FinEst Centre
for Smart Cities

SMART CITY CHALLENGE 2025

Solution idea for the city challenges

Solution Idea Title - SafeCity – For All

Planned pilot project duration – 24 months

Main contact/-s –

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1. Which urban challenge or problem are you planning to provide a solution to?

Targeted challenge (Round 5): Women's Safety in Public Spaces (Amsterdam)

Although the formal challenge focuses on women's safety, the lived reality in cities shows that *fear, vulnerability and exclusion* affect multiple groups: women and girls, LGBTQIA+ individuals, youth, the elderly, migrants/newcomers, night-shift workers, and people with disabilities. Our guiding principle: **If a city is safe for the most vulnerable, it becomes safe for all.** We address both: **Actual safety (**incident risk, lighting, isolation points, response structures) and **Perceived safety (** confidence, freedom of movement, willingness to use public space). Both dimensions are essential for equal access to the city, particularly during evening and night-time mobility.

2. The solution you are proposing

SafeCity for All is a holistic urban safety model integrating **digital tools, spatial design improvements, and community-based interventions**. It gives cities a *replicable, evidence-based framework* to diagnose, pilot, and scale solutions that improve both perceived and actual safety.

A. Digital Safety Layer: A privacy-first digital toolkit co-created with residents: **Smart Safe Routes (**Path suggestions based on lighting quality, crowd density, open venues, and historical risk indicators.), **Companion Mode "Walk Together" (**Real-time location sharing with trusted contacts.), **Silent SOS (** Silent SOS - Discreet emergency escalation for vulnerable users.) **Safe Hubs Map** (Verified, open, well-lit businesses/institutions acting as "help-ready points."), **Safety Feedback (**Quick reports feeding into real-time **safety heatmaps** for municipalities.)

B. Urban Space (Design) Layer: Evidence-based spatial interventions along high-risk or high-fear corridors: High-visibility LED lighting with glare/shadow management, Clear sightlines; removal of blind spots, Safer transit stops and cycling corridors, Inclusive resting/transition areas.

C. Social & Cultural Layer: To build a long-term safety culture: **Community Safety Ambassadors,** Micro-workshops on community safety, Public engagement campaign (**We Reclaim the City — For All), Safe-Spot Accreditation**

How This Solves the Challenge: Prevents risk through predictive routing + improved design, **Empowers residents** through digital companion tools, **Creates trust networks** with safe hubs & community ambassadors, **Generates real-time safety data** for urban planning, **Provides scalable governance** for EU-wide adoption

City gains a *repeatable and measurable* system linking **mobility, urban design, community trust, and ethical data governance**.

3. Innovation and piloting of your pilot solution.

A) Existing solutions & what makes ours better (innovation)

Existing solutions currently used worldwide

Safety apps (bSafe, WalkSafe, Hollaback!) → mostly private, commercial apps; limited municipal integration; weak data governance, **Crowdsourced fear maps (HarassMap, Safetipin)** → perception-focused but not connected to urban design changes or real-time routing, **Police/municipal CCTV & lighting upgrades** → target actual incidents but do not address *perceived fear*, nor provide citizen-level empowerment tools, **Neighborhood watch & community patrols** → useful but inconsistent, non-scalable, and often inaccessible to vulnerable groups.

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How our solution is better (true innovation)

Integrated model combining *digital + spatial + social* layers—none of the existing solutions deliver this full ecosystem. **Municipal, not commercial**: built with public institutions, and ethical data use. **Dual safety metrics**: *Actual safety* (lighting, incidents, crowd density) - *Perceived safety* (fear-of-harm mapping, sentiment scoring), **Predictive routing engine** that uses lighting quality, footfall, and urban form—not found in existing apps, **Safe-Spot accreditation system** for businesses & institutions—creates trust infrastructure across the city, **Community Safety Ambassadors** representing women, LGBTQIA+ individuals, youth, elderly, and migrants—ensuring sustained social impact, **Replicable European blueprint** that cities can adopt and scale, aligned with the New European Bauhaus and Estonia 2035 goals.

Innovation summary: SafeCity for All is the *first* EU-ready framework that unites perception research, urban design, digital safety tools, and community networks into a measurable safety improvement system.

B) What cities need for piloting & how piloting will work

Both Amsterdam and the Estonian partner city will need: A defined **pilot corridor** (cycling route, park pathway, transit zone, waterfront path), Access to **lighting and spatial data** (street lamps, shadows, obstructions), Access to **anonymized incident and complaint data**, A designated **city liaison** for coordination with TalTech, Engagement from **local businesses, universities, cultural venues** for Safe-Spot accreditation, Recruitment of residents, especially vulnerable groups, for co-creation workshops.

How the piloting will work (step-by-step)

Phase 1 — Baseline, co-creation, research (Months 1–6)

Spatial and perception-based safety assessment; Co-creation workshops with vulnerable groups & city teams; Definition of safety indicators & "Safety Index"; Technical prototyping with TalTech (routing engine, map layers, etc.)

Phase 2 — Deployment in two cities (Months 7–18)

Launch of SafeCity prototype mobile app; Tactical urbanism interventions in selected corridors; Safe-Spot accreditation with local businesses; Activation of Community Safety Ambassadors; Real-time heatmap generation & continuous data analysis

Phase 3 — Evaluation, EU blueprint, commercialization readiness (Months 19–24)

Impact assessment (perception + incident reduction + engagement levels); Policy recommendations & governance model; Scalability guidelines for other EU cities; Business model validation for commercialization (required by FinEst)

C) Research and development team capabilities (including TalTech needs)

Project Team (authors of this proposal)

Our team combines complementary expertise in digital public service processes, qualitative research with vulnerable groups, communication strategy, and community engagement, forming a balanced foundation for a safety-focused urban innovation pilot.

