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 Personalised Citizen Services Platform
Planned pilot project duration – 24 months
Main contact/-s – Darya Motornova, darya@itealist.co.uk, +447887782770 , CEO, Itealist software ltd

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

- Which city challenge/-s proposed by the cities / counties you are targeting? NB! Please choose one from the list of urban challenges chosen for the Smart City Challenge 2025, i.e. Round 5.

Answer- Cities increasingly struggle to deliver the **right municipal services to the right citizens at the right time**. Although municipalities collect large amounts of activity, demographic, and service-usage data, this information is rarely transformed into **personalised, proactive support**. As a result:

- Citizens often miss relevant programmes, benefits, and events.
- Vulnerable groups remain unidentified until problems escalate.
- Resources are allocated reactively rather than based on real behavioural data.
- Engagement with city facilities remains low despite high investment.

Our solution addresses the core challenge of **fragmented, under-utilised citizen data** and the lack of an intelligent layer that helps cities act proactively.

2. The solution you are proposing

- What is the solution you are proposing for the challenge above?

We propose **Digital Citizen 360°**, an AI-powered personalisation platform that unifies municipal data and transforms it into **timely, targeted, and proactive citizen services**. The system creates a dynamic 360° profile of each resident by integrating data from multiple city touchpoints, including social services, culture, sports, mobility, and administrative interactions.

The platform includes four core components:

1. **Unified Citizen Data Layer**
   A secure, compliant foundation that consolidates and structures all municipal touchpoint data into a clean Citizen 360° Profile.
2. **AI Personalisation Engine**
   Machine learning models that detect citizen interests, predict unmet needs (such as inactivity, social

isolation, or financial stress), identify life patterns, and generate personalised recommendations—e.g., "There is a workshop near you tomorrow; we think you'll enjoy it."

3. **Digital Citizen Profile (App/Web)**
   A user-friendly interface where residents can view their activity, adjust preferences, manage consent, and track their engagement across health, culture, and education.
4. **Contextual Engagement Engine**
   Multi-channel smart notifications (app, SMS, WhatsApp, email) triggered based on timing, geography, preferences, and behaviour.
5. **Municipal Insights Dashboard**
   A tool for city administrators to analyse engagement patterns, identify vulnerable groups early, optimise resource allocation, and support data-driven planning.

- How does it solve the city challenge you target?

The key urban challenge is that **city services do not reach the right citizens at the right time**. Digital Citizen 360° solves this by adding the intelligent personalisation layer that cities currently lack.
It enables municipalities to:

- Shift from **reactive** to **proactive** service delivery
- Match citizens with relevant programmes, events, and services in real time
- Identify early signs of unmet needs or social vulnerability
- Deliver personalised, context-aware recommendations through multiple channels
- Increase participation in city services and facilities
- Improve city planning and budgeting through behavioural insights

By transforming fragmented municipal data into personalised actions, Digital Citizen 360° ensures that citizens receive support **when it matters most**, making cities more responsive, inclusive, efficient, and human-centred.

3. Innovation and piloting of your pilot solution.

- What are the best solutions available now that solve the challenge you target? (There are some solutions there for sure) How will your solution be better? What is the innovation in it?-

Many cities currently use general-purpose tools such as citizen apps, CRM-style service portals, or digital participation platforms. These solutions provide information, but they are **generic**, not personalised, and do not adapt to the unique needs of each municipality.
Our innovation is that Digital Citizen 360° is fully bespoke for each city.
Instead of offering a one-size-fits-all product, we build a **custom AI personalisation layer** that reflects the city's specific services, challenges, demographic groups, and priorities. The platform creates dynamic citizen profiles, learns from real behaviour, and proactively recommends the right programmes or support at the right moment.

FinEst Centre
for Smart Cities

This turns municipal data into **actionable, personalised guidance**, rather than static information.

Piloting approach

The pilot is simple and lightweight:

- Use a small, anonymised dataset from the city.
- Build a city-specific Citizen 360° model.
- Test personalised recommendations with selected citizen groups.
- Measure engagement, participation, and improvement in reaching the right citizens at the right time.

This demonstrates quickly how a tailored AI layer can significantly improve participation, inclusion, and city service impact.

- What do the cities need for piloting the proposed solution? How the piloting could work?-

The pilot requires only a **small, anonymised dataset** from the municipality, such as:

- Basic demographic groups (e.g., age range, neighbourhood)
- Past usage of municipal services, events, or facilities
- A list of the city's programmes and services with simple tags
- No real-time integrations or complex IT infrastructure are needed.

How the piloting will work:

- **Define target groups and priority city challenges** together with the municipality.
- **Provide the lightweight dataset** and allow us to build a city-specific Citizen 360° model.
- **Generate personalised recommendations** for selected citizen groups.
- **Run a short engagement test** through mobile notifications, SMS, WhatsApp, or email.
- **Measure impact**, including participation rates, engagement levels, and ability to reach the right citizens at the right time.

This approach allows the city to validate the value of personalised, proactive services **quickly, safely, and with minimal resources**.

- Please provide short information about the capabilities of the research and development proposed team. Your team should have members from TalTech as well for sure. In case you do not have them yet, which skills would you need from TalTech.-

Itealist has a highly experienced AI and software development team that has built multiple **matchmaking and personalisation engines** across different sectors — from dating and investor–founder matching to healthcare parameter analysis and diagnostic support. Our expertise lies in creating **custom AI models that match people with the right solutions** based on data patterns, behaviour, and contextual factors.

For Digital Citizen 360°, the same proven AI architecture is adapted to municipal needs by simply changing the parameters, datasets, and service logic. This allows us to build a **fully city-specific personalisation engine** quickly and efficiently.

We will engage researchers from TalTech to strengthen the project with:

- Access to relevant urban, social, or mobility datasets
- Domain expertise in smart-city systems, urban analytics, and citizen behaviour

European Union
European Regional
Development Fund

Investing
in your future

Republic of Estonia
Ministry of Education
and Research

Republic of Estonia
Ministry of Economic Affairs
and Communications

FORUM
VIRIUM
HELSINKI

TAL
TECH

A!
Aalto University

- Support in validating the model's impact and ensuring scientific robustness
  Together, the combined Itealist–TalTech team brings the technical, analytical, and research capabilities needed to deliver a high-quality, scalable smart-city pilot.

4. Expected impact of your pilot solution.

- What is the potential impact for city environments, sustainability and citizens?
  Digital Citizen 360° creates measurable impact across social, environmental, and operational dimensions of city life.
  1. Impact on Citizens and Communities
  Higher participation in cultural, sports, educational, and social programmes due to personalised, timely recommendations.
  Reduced social isolation, especially among seniors, vulnerable groups, and low-engagement residents.
  More **active, connected communities** as citizens are guided toward relevant opportunities and services.
  Greater trust in the municipality through transparent, personalised communication and improved service experience.
  2. Impact on City Operations and Governance
  Data-driven resource allocation: cities can optimise facility usage, programme planning, and budget decisions based on real behavioural patterns.
  Early identification of vulnerable groups, enabling targeted support before issues escalate.
  More efficient operations through automated engagement and reduced manual outreach.
  Establishes the municipality as a **leader in human-centered, AI-driven smart governance**.
  3. Environmental and Sustainability Impact
  Personalised nudges encourage **walking, cycling, public transport**, and greater use of nearby facilities.
  Better understanding of movement and usage patterns supports **smarter urban planning**, reducing unnecessary infrastructure expansion.
  More efficient use of existing facilities leads to **lower environmental footprint** and **more sustainable city resource management**.

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.