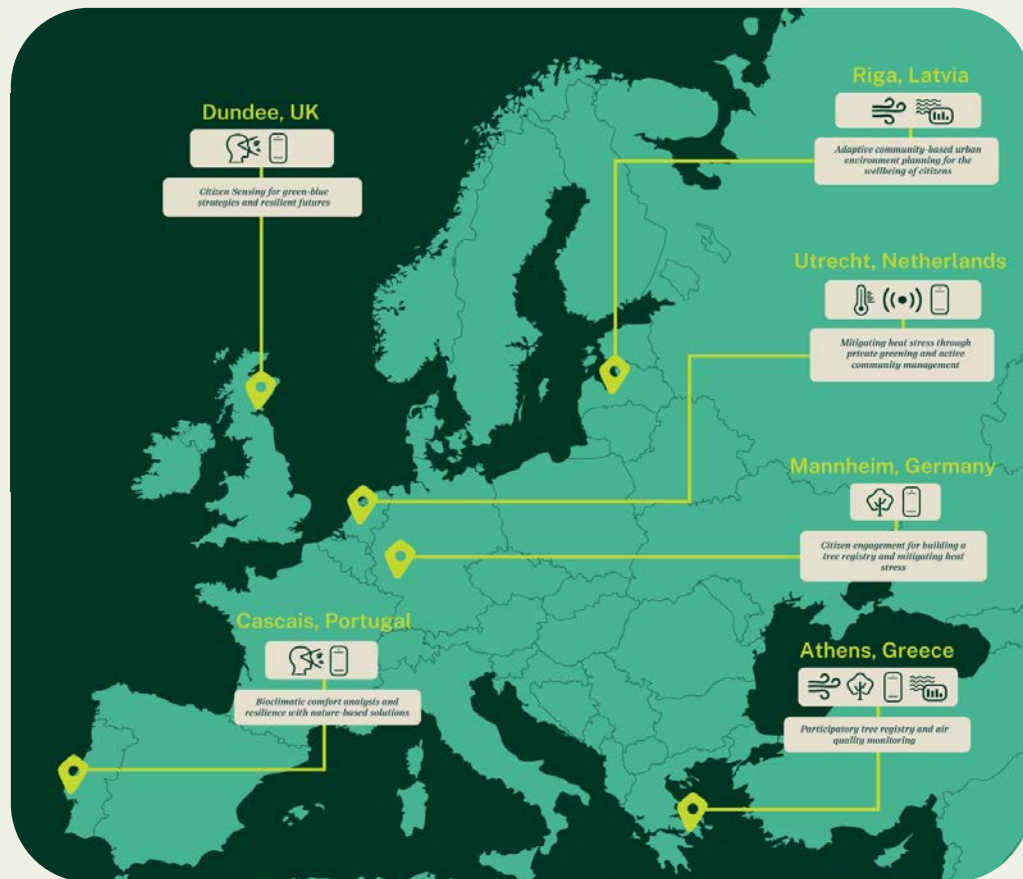
Partners

9

Countries

4

Years



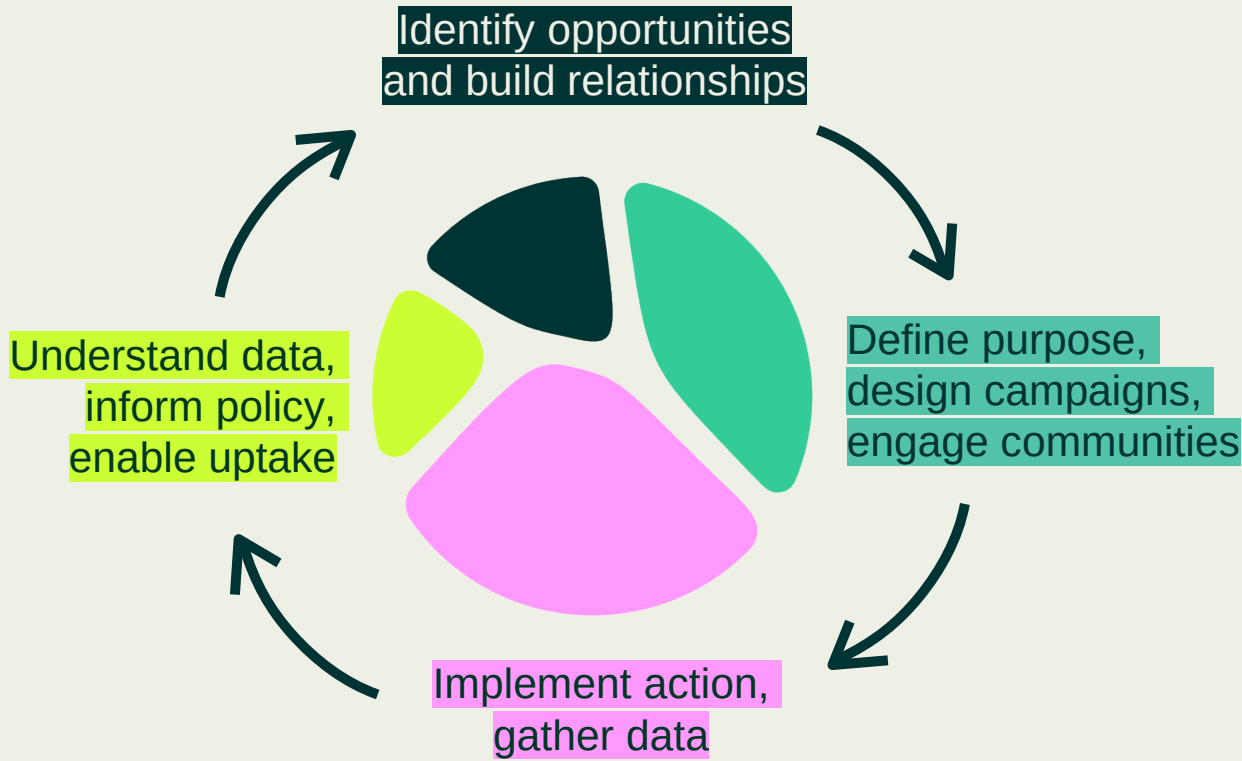
Innovating together for just and green urban transitions