Başay Ecem Polat is a Process Manager specialising in the coordination and continuous improvement of municipal digital services. She has extensive experience working within large-scale Smart City and public service ecosystems, contributing to service mapping, process optimisation, multi-stakeholder coordination, and the creation of sustainable citizen feedback loops. She has completed certified UX training, which strengthens her process work by enabling her to incorporate accessibility, user-journey logic, and citizen-centred principles into service design. She also brings a strong background in women's oral history and gender-focused archival research, having contributed to internationally supported digitisation and documentation projects funded by the Consulate General of Sweden and the European Endowment for Democracy. Her experience working with vulnerable and underrepresented groups equips the project with deep qualitative research capacity and an ethical approach to perception mapping. Within the pilot, she will lead process modelling for inclusive safety services, user and perception research, community co-creation workshops, and support the development of indicators and methodological frameworks that can be replicated across European cities.

Nurcan Güldağ, Founder of Barkod Media Agency and Co-Founder of LamON9 Social Solidarity Association, brings extensive experience in content strategy, community engagement, public messaging, and cross-sector partnerships. Through her agency, she has provided consultancy for the launch, branding, and adoption of municipal digital services, guiding cities in communicating complex civic tools in clear, accessible, and trusted ways. Her role as Director of Product, Content & Creative at ZUBİZU adds high-level experience in communication leadership, CRM strategy, and creative direction.

Her combined corporate, civic, and social-impact communication expertise equips the pilot with the ability to mobilise Safe-Spots, design city-wide awareness campaigns, activate Community Safety Ambassadors, and build strong public engagement channels. In addition to consultancy capabilities, the team has developed digital components and early interaction models to support safe routing, perception reporting, and community participation. These elements serve as functional foundations that will be further developed, technically refined, and scientifically validated together with TalTech

researchers during the pilot phase. This ensures that the final solution is evidence-based, methodologically sound, and aligned with European standards for public-sector digital services. TalTech's contribution will be central to the scientific, spatial, and technical rigor of the pilot. The project will require collaboration with TalTech experts in HCI and accessibility research, spatial analytics and GIS, data science and ethical AI, urban design and mobility studies, and impact evaluation. These competencies will ensure that the digital components we bring—early interaction models, lightweight routing logic, and perception collection tools—are transformed into a validated, research-backed pilot system. TalTech will support model development, spatial risk analysis, methodological refinement, and software stabilisation for pilot deployment. This partnership structure fully aligns with FinEst's requirement for interdisciplinary research, scientific impact, and long-term scalability across European cities.

4. Expected impact of your pilot solution.

SafeCity for All is designed to improve both perceived and actual safety across all public spaces, regardless of time, season, or context of mobility. It strengthens the inclusiveness, accessibility, and resilience of cities in a comprehensive and measurable way.

A) Impact on City Environments

Safer and more transparent public spaces: Spatial interventions—improved lighting quality, clear sightlines, redesigned micro-spaces, safer transit nodes—enhance usability throughout the full daily cycle, not only during traditionally high-risk hours, **Evidence-based planning:** Safety heatmaps combine perception data, incident patterns, lighting conditions, and pedestrian/cyclist flow, offering cities a dynamic decision-support tool, **Better-designed mobility corridors:** Parks, waterfronts, underpasses, cycling routes, and public-transport areas become easier to navigate and more predictable, improving comfort and reducing avoidance behavior, **Cross-department coordination:** The model supports better collaboration between mobility, safety, public-space, and policing units, enabling a citywide, unified approach to urban safety. **Outcome for cities:** A validated planning framework that informs long-term policy, procurement, spatial design, and data governance.

B) Impact on Sustainability

Social Sustainability: Expands equal access to mobility, education, leisure, and cultural life for women, youth, LGBTQIA+ individuals, elderly citizens, migrants, and other groups who disproportionately experience fear or exclusion in public space; Encourages everyday use of public areas by reducing fear-driven avoidance.

Operational Sustainability: Provides a **lightweight, GDPR-by-design digital layer** that cities can maintain without complex vendor lock-ins; Enables **targeted, not excessive**, interventions—lighting, maintenance, policing—leading to more efficient resource use.

Environmental Sustainability: Data-driven lighting strategies help avoid over-illumination and reduce energy waste; Timely, precise interventions prevent unnecessary physical modifications to urban infrastructure.

Outcome: A more inclusive, efficient, and environmentally conscious management of public spaces.

C) Impact on Citizens

Greater confidence and freedom of movement: Smart routing, Safe Hubs, and clear spatial improvements reduce anxiety across diverse groups—from commuters to students, cyclists, caregivers, and shift workers; **Increased participation in urban life:** Safer public spaces support more active use of parks, streets, and cultural areas, strengthening social cohesion; **Community empowerment:** Safety Ambassadors, awareness campaigns, and transparent reporting create a shared culture of responsibility and care; **Strengthened trust:** Citizens see the municipality acting responsively and transparently, improving institutional legitimacy.

Outcome: A measurable rise in mobility freedom, participation, and overall quality of life.

Overall impact summary

SafeCity for All contributes directly to:

- **Estonia 2035 priorities** (inclusive public services, data-driven governance, resilient communities),
- **New European Bauhaus values** (beautiful, sustainable, inclusive cities),
- **SDG 11** (Sustainable Cities & Communities).

The solution offers cities a replicable, scalable model that enhances the safety and livability of public spaces—not only in specific hours, but **consistently and systematically, across the entire urban experience**.