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SMART CITY CHALLENGE 2025

City Challenge

Max 3 pages

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

Challenge Title – City Infrastructure Management System

City/county and country – Tallinn, Estonia

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1. What is the future urban challenge that would need a solution to?

- **Please describe the challenge of your city / county neighboring a city?**

Our city faces a challenge where multiple municipal departments manage separate information systems, including within the Tallinn Urban Environment and Public Works Department. The growing volume of data, if managed effectively, could significantly enhance city planning, development, and investment project design and/or prioritization. Currently, the amount of information exceeds available resources for thorough analysis, limiting the use of existing data in decision-making.

- Which category your challenge is primarily in: safe city, happy city, and climate resilient city?

Our challenge primarily falls under the Happy City category but indirectly supports all three options. By developing a system that consolidates and utilizes city infrastructure data, we can make more informed, transparent, and data-driven investment decisions. This will improve the quality of urban space, ensure better value for taxpayers, and enable more efficient workflows within municipal departments. As a result, residents benefit from a better-planned, well-maintained, and more user-friendly city environment, directly contributing to overall urban well-being.

- Why is it important for your city to solve it? How big priority it is for you and why?

Addressing this challenge would provide an opportunity to significantly improve the quality of new investment projects and their selection. It would allow us to maximize value for every euro spent, and from the citizen's perspective, enable more efficient and well-justified planning, construction, and maintenance of city assets.

- Is this a unique challenge/problem of your city, why or is this by your knowledge a challenge/problem that many cities have – which kind of other cities?

This challenge is likely not unique to Tallinn, and it is possible that other cities have already addressed similar issues. Comparable systems may already exist in larger cities with more substantial investment activities.

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2. Innovation.

- How have you solved that issue so far? Why aren't the present solutions good enough? Are there legal obstacles, which ones?

When planning new investment projects, we currently rely on a manual process, considering the most relevant known information based on program policies, potential user numbers, and project costs. This would be only one function of a system that consolidates up-to-date information on the city's entire infrastructure. Current methods are insufficient, as project selection is not comprehensive and tends to be subjective.

A system that allows us to input data on potential new projects and generates, for example, a score based on all available information regarding the construction site and its surroundings would provide a solid and justified basis for decision-making. There should be minimal legal obstacles within the scope of municipal information systems. However, if national-level data from ministries were to be included, formal agreements with the relevant authorities would be required.

- What should be the main features, characteristics of the future solution to be potentially best for that challenge or problem?

The key functions of a future solution could include an investment project prioritization calculator, a maintenance task prioritization calculator, and a maintenance management system that signals upcoming maintenance needs or required inspections. The system could also proactively suggest which investment projects should be prioritized based on the available data.

3. Expected impact of your pilot solution.

- What is the expected impact to your city environment you expect to see if the challenge gets solved?

If this challenge is resolved, our city would be able to demonstrate that all investments are thoroughly evaluated based on data, and their selection is clearly justified. The city environment would improve through more informed decision-making and better allocation of time—reducing the time officials spend on manual evaluation would allow them to dedicate more effort to high-quality project solutions.

- What is the expected impact to your citizens you expect to see if the challenge gets solved?

If this challenge is addressed, we would be able to ensure that every euro contributed by taxpayers delivers the highest quality investments in urban infrastructure, made through data-driven decision-making. Our citizens could essentially get the very possible best return on investment.

- What is the expected impact to your city governance you expect to see if the challenge gets solved?

Municipal workflows could be organized more efficiently, reducing the time spent on manual evaluation, and reinvesting that time into developing better solutions for citizens.

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4. Piloting

- Why would you be interested to become a piloting partner of a proposed solution to the challenge you are describing here? Describe shortly your capability to participate.

We are highly interested in serving as a piloting partner for this proposed solution, as we see significant potential in enhancing both our workflows and the overall quality of our investments. Our recent implementation of a new project management system, which was successfully integrated across our processes, demonstrates our proven capacity to test, adapt, and adopt new systems that impact all levels of our operations in order to achieve greater efficiency and effectiveness.