Enable public administrations and local communities to
address urban climate and wellbeing challenges together

Expand and complement the knowledge base for urban
policy and resilience planning with citizen observations, data
and collective sense-making

Ensure inclusive participation across diverse urban
populations



City authorities –
project partners and
pilot leads

Co-development of
citizen observation
campaigns

Collection and
uptake of citizen
observations in
public information
systems for urban
policy and
planning.

Urban Relief Campaigns 24/25

Evidence-based policy: Data is shaping climate adaptation strategies, heat mitigation plans, mobility measures & greenspace planning.

Data collection & *engagement* metrics



330.000+ air quality measurement hours



3,700+ citizens engaged
59% female participants



450.000+ temperature & relative humidity observations



190+ parks, green spaces, neighbourhoods, sites investigated



2.500+ surveys completed



350+ sensors installed/deployed



1.000+ tree updates



600+ app downloads/users

6 Cities

Athens, Cascais, Dundee, Mannheim, Riga, Utrecht

4 Themes



Greenspace perception



Urban Trees



Air quality



Heat stress

Technologies



Wearable Sensors



Mobile Applications



Air Quality Monitors PM2.5



21 Campaigns

Tensions of underlying organisational logics

Cost/value for public administrations

Complexity of data governance

Tensions of underlying organisational logics

Tension 1: Technological readiness

Technology providers

Exemplary use cases

Real life testing

Identification of user needs

Fine-tuning data accuracy and precision

Users, testers

Prototyping, Tech innovation

Public administrations

Real thing

Troubleshooting burden, tech barriers

Expectation management

Potential lack of insight and trust in data

Participants, contributors, data collectors

High TRL for implementation



Tension 2: Inclusive engagement

Academic actor

Conceptual framework and guidelines

Deliberate phases and steps

Monitoring

Evidence-based revision

Standardised surveys, questionnaires

Academic rigor and integrity

Public administrations

Operational plans

Messy implementation dynamics

Perceptions

Quick fixes and adaptations

Fear of intrusive actions

Practicability



Perceived value and costs

3-day co-inquiry

*Innovation diffusion and adaptation literature (public sector)**

→ Individuals' perceptions of value are **critical** and **interlinked** with other key factors (organisational structures, institutional process etc.)

→ **Gatekeepers, translators, and amplifiers** in public administrations



*) Rogers (2003). Diffusion of Innovations; De Vries (2015). Innovation In The Public Sector: A Systematic Review And Future Research Agenda; De Vries (2018). The Diffusion and Adoption of Public Sector Innovations: A Meta-Synthesis of the Literature

*What does it **cost** you as city administrations to engage in citizen science activities (Urban ReLeaf), what **value** do you get in return, and does it – overall – feel **worth it**?*

Perceived value and gains

1. Policy impact and strategic relevance

Support in policy making, data valuable for policies, validation and evaluation of policy decisions and implementation, short-term prioritization, reach cross-policy impact

2. Closing the government–citizen gap, trust building

Citizens feel heard, listening in a new way, activation of citizens, enthusiastic response, citizens invested despite technical problems, mutual understanding

3. Organisational learning and internal transformation

Align departments, better collaboration across departments, streamline processes, internal learning, gaining experience in citizen science, learning by doing, strengthening internal partnerships, network development, improve data management and analysis

4. Innovation, experimentation and external synergies

5. Awareness raising and environmental stewardship



Perceived costs and risks

1. Staff time and internal capacity

Field work time, coordination time, volunteer recruitment and training, legal/data protection efforts, technical issues and maintenance, SharePoint/Teams internal effort, individual consultations, communication delays, no additional personnel

2. Reputational and political risk

Political risk if no implementation follows, reputational risk if data not used, innovative tech failing, technical problems reflecting badly on the city, exposure of institutional vulnerabilities, risk of creating but not meeting expectations, accountability risk (towards city leaders as well as citizens)

3. Technical complexity and data risk

Need for data scientist, lack of relevant software and skills, difficulty linking different datasets, maintenance burden, sensor reliability, opportunistic data collection may result in unusable data, apps not developed enough, target groups cannot use tools

4. Structural cost of internal scaling

5. Legal and data protection complexity

6. Communication failure



Perceived cost is highest

Staff capacity, reputational expectations, technical reliability, implementation follow-through

Perceived value is highest

Policy integration, trust-building, organisational learning, cross-collaboration (internal and external)

Municipalities are complex political and administrative organisations, where **space for experimentation is limited** and the **role of Citizen Science is undefined**, creating internal friction and value.

Robust data insights and speed of information feedback are critical.

Municipalities need sound technologies with high TRLs, defined data strategies and data with clear usability/readiness thresholds.



Citizen Science with public administrations becomes **strategically relevant when institutional learning is triggered and absorption capacity is high.**

Citizen Science with public administrations is not primarily a data or research activity – **it's a governance and public sector intervention where stakes of engagement are high because public exposure translates into political exposure.**

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