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SMART CITY CHALLENGE 2025

City Challenge

Max 3 pages

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

Challenge Title – Temporary shelters as dual-use infrastructure

City/county and country – Jelgava, Latvia

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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?

The global geopolitical situation and increasing security risks have shown the need for cities to develop stronger civil protection systems. Jelgava currently lacks accessible and modern temporary shelter infrastructure for its residents. In the event of sudden threats citizens have no easily accessible, designated places to stay safe for several hours until danger has passed.

The challenge is to provide short-term, safe, and distributed shelters across the city, which would be close to people in their everyday life and not require large-scale relocation. The idea is to create dual-use infrastructure – for example, strengthened bus stops or other public spaces that are normally used daily, but could quickly serve as protective shelters in emergencies.

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

This challenge falls primarily into the category of a safe city, while also supporting resilience and quality of life.

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

For Jelgava residents, the absence of safe shelters means vulnerability. In case of danger, there is limited opportunity for people to gather quickly in safe conditions, also existing shelters' capacity is still not enough for all population of the city. Developing this infrastructure is a priority because it strengthens both citizen security and trust in the municipality. It also complements civil protection systems, emergency response, and city planning.

- 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 shared by many medium-sized European cities, especially those without historical investment and planning of such measures and without modern civil protection infrastructure. The idea of creating multi-functional, dual-use public infrastructure could be relevant for cities of similar size and structure, where resources for building separate large-scale shelters are limited.



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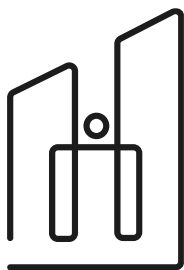


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2. Innovation.

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

At the moment, municipality is actively engaging in reconstruction of places that could be used as temporary shelters. But Jelgava still does not have a systematic network of it, especially because it is based on facilities that were not initially designed for such purpose, for example, basement storage areas for residential buildings. In case of emergency, citizens are directed to use public buildings, but these are not always nearby, nor designed for quick access in short-notice situations. Current solutions are insufficient because they are centralized, not distributed, and not adapted for short-term (2–4 hours) protection.

In Latvia the legislation dictates a strict set of conditions so that the place corresponds to the shelter, however, it is much easier to adapt to such requirements when building new infrastructure.

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

According to vision of smart and safe city development, the future solution should:

- Provide widespread, easily accessible shelters across the city (e.g., every district having nearby options).
- Be dual-use infrastructure: safe shelters during emergencies, but useful as everyday urban infrastructure at other times (for example, bus stops, small pavilions, bicycle parking sheds, green park elements etc.).
- Include standardized safety features: reinforced structures, proper ventilation.
- Allow scaling up: starting with pilot shelters in high-traffic areas and then expanding to different types of infrastructure across the city.

Such approach could cost-efficiently solve safety problems, at the same time develop new useful spaces for citizens, spread awareness and preparedness for critical events.

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?

The city will gain a distributed civil protection network that integrates seamlessly into the urban environment. At the same time, these solutions will modernize public infrastructure, giving Jelgava more attractive, safe, and functional public spaces.

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

Residents will feel greater safety and trust – knowing there are nearby places where they can protect themselves during sudden danger. At the same time, citizens will enjoy new and modern public infrastructure in their daily lives.

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



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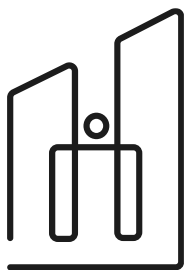


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The municipality will be better prepared for emergencies, with less need for large-scale evacuation and faster response time. Investment in dual-use solutions will also mean efficient use of public resources, since one investment will serve both everyday urban needs and civil protection goals.

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.

Jelgava has experience in developing and piloting innovative infrastructure projects, as well as international projects to improve civil protection. The municipality is motivated to develop a network of distributed, dual-use temporary shelters as part of civil protection development. The pilot would allow to test different design types – for example, reinforced bus stops, multifunctional pavilions, or integrated underground shelters – and evaluate their use both in daily life and emergency situations.

Participation in this pilot would also give Jelgava the opportunity to develop clear guidelines and standards that could later be applied in other Latvian cities. The city has both the technical capacity and the administrative readiness to participate, as well as experience in cross-border cooperation and international projects. Jelgava offers an ideal urban environment to experiment: it is compact, diverse in infrastructure and has high citizen engagement, which ensures useful feedback during piloting.



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