

FinEst Centre
for Smart Cities

SMART CITY CHALLENGE 2025

Solution idea for the city challenges

Max 3 pages

send to smartcity@taltech.ee by Nov 30, 2025

Solution Idea Title: Proactive City Support System

Planned pilot duration: 24 months

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

We address the challenge “*City services do not reach the right citizens at the right time*” (Smart City Challenge 2025 Round 5).

Many residents — especially seniors, low-income families, socially isolated individuals, and new parents — miss essential services because they do not know about them, cannot navigate bureaucracy, or do not actively seek support.

Our solution ensures that municipal services, benefits, and opportunities reach the right residents exactly when they are needed.

2. The solution you are proposing

We propose a **Proactive City Support System**: a local, privacy-preserving platform that uses AI and automation to proactively match city services with residents’ real needs.

Key components of the solution

1. Local AI Assistants

Analyse city data, detect emerging needs, identify eligible services, create personalised recommendations, and automatically prepare documents.

2. Multi-channel communication

Citizens receive information through WhatsApp, Telegram, SMS, email, mobile app or automated calls — whichever channel they prefer.

3. Case Management System (human follow-up)

If a resident cannot be reached digitally or shows risk indicators (loneliness, crisis, vulnerability), the system automatically creates a case for social workers, community workers, or municipal safety units.

This ensures **no resident is left unseen**.

How it solves the challenge

- **Proactive detection:** identifies needs before citizens ask.
- **Direct outreach:** messages arrive through preferred channels with personalised, relevant content.



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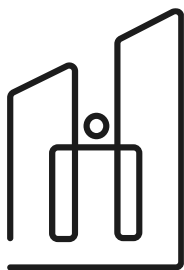


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- **Less bureaucracy:** forms and applications are generated automatically and sent to residents for one-click approval.
- **Human safety net:** high-risk or non-responding citizens are forwarded to professionals.

Together, this shifts the city from reactive to proactive governance.

3. Innovation and piloting of your pilot solution

Existing solutions and why ours is better

Current tools include self-service portals, CRM systems, and mass notifications — all of which rely on residents taking the first step.

These exclude many vulnerable groups.

Our solution is innovative because it combines:

- Proactive AI-driven need detection
- Personalised communication instead of mass messaging
- Automatic document generation
- A structured human-in-the-loop case workflow
- Local infrastructure (no external cloud)

This hybrid “AI + human social care” model is not present in existing municipal solutions.

Piloting in Kohtla-Järve

City needs for pilot:

- Access to municipal data (citizen registry, social services, benefits)
- City server or virtual environment for local LLM and automation engine
- Messaging channels (WhatsApp/TG bots, SMS gateway)
- Social workers and community departments ready to handle escalations
- Pilot population: 1,000–5,000 residents

Pilot phases (6–9 months):

1. **Setup:** integration, infrastructure, legal compliance, initial AI Assistants
2. **Controlled pilot:** personalised outreach, auto-generated documents
3. **Human-in-the-loop:** activation of escalation workflows, case handling
4. **Assessment:** results, improvements, preparation for city-wide rollout

Kohtla-Järve is ideal due to its demographic structure, social needs, and manageable scale.

Team capabilities

Our team brings:

- Experience in municipal digitalisation and smart city automation
- Strong integration skills (databases, APIs, automation workflows)
- Applied expertise in local LLMs and AI safety
- Knowledge of GDPR-compliant architectures
- Experience designing hybrid AI + human case management processes



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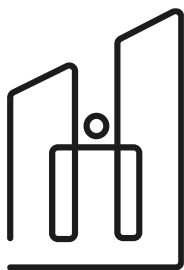


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- Project management for public-sector pilots

TalTech contributes: AI/ML expertise, cybersecurity, data architecture, software development, UX/UI and social impact assessment.

Together, we form a robust research, development and implementation team.

4. Expected impact of the pilot solution

Impact on citizens

- Services reach the right people at the right time
- Barriers to receiving support are removed through auto-prepared documents
- Social isolation decreases through early detection and follow-up
- Trust in the municipality increases through personalised and proactive communication

Impact on the city environment and governance

- Data-driven planning and resource allocation
- Higher utilisation of cultural, sports and community services
- Early intervention reduces social and emergency response costs
- Municipal staff can focus on human-oriented work instead of administrative tasks

Impact on sustainability

- **Social sustainability:** stronger communities, reduced exclusion
- **Operational sustainability:** lower administrative burden and higher efficiency
- **Digital sustainability:** open-source, local infrastructure and no vendor lock-in

Overall result

A replicable model of **proactive, human-centred, AI-supported municipal governance** that can scale to other Estonian and international cities.

Disclaimer: by submitting this form you will give the FinEst Centre for Smart Cities the right to share this idea with cities and other researchers, companies through FinEst Centre homepage. If this idea is selected, the FinEst Centre for Smart Cities has the right to implement this idea with offering you an active role in conducting the pilot. If this pilot is selected then the financing is an investment by the FinEst Centre for Smart Cities.



